Metaphorical Mirror: Reflecting on Our Personal Pursuits to Discover and Challenge Our Teaching Practice Assumptions

Gary Wagenheim Simon Fraser University

Robert Clark

California State University, Dominguez Hills

Alexander W. Crispo Purdue University

The goal of this paper is to examine how our personal pursuits—hobbies, activities, interests, and sports—can serve as a metaphor to reflect who we are in our teaching practice. This paper explores the notion that our favorite personal pursuits serve as metaphorical mirrors to reveal deeper assumptions we hold about the skills, values, and actions we encourage, recognize, and reward in our classrooms. The paper has four principle objectives: first, to understand the importance of identifying the skills, values, and actions that form our basic assumptions of knowing in our personal pursuits and teaching practices; second, to appreciate the importance of reflection on experience as an epistemology for self-knowledge and for developing in our teaching practices; third, to understand the power of metaphors to enhance our ability to see previously unavailable and therefore unexamined assumptions; and fourth, to examine and challenge for validity, through dialogue, our assumptions to improve our teaching practices. In addition, in this article we offer a metaphorical mirror exercise designed to help facilitate application of personal pursuits through reflection and dialogue to one's teaching practice.

The authors recently collaborated on designing and delivering a workshop for an annual teaching and learning conference that focused on using participants' personal pursuits as metaphorical mirrors to reflect assumptions about their teaching practices. The positive feedback received from participants about the power of this exercise to promote deep reflection confirmed the authors' personal experiences. Many participants were appreciative for both the opportunity to reflect and the facilitated method of reflection that prompted new insights. For participants in the session, the connections were immediately evident between the assumptions of skills, values, and actions that form the basis for knowing in their personal pursuits and how these same assumptions appear in their classrooms. For example, one participant remarked, "Until now, I hadn't made the connection between my love of reading and the unusually long reading list on my syllabus," while another stated, "the impact of my training as a marathon runner certainly shows up in a big way in my expectations for students' efforts in my class."

However, with accumulated experience much of our teaching practice may become routine and go largely unexamined, so too, may our reflective practice. In other words, we may ironically use routinized reflective actions to reflect on our routinized teaching actions and assumptions producing similar, if not the same, results. Our hope is that this article serves as a catalyst to reflect differently and more deeply, and to break the pattern of reflecting by introducing metaphors to see our assumptions in a new way. We believe reflecting on one's assumptions is a critical component of developing a reflective teaching practice.

Our article is divided as follows: first we examine the importance of self-knowledge as a crucial element in understanding, changing and developing one's teaching practice, and we suggest reflection as an epistemology for generating that knowledge; next, we develop the concept of using metaphors combined with dialogue to socially construct seeing things anew; then, we provide the metaphorical mirror exercise for assisting one in illuminating assumptions in our personal pursuits that reveal themselves in our teaching practices; and lastly, we end with our personal reflections and conclusions.

Developing Self-knowledge Through Reflection

Knowledge of self is crucial in better understanding the underlying assumptions we hold about the cultural, psychological, emotional, and political complexities that shape our classroom cultures (Brookfield, 1995). Parker Palmer (1998) writes,

As I teach, I project the condition of my soul onto my students, my subject, and our way of being together. Teaching holds a mirror to the soul. If I am willing to look in that mirror and not run from what I see, I have a chance to gain self-knowledge—and knowing myself is as crucial to good teaching as knowing my students and my subject. In fact, knowing my students and my subject depends heavily on self-knowledge. (p. 2)

Further to that point, Cranton (2006) suggests reflective questions that facilitate educators inquiring into the content, process, and premise of their teaching

promotes self-reflection and self-knowledge. Cranton and Carussetta (2004) posits that reflection plays an important role in building greater self-awareness that leads to greater authenticity.

Reflective questions can be instrumental in increasing self-knowledge by enabling individuals to recognize their beliefs and by developing the capacity to confront the underlying assumptions that supports those beliefs. Reflection becomes a process for developing better self-awareness by offering a way to challenge what one knows and how one knows something. In this way, reflection can lead to insights about the subject being taught—what is it, why is it important, what impact does it have on students' learning—and insights into the person teaching the subject—what are they feeling and thinking, what does the subject mean to them—in ways that increase self-knowledge. While self-knowledge through reflection is crucial, it is often an overlooked aspect of our teaching practice development, particularly in higher education.

In an article about developing students' reflective practice, Pavlovich, Collins, and Jones (2009) write,

conventionally, teaching has focused on what Palmer (1998) describes as questions of "what" (the nature and boundaries of the problem), "how" (the methods and techniques for finding solutions), and occasionally "why" (the underlying purpose of the nature of the topic of investigation). Rarely is there an engagement with the "who" with our own self-awareness, and the relationships we have with others. (pp. 37-38)

In more deeply examining the "who," the focus shifts inward to questions concerning who am I with this material, who am I in relationship with students, and who am I in this teaching experience? These deeper questions help delineate one's beliefs and the assumptions that support those beliefs. In this way, reflection is an epistemology for self-knowledge; and, an epistemology for personal and professional development.

There is a long history of research on the importance of reflection, particularly in the education literature, as a key component for learning, change and professional development (Argyris & Schön, 1974; Boud, Keogh, & Walker, 1985; Brookfield, 1995; Cranton, 2002; Dewey, 1922, 1933, 1938; Johns, 1994; Lewin, 1951; Marzano, 2007; Mezirow, 1990; Reeves, 2006; Schön, 1983, 1987; Vygotsky, 1962). Advocates suggest reflecting on one's lived experience is necessary to facilitate behavioral and cognitive change. Many studies recognize that reflection on experience, where reflection has a critical function of challenging routine assumptions,

values, and actions in one's practice, leads to personal and professional growth (Oermann, 1999; Platzer, Blake, & Ashford, 2000a, 2000b; Platzer & Snelling, 1997). Essentially, reflection enables learners to analyze their learning in ways that question take-it-for-granted assumptions and arrive at new knowledge based on considering different alternative actions (Argyris & Schön, 1974; Oermann, 1999; Schön, 1987).

Through a regular cycle of reflective inquiry—surfacing and challenging assumptions—teachers seeking improvement seek transformative change; change in their "way of being" as a teacher, not just in their "way of doing." Becoming a better teacher is about reflecting on and questioning deeply held assumptions in an experiential cycle of inquiry, developing new strategies, testing in action, and learning. It is through reflection and resultant self-knowledge that one can leverage greater awareness of others and course content in the journey toward becoming a better teacher.

Double loop learning (Argyris, 1993, 1996; Argyris & Schön, 1974; Schon, 1987) involves reframing how one is doing something, which is constructing new realities to produce different outcomes. If one can change what they are doing, they have the ability to avoid making the same mistake and possibly generate different and unexpected outcomes that produce new learning. This change sets the stage for further experimentation with reflection on action creating a double-loop learning cycle. Reflective practice suggests individuals have the capacity to grow throughout life using active engagement in experiences and reflection on those experiences to bring forth new experiences opening the possibility for a cycle of continued learning (Vaill, 1996).

As teachers, we spend an enormous amount of time and energy learning about our subject and our students, yet perhaps less time knowing ourselves. Without understanding self, we run the risk of thinking good intentions and subject knowledge trump the unintentional consequences of take-it-for-granted assumptions we unwittingly bring into the classroom. We run the risk of naively creating an illusory classroom culture that may appear fine on the surface but is largely unquestioned and untested. The issue, illuminating and questioning underlying personal assumptions that support our beliefs, begs the question that is at the heart of this article, "How do individuals discover and challenge tacit taken-for-granted assumptions in their teaching practice?"

Metaphors to See Anew

We suggest one way is to use personal pursuits as a metaphorical mirror to reflect deeper assumptions

embedded in our teaching practice thereby providing opportunity for critical analysis. In a way, we suggest going in through the back door rather than the front door in seeking to discover hidden parts of our selves, gain new perspectives, and seek new understandings. Metaphors are a way to see our self anew.

Metaphors have a long and rich history in literature, narratives, songs, and everyday conversations to evoke comparisons between different images that assist in meaning-making. Framing our understanding of an experience as a metaphor is to provide a phrase, word, or story that does not literally apply but serves as a suggestion for comparing the experience to another concept. A metaphor is not simply a comparison of different things with similarities it is combining unrelated concepts to form a new understanding of an experience. Thus, a metaphor makes an assertion that the experience "is like" the comparative concept and by default "not like" other concepts.

MacCormac (1985) explains in the process of comparing two normally unrelated concepts the brain is capable of sorting out what is similar and dissimilar creating new understandings. Andrew Ortony (1975) writes metaphors are necessary because they help us make a connection between something known to something new and, thereby, restructure what we know and gain a new perspective on it. Walters (1996) writes about metaphor in literature and concludes, "the reason people use metaphors in speech is that we use metaphors in thought. We think in metaphors" (p. 125).

Morgan (1986) posits an epistemological perspective that advocates the use of metaphors as a way of thinking and understanding facets of our experiences by comparing it with concepts of another experience. While Morgan's work is mainly utilized for understanding organizations, it obviously has relevance in understanding the individuals who make up organizations.

Many of our tacit and taken-for-granted assumptions, about teaching or other life experiences, are based on metaphors. A teacher who is orderly and efficient might metaphorically describe their classroom as "a well oiled machine." This metaphor would be a partial insight into the assumptions that influence what the teacher values in the classroom. Using a different metaphor might suggest new values and new actions for the teacher to emphasize. In this way, different metaphors help change one's perspective by reframing the situation. The relevance of using metaphors is in understand us complex phenomena, understanding that either confirm or disconfirm our assumptions. If our assumptions are confirmed, we should "stay the course"; if disconfirmed, there is incentive to change those assumptions, which ultimately suggests new assumptions and new teaching actions. Think what it would mean if we tested our

teaching practice assumptions for validity—students will love this topic as much as I do, students will read all the articles prior to class, this class is relevant to students, I am more knowledge on this topic than the students—and adjusted our teaching accordingly.

Rather than trying to directly unpack assumptions we make about the skills, values, and actions in our teaching practice, we suggest looking at personal pursuits as metaphors that facilitate mirror reflections of those assumptions in our practices: reflections that enable new insights and new learning through dialogue with others.

Constructing Knowledge through Dialogue

Constructivism is rooted in the pragmatist philosophies of Dewey (1933), James (2000), and Mead (1964) who proposed individuals construct their learning through active experience, discovery, and critical reflection. Dewey's (1933) instrumentalism, a variety of pragmatist philosophy, maintained that the truth and overall value of an idea are determined by its usefulness in actively solving human problems. Reflection is the means for analyzing and actively responding to problems. Dewey (1933) defined reflective thinking as "active, persistent and careful consideration of any belief or supposed form of knowledge" (p. 9). Likewise, James (2000) asserted that individuals should construct meaning from their experience by testing concepts with the question, "What sensible difference to anybody will its truth make?" (p. xvii).

Social constructivist theorists (Berger Luckmann, 1967; Gergen, 1985; Gergen Thatchenkery, 1996a, 1996b; Vygotsky, 1962, 1986; Weick, 1995), who suggested individuals "construct" meaning from their experiences, rather than the experiences creating meaning, support reflective practice. Essentially social constructivists posit that individuals make sense of their experience through meaning making models comprised of underlying assumptions and values, and that new learning requires individuals to challenge and even change assumptions to create new meaning making models. Social constructivists draw on Vygotsky's (1962) emphasis on the social elements and the collaborative construction of knowledge through dialogue. In this way, dialogue provides an interactive data collecting, testing, and organizing system for meaning making.

The tradition of dialogue can be found in most cultures. While formats may differ slightly, the intent for social engagement in collective inquiry—characterized by openness and trust in seeking to understand multiple perspectives toward formulating concurrence—is remarkably similar. Dialogue has the collective power to connect by collaboratively bringing

body, mind, and spirit to explore learning in the space between individuals. It is in the relationship of people through conversation, that meaning is made in dialogue. The epistemological nature of dialogue is rooted in the Greek word dia-logos, signifying that meaning is in the words between people, not in people themselves (Buber, 1970). Through dialogue, people experience collaborative inquiry that incorporates multiple perspectives for discovering new meanings that are synergistically more than they might discover on their own (Bohm, 1996; Isaacs, 1999; Senge, 1990; Stanfield, 1997).

Vygotsky (1962) claims external dialogue serves as an antecedent to the development of inner dialogue. which monitors individual mental processes for planning, implementing, and evaluating behavior (Belenky, Clinchy, Goldberger, & Tarule, 1997). In the absence of external dialogue, individuals may fail to develop the ability for meaning-making. By making reflection explicit during our metaphorical mirror exercise, participants have an opportunity to cycle through an internal-external-internal dialogue, which confirms or disconfirms assumptions in the meaningmaking of their teaching practice. In this way, internal reflection is a function of and influenced by external dialogue. Dialogue co-creates an external meaningmaking system, where conversation becomes data for framing and reframing internal individual meaningmaking (Yankelovich, 1999).

Vygotsky (1962) identified the zone of proximal development, which refers to learning a task that is just beyond the ability of the learner to achieve working independently, yet reachable with the assistance of others. We believe, for many individuals, reflection is such a task. He advocated scaffolding: a technique that provides the changing level of support necessary for learning tasks too difficult to master alone. We suggest that the metaphorical mirror exercise combined with dialogue acts as scaffolding to help participants surface and challenge assumptions.

Metaphorical Mirror Exercise

The metaphorical mirror exercise consists of providing participants with guided reflection: openended questions probing their personal pursuits and teaching practice, allowing time for reflection and brief journal writing, then sharing answers in the form of a narrative with others in dialogue. The questions and journal writing provide structure and focus for internalized reflection. The narrative provides insights into previously obscure or hidden assumptions. And, the dialogue allows participants to engage in externalized reflection and to receive feedback to clarify and test their perceptions and assumptions (Flick, 1998).

There is ample research on the positive effects of both internalized non-verbal reflection and external articulated reflection in promoting self-awareness, learning specific job competencies, critical thinking, learning to learn, and change. Further to the point, Murphy (2004) suggests using both internal and external reflection provides choice in participation for introverts and extroverts, and for participants with different learning styles.

We instruct participants as follows: please reflect on and write responses, in whatever form feels appropriate, to the following open-ended questions. Feel free to be creative and add your own questions or categories.

- What is your favorite personal pursuit (e.g., hobby, activity, interest, or sport)?
- What attracted you to this pursuit?
- How did you learn the skills of this pursuit?
- How does it make you feel to participate in this pursuit?
- What assumptions do you hold about the skills, values, and actions associated with this pursuit?
- How are assumptions in your personal pursuit "like" assumptions in your classroom? In other words, what assumptions do you hold about that pursuit are also obvious in the assumptions you hold about skills, values, and actions you encourage, recognize, and reward in the classroom?
- What assumptions should you challenge, confirm, disconfirm, or change in your classroom? How would you test these assumptions?

In dialogue, typically in small groups (e.g., triads), we encourage participants to convert answers to their questions to a narrative using the questions only as a guide to inform their story. We suggest to participants that dialogue affords the opportunity for feedback and helps with identification, clarification, and validation of assumptions. We ask story-tellers to be creative, interesting, and engaging. In addition, we ask listeners to utilize active listening skills, probing for clarity, exploring meanings, and providing support. All participants take turns as story-teller and listener. After rotating through all the stories, we ask participants to discuss the common themes, assumptions, and insights that emerged.

Instructor's Guide

We use the following design to organize and facilitate learning with the metaphorical mirror

exercise. First, clearly articulate the purposes for the session (see below), ideally a week or so in advance, so participants have clear expectations and sufficient time to begin considering a personal pursuit and underlying skills, values, and actions, Discuss confidentiality, vulnerability, openness. and defensiveness with participants. Consider rolemodeling each component of the mirror image exercise before asking participants to engage. Next, groups should be given ample time to thoroughly tell their stories and discuss all issues they deem appropriate. Finally, after the small group dialogue, the instructor should debrief the entire session, using the following simple yet effective questions, which are abbreviated and modified from the Institute of Cultural Affairs (Spencer, 1989) guide facilitation:

- What did you observe and hear in your session that was meaningful?
- What did you feel during the session, either when you were presenting or when others were presenting?
- What insights have you gained about yourself or others through this exercise?
- How has this experience changed the way you think about your teaching practice?
- How will you use this new information in your teaching practice?

Session Purpose

- To identify a personal pursuit (e.g., hobby, activity, interest, or sport) in which you are active.
- To explore assumptions you hold about the skills, values, and actions associated with this personal pursuit.
- To explore how this personal pursuit serves as a metaphorical mirror to reflect assumptions you hold about skills, values, and actions you encourage, recognize, and reward in your teaching practice.
- To examine more deeply the validity of holding these teaching practice assumptions.
- To investigate how these insights inform your self-awareness and teaching practice.

Variations

- Change the questions to reflect the particular workshop or professions represented
- Assign the questions as homework
- Modify the questions to use with students as a way to examine their learning
- Have participants design their own questions

Reflections and Conclusions

Upon reflecting on developing, designing, and preparing the metaphorical mirror exercise and in conducting the workshop at the conference we learned much about our own assumptions and teaching practices. We learned that two of the authors' personal pursuits-woodworking and skiing-while uniquely different in the many assumptions about skills, values, and actions that transfer into our teaching practices. also had certain commonalities. While our woodworker values preparation, patience, following design, and precision in a controlled indoor environment, our skier values excitement, risk-taking, and adaptability in an changeable outdoor environment. Interestingly, we both teach the same topic in the same experiential style. As you might imagine, our classrooms are very different because we value, recognize, and reward different student actions based on our different assumptions. However, commonalities— deliberate practice, constant seeking of advice from mentors, extensive reading of instructional manuals, and use of state-of-the-art equipment—manifests in similar expectations for students' preparation through reading assignments, skills practice utilizing role-plays, and self-development through journal writing assignments. We noticed participants in our workshop had similar experiences.

Our participants at the conference workshop had a wide-range of personal pursuits spanning family, marathon running, religious volunteerism, computer games, golf, theater, movies, and gardening. Their stories and dialogue shared in triads, and their general comments in the workshop suggested they were able to surface and begin to test previously hidden assumptions. Many remarked they gained new insights and new learning, while a few signaled their intention to incorporate more reflection into their teaching. One participant noted a confirmation of her assumptions: "My passion and main personal interest is my family. I can see how treating students as an extension of my family goes a long way toward building the kind of trusting relationships that foster a safe learning environment where students feel comfortable to take risks." Another participant questioned the boundaries his assumptions build in the classroom: "I wonder if my need for correctness and precision directs students to the text book answer, and in so doing inhibits their ability to find new creative solutions." Collectively participants reported their most significant insights were variations of the same themes, namely: how they saw their classrooms anew through the power of metaphor; and, how the subsequent dialogue with each other generated

more questions about their teaching practice—why do I do it that way, what works and doesn't work in terms of students' learning based on my assumptions, what should I change, how should I change, and what have I learned about my own teaching by asking others about their teaching?

It is our hope that by encouraging participants to use the metaphorical mirror to explore how their personal pursuits provide insights into previously hidden assumptions in their teaching practice they will develop better self-awareness and ultimately become better teachers. We believe it is through careful exploration of take-it-for-granted assumptions and a willingness to change those assumptions that produce ineffective actions that individuals learn, change, and develop new actions that are more effective.

References

- Argyris, C. (1993). Knowledge for action: A guide to overcoming barriers to organizational change. San Francisco: Jossev-Bass.
- Argyris, C. (1996). Actionable knowledge: Intent versus actuality. *The Journal of Applied Behavioral Science*, 32(4), 441-444.
- Argyris, C., & Schön, D. A. (1974). Theory in practice: Increasing professional effectiveness. San Francisco: Jossey-Bass.
- Belenky, M. F., Clinchy, B. M., Goldberger, N. R., & Tarule, J. M. (1997). Women's ways of knowing. New York: Basic.
- Berger, P. L., & Luckmann, T. (1967). *The social construction of reality*. New York: Doubleday Anchor.
- Bohm, D. (1996). On dialogue. New York: Routledge.
- Boud, D., Keogh, R., & Walker, D. (1985).
 Promoting reflection in learning: A model. In D.
 Boud, R. Keogh, & D. Walker (Eds.), Reflection turning experience into learning. London: Kogan Page.
- Brookfield, S. (1995). *Becoming a critically reflective teacher*. San Francisco: Jossey Bass.
- Buber, M. (1970). *I and thou* (W. Kaufman, Trans.). New York: Scribners.
- Cranton, P. (2002). Teaching for transformation. New Directions for Adult and Continuing Education, 2002(93), 63-71.
- Cranton, P. (2006). Understanding and promoting transformative learning: A guide for educators of adults (2nd ed.). San Francisco: Jossey Bass.
- Cranton, P., & Carusetta, E. (2004). Perspectives on authenticity in teaching. *Adult Higher Education*, 55(1), 5-22.
- Dewey, J. (1922). *Human nature and conduct*. New York: The Modern Library.

- Dewey, J. (1933). *How we think*. Lexington, MA: D.C. Heath.
- Dewey, J. (1938). *Experience and education*. New York: Touchstone.
- Flick, D. (1998). From debate to dialogue: Using the understanding process to transform our conversations. Boulder, CO: Orchid.
- Gergen, K. J. (1985). The social constructionist movement in modern psychology. *American Psychologist*, 40, 266-275.
- Gergen, K. J., & Thatchenkery, T. J. (1996a). Developing dialogue for discerning differences. *The Journal of Applied Behavioral Science*, 32(4), 428.
- Gergen, K. J., & Thatchenkery, T. J. (1996b). Organization science as social construction: Postmodern potentials. *The Journal of Applied Behavioral Science*, 32(4), 356-377.
- Isaacs, W. (1999). Dialogue and the art of thinking together. New York: Currency.
- James, W. (2000). Some problems of philosophy. In G. Gunn (Ed.), *William James: Pragmatism and other writings* (pp. xvii). New York: Penguin.
- Johns, C. (1994). Guided reflection. In A. Palmer, A. Burns, & C. Bulman (Eds.), Reflective practice in nursing. The growth of the professional practitioner (pp. 110-130). Cornwall, UK: Blackwell Science Ltd.
- Lewin, K. (1951). Field theory in social science. New York: HarperCollins.
- MacCormac, A. (1985). A cognitive theory of metaphor. Cambridge: MIT.
- Marzano, R. J. (2007). The art and science of teaching: A comprehensive framework for effective instruction. Alexandria, VA: ASCD.
- Mead, G. H. (1964). George Herbert Mead on social psychology. Chicago: University of Chicago Press.
- Mezirow, J. (1990). Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning. San Francisco: Jossey Bass.
- Morgan, G. (1986). *Images of organizations*. Beverly Hills, CA: Sage Publications.
- Murphy, J. I. (2004). Using focused reflection and articulation to promote clinical reasoning: An evidence-based teaching strategy. *Nursing Education Perspectives*, 25(5), 226-231.
- Oermann, M. (1999). Critical thinking, critical practice. *Nursing Management*, 30(4), 40C-D,F,H-I.
- Ortony, A. (1975). Why metaphors are necessary and not just nice. *Educational Theory*, 25, 45-53.
- Palmer, P. J. (1998). The courage to teach: Exploring the inner landscape of a teacher's life. San Francisco: Jossey-Bass.

- Pavlovich, K., Collins, E., & Jones, G. (2009). Developing students' skills in reflective practice. Journal of Management Education, 33(1), 37-58.
- Platzer, H., Blake, D., & Ashford, D. (2000a). Barriers to learning from reflection: A study of the use of groupwork with post-registration nurses. *Journal of Advanced Nursing*, 31(5), 1001-1008.
- Platzer, H., Blake, D., & Ashford, D. (2000b). An evaluation of process and outcomes from learning through reflective practice groups on a post-registration nursing course. *Journal of Advanced Nursing*, 31(3), 689-695.
- Platzer, H., & Snelling, J. (1997). Promoting reflective practitioners in nursing: A review of and journals to facilitate reflection. *Teaching in Higher Education*, 2(2), 103-121.
- Reeves, D. B. (2006). The learning leader: How to focus school improvement for better results. Alexandria, VA: ASCD.
- Schon, D. A. (1987). Educating the reflective practitioner. San Francisco: Jossey-Bass.
- Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic.
- Schön, D. A. (1987). *Educating the reflective practitioner*. San Francisco: Jossey-Bass.
- Senge, P. M. (1990). The fifth discipline: The art and science of the learning organization. New York: Currency Doubleday.
- Spencer, L. (1989). Winning through participation: Meeting the challenge of corporate change and technology of participation. Dubuque, IA: Kendall/Hunt Publishing Company.
- Stanfield, R. B. (Ed.). (1997). The art of focused conversation: 100 ways to access group wisdom in the workplace. Gabriola Island, British Columbia, Canada: New Society Publishers.
- Vaill, P. B. (1996). Learning as a way of being: Strategies for survival in a world of permanent white water. San Francisco: Jossey-Bass.
- Vygotsky, L. (1962). *Thoughts and language*. Cambridge: MIT.

- Vygotsky, L. (1986). *Thoughts and language*. Cambridge: MIT Press.
- Walter, V. A. (1996). Metaphor and mantra: The function of stories in number the stars. *Children's Literature in Education*, 27(2), 123-130.
- Weick, K. E. (1995). Sensemaking in organizations. Thousand Oaks, CA: Sage.
- Yankelovich, D. (1999). The magic of dialogue: Transforming conflict into cooperation. New York: Simon & Schuster.

GARY WAGENHEIM, Ph.D. is Adjunct Professor at Simon Fraser University and the Helsinki School of Economics and a former professor at Purdue University. He owns and operates Wagenheim Advisory Group that provides corporate training, coaching, and organizational development programs. His research and consulting interests focus on developing reflective leaders.

ROBERT CLARK, Ed.D. is Associate Professor of Educational Administration at California State University Dominguez Hills. In addition to teaching graduate courses on educational leadership, he serves as a leadership coach for several public school principals in southern California. Dr. Clark is a retired school superintendent and a member of several profession organizations.

ALEXANDER W. CRISPO is Associate Professor in the College of Technology at Purdue University. He teaches graduate and undergraduate courses in leadership and organizational change. He is past president of the International Society for the Exploration of Teaching and Learning, and a member of the Organizational Behavior Teaching Society. His teaching, scholarship, and consulting interests are primarily in the areas of leadership and organizational change.