# KURT LEWIN – SOCIAL SCIENTIST OR POSTMODERN CRITIC?

## Introduction

This paper presents, what in my view are, significant contributions of Kurt Lewin to postmodern perspectives on culture and critical theory. Kurt Lewin was born, eldest of four children, in 1890 in Prussia (Poland) in a middle class Jewish family. Although Prussia was part of Germany at that time, it was more anti-Semitic than the rest of Germany. He grew up experiencing oppression and exclusion in Christian schools. Nevertheless, as a patriotic German, Lewin fought bravely in the First World War and received an Iron Cross. Lewin's Jewish origin made him sensitive to social and communal problems of his times. Lewin's biographer, Marrow (1969), claims that these oppressive experiences account for Lewin's interest in group dynamics. As a social democrat, Lewin constantly discussed issues that related to democracy and societal reorganization. He was strongly influenced by the holistic approach of Gestalt psychology and neo-Kantian philosophy of science that championed a critical examination of scientific concepts, theories, values, and their validity.

He first came to the United States as a visiting professor to Stanford University in 1932 (and formally immigrated to the U.S. with his wife & daughter in 1933 and became a naturalized citizen in 1940). He taught at Cornell University (for two years), University of Iowa (for ten years), and finally the Massachusetts Institute of Technology (for just two years) until his premature death in 1947. Although he began thinking and writing in English only after visiting the U.S., his achievements are undoubtedly monumental considering his seminal ideas on *action research*, *field theory*, *force field analysis*, *group dynamics*, and *organizational development theory* still define the respective fields! Lewin

strived to bring his research and understanding of psychological theory to study social issues and ameliorate social problems. His research interests included studies on cultural reconstruction, the humanization of industry, psychological conditions and liberation of oppressed minorities, use of scientific methods to examine the roots of racial prejudice, welfare of children, and other aspects of human relations. He was a bellwether, who recognized the need to improve the position of women even as a student almost 100 years ago. Not surprisingly, these contributions also inspired pioneers such as Lev Vygotsky (1978, on the role of activities in learning and development), Herbert Simon (1981, for ideas on satisficing, bounded rationality, and selective search), Carl Rogers (1969, on the importance of relationships for learning), and Thomas Gilbert (1978, for the behavior engineering model framework), individuals who have greatly influenced my thinking.

## Field Theory and its merits

Lewin's (1997a) field theory provides *a method* for "*analyzing causal relations and of building scientific constructs*" (p. 201) on several psychosocial concepts involving human actions, emotions, and personality. These psychosocial concepts include human frustration, levels of aspiration, marginality, punishment and reward, and social identity. Lewin's field theory (1997b) is built on two constructs (a) human behavior is derived from a combination of mutually *interdependent* co-existing facts in the life space of individuals, and (b) these coexisting facts have the characteristics of a "dynamic field," because "any part of the field depends on every other part of the field" (p. 187). Using the analogy of "phase space" in physics, which represents a multitude of factors that might influence events in open systems, Lewin articulated the importance of "psychological space" in real life. Lewin reasoned that an individual's life space, including one's

personal characteristics and environmental influences, is an inherent part of the individual's *total situation*–momentary and general life situation as *perceived* by the individual. He argued that the total situations or *fields* are more important in studying group behavior because at any given time, individual human behavior, is not only derived from, but is also likely to change, due to the individual's perception of current situations based on their past cultural orientation, race, status, and experience. To account for such complexities and interdependence of the internal and external factors affecting individuals, Lewin advocated a middle course.

This middle course differs from extreme individualist positions (with belief that personal characteristics should dominate) and socio-culturalist positions (with belief that environmental characteristics should dominate). For the mathematically oriented, Lewin expressed human behavior (B) as a function of both the inherent personal characteristics of individual's (P) and their complex, dynamic, all encompassing environments (E), B = f (P, E), where P = f (E), and E = f (P). By applying these field theory principles to groups in given situations, Lewin observed that it is possible to glean general patterns, underlying relationships, and structural characteristics that can be transposed to other real-world situations. As an example of the field theory principle, Lewin (1997c) advocated the use of a *psychological approach* to understanding fields that influence individuals and noted that a teacher can never succeed in giving proper guidance to a student if she or he does not learn to understand the psychological world in which that individual student lived. This objective description in psychology actually means describing a situation in its totality–a sum total of facts which makes up that individual. Geertz (1973) too highlighted the importance of understanding this complexity of human

behavior and gesturing, and invoked the notion of *thick description*. However, I find Geertz's rationale for using thick description patronizing. Geertz (1973) noted that thick description helps clarify meaning of what goes on in faraway places and thereby reduces their puzzlement to the outside world. My question remains, what makes one group superior to another in making such value judgments? Lewin's field theory on the contrary emphasizes a more benign rationale for the meticulous examination of concrete situations because, as Martin (2003) noted, Lewin reiterated that the "further one goes into a particular case, the *more* revealing it will be of general principles" (p. 35).

## The plight of science education in K-8 settings

Even as a graduate student in the University of Berlin, Lewin strived to empower men and women in the working class by teaching them at night schools. John et al. (1989) describe how Lewin empathized with workers and was against their exploitation by Taylorist capitalism. He supported the cause of workers and advocated for their voices to be heard. Similarly, I would like to make a case for the content taught in schools to be grounded more on student needs and their interests rather than a "laundry list" of topics drafted by the experts–the dominant group, to use the Taylorian analogy of treating schools as assembly line productions. As a science and technology educator, I am particularly concerned about the way science learning is promoted by the "experts" in science and engineering. The argument often made is that science is important for science's sake and individuals must learn science because only then can they cope with challenges in this technology-centered world. In my view, these opinions are pedantry because they perpetuate the very problems they seek to address by repeating clichéd

ideas. I believe greater benefits can be reaped by articulating the true benefits of thinking and solving problems scientifically.

Gramsci (2000a), commenting on the limitations of theoretical knowledge, underscores that it results in arrogance–for example, treating students as mere receptacles to be stuffed with a mass of unconnected facts and empirical data. High stakes testing has resulted in numerous schools just focusing on reading, writing, and mathematics (the 3Rs). Stuffing students in K-5 settings with unconnected facts and empirical data in the 3Rs for improving their performance in standardized tests results in a large number of them feeling overwhelmed when they move to middle and high schools. Gramsci's (2000b) observation that the law can force "you to go to school, but it cannot oblige you to learn, or, once you have learned, not to forget" (pp. 67-68) is appropriate here. I find myself among a minority in articulating the overall importance of science education for all students in K-8 settings. My rationale for promoting science education is different from the experts' rationale. Several students come to schools from disadvantaged families with limited skills in the 3Rs and perceptions about science. I affirm that learning science through *hands-on activities* fosters systemic thinking and generic problem solving skills among all students, including those from disadvantaged backgrounds, and these skills would leave all students better disposed towards change and learning, lifelong. Incidentally, it would also help them achieve better in standardized tests on the 3Rs. Dewey (1998) expressed the uncanny resemblance of children's curiosity, imagination, and love for experimental inquiry to their innate scientific minds. The higher level thinking and problem solving skills, developed by constantly reinforcing evidence-based critical thinking in science classrooms, cannot be fostered by presenting science as a fait

accompli, a collection of already discovered facts that should be stuffed in students' minds. I illustrate this incongruity with an analogous situation at the other end of the education spectrum where a doctoral student recently wanted assistance in defining "the nature of physics" in a listserv for teacher preparation at the *American Association of Physics Teachers*. The experts had their say but I was getting increasingly uncomfortable with their responses. For instance, P. Hickman (May 2, 2004) wrote that:

> The nature of physics is more than the process of *doing* physics. It includes the history and philosophy of physics and *special ways of thinking about the world that physicists and others who practice physics use* in their everyday lives.

After following this pedantic discussion for two days, I articulated my personal reflections. I reasoned that, in my view, one of the most important aspects of physics or any other field of endeavor for that matter was that they were all *fundamentally human activities* that engage our minds. While different academic domains have certain unique concepts and vocabulary, glorifying the uniqueness or elitist nature of a discipline would probably only alienate more students from that particular discipline. Instead, I persisted that our humanistic ideals as scientists should strive towards empowering more students by providing them opportunities to learn generic problem-solving and thinking skills, skills that are common to physics as much as any other field of endeavor. This would not only reduce inequities in society by having more individuals endowed with more power and freedom to inquire, but also help these individuals creatively address challenges and problems unique to the 21$^{st}$ century. In my view, requiring students to learn science for science's sake to cope with a highly technological world as described by the "experts" is oppression. Instead we must capitalize and build gradually from what our students can

relate to, what they can or cannot do, while remaining grounded in their aspirations, needs, and interests.

Freire (2000) and Foucault (1984) have written extensively about oppression. According to them, prescriptions that represent the imposition of one's will and choice on another are oppressive because they curb freedom, free initiative, and praxis: reflection and action that seek to liberate and transform the world. Science should not be an elitist pursuit of a small number of scientifically literate people who prescribe what others need or need not learn. Neither should it be the collection of a large amount of unconnected facts and information as portrayed by the hegemonic textbook establishments. These establishments, with their obsession to hold on to their economic power and domination, have successfully scuttled innovative ways to foster critical thinking in our students through the appropriate use of technology. Schank (1995) blasts textbook publishers for not developing meaningful educational software for students because of their interest in continuing to profit from the multi-billion dollar publishing industry.

In my view, scientific literacy should be a lifelong pursuit of knowledge by individuals, individuals who are willing to question events and solve problems in everyday life, who think critically and creatively by using scientific process skills that are grounded in humane values of empathy, trust, and genuineness. It helps these individuals cope with everyday challenges, develop a positive attitude, and use evidence-based reasoning for solving problems. Instead of imposing our will on students, as educators we should help students aspire to learn science because the concepts learned in science will offer them more choices when they grow up. In short, more students and society would benefit by being scientifically literate. Lewin et al. (1999) observed that the level of

aspiration influences an individual's experience of success or failure more strongly than their capacity or performance. In a sense, I view my struggles with promoting science as a means of improving student achievement in schools as similar to Lewin's struggles and concerns with social problem-solving.

## Relevance of Kurt Lewin in the classroom

If Lewin were alive today, his thinking would be akin to critics of postmodern perspectives such as Schutz (2004), Gee (2003), and others, who write extensively about social issues of oppression, domination, resistance, and privilege. To illustrate the relevance of these issues in a classroom, I use two concepts, pastoral power and pastoral control. Devadoss and Muth (1984) defined power as the ability of an individual to affect the behavior of another. They presented power in terms of a continuum

Coercion ←→ Authority ←→ Influence

to illustrate how force, legitimacy, and persuasion, respectively affect behavior. In general, power refers to the ability of individuals (or groups) to *influence, induce, or prevent change* in others. According to Foucault (1984a), power gained widespread acceptance because it produced things, induced pleasure, and formed knowledge. As Payne (1996) affirmed, a leading challenge for cultural and critical theorists today is bringing about a renewed reflection and subsequent informed action for resolving conflicts between aesthetic pleasure and social responsibility. Effective power results in control. Control, in general, refers to the process by which individuals (or groups) in society are influenced to *adhere to values, principles, or proper behavior deemed appropriate* for that society. According to Muth (1984), "control demarcates power" (p. 28), and describes the extent to which influence has been used to solve a problem.

Disciplinary power in traditional classroom exists in situations where teachers, who consider themselves as repositories of knowledge, bestow their knowledge and wisdom on students who know little or nothing. Freire (2000) referred to this scenario, treating students as mere receptacles to be filled in, as the banking concept of education. Although extreme, the notorious exploitation of such disciplinary power became known recently in the prisoner abuses at Abu Ghraib prison in Iraq. The actions were easy to visualize but the motives of the perpetrators of these shameful acts are still incomprehensible to the common person. Pastoral power in progressive classrooms exists in situations where teachers, who might still consider themselves as repositories of knowledge, nurture and help students embody better ways of behavior by making students sit in circles. Schutz (2004) describes numerous strategies (pp. 17-18) that students and employees quickly adopt to "work the system," and how this discreetly articulates their resistance. The Los Angeles police department's brutality against African American men that was brought to light recently, akin to the videotaped Rodney King's beating in 1991, is another case in point. At any rate, a significant difference between disciplinary power and pastoral power is *how* they control.

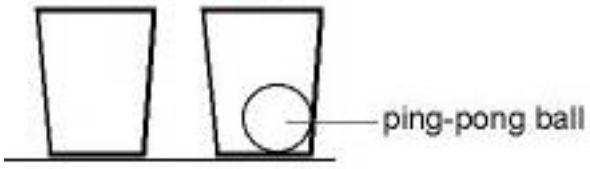
In traditional classrooms, students continue to be seated in rows. They face the teacher, who directs classroom activities, distributes pre-established collections of knowledge, and exercises disciplinary power by imposing sanctions against those who do not follow the rules. Progressive classrooms (like our own culture and critical theory classes), in contrast, are often set up in circles to facilitate greater freedom and interactions between students. Independent of the structural arrangements, pastoral forms of control also co-opt individuals and group agencies motivation and desires. Schutz

(2004) argues that postmodern influences that underscore the importance of relatively nurturing forms of pastoral control have tended to draw attention away from the often brutal discipline experienced by those who are now marginalized. At any rate, I believe this change in locus of control from the teacher to the students is a step in the right direction as long as student needs and interests remain the driving force in classrooms. Lewin believed that delegating responsibility particularly facilitates the growth of individuals. Lewin, like other postmodern critics, might also argue that individuals in progressive classrooms would find it difficult to resist control because it was now distributed throughout the classroom.

Notwithstanding, in the reality of everyday life, individuals are subjected to multiple, overlapping, and often discreet forms of both, disciplinary and pastoral power and control. Foucault (1984b) refers to these as the panopticisms of everyday life, after the ponopticon, a cell where one becomes self-regulating because of not being sure of being observed and watched. Unfortunately, these binaries (such as privileged vs. marginalized, pastoral vs. disciplinary, micro vs. macro, individual vs. social, nature vs. nurture, dynamic vs. static, qualitative vs. quantitative, structural vs. systemic) also tend to obscure the processes of social control. Consequently, individuals end up either taking sides, or believing that both binaries are important, or engaging in academic debates about scenarios and solutions. Teaching at a middle school, I observed some Latino boys' "superficial" awareness of domination; I found them parroting words like "racism," without understanding the significance that their education was their ticket to freedom and emancipation from "racism" in the real world. Lewin cautioned about psychosocial problems of leading and being led, and polarizing conflicts into "us" versus "them."

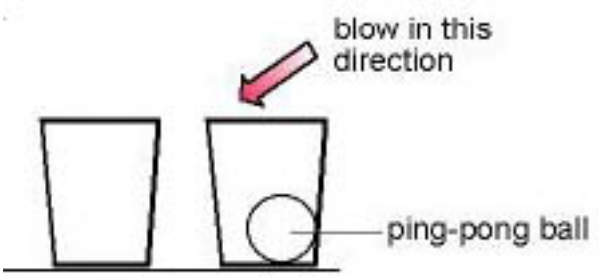
Delgado and Stefancic (2001) too cautioned against this binary thinking, focusing on whites versus non whites or setting one minority group against another because these binaries become detrimental to both groups. Lewin, like Delgado and Stefancic (2001), affirmed the importance of these psychological factors for challenging our own thoughts, perceptions, reasoning, and privileges. Lewin (1997d) asserted that "raising the self-esteem of the minority groups is one of the most strategic means for the improvement of inter-group relations" (p. 151).

Conflicts or tensions per se are not the problem. According to Lewin (1997e), social change could be visualized as a three-stage process: unfreezing, change of level, and freezing at the new level. He acknowledged that cognitive dissonance due to conflicts, tensions, and challenges could actually promote individual and institutional growth. Lewin believed that conflicts catalyze change because they challenge the existing social or scientific order of individuals. He cites Allport (1945) who first observed that "catharsis" was a necessary condition for removing prejudice. In my classroom, I use discrepant events to create deliberately cognitive dissonance in students' minds and thereby promote student engagement and motivation. For instance, I might present a simple scenario (illustrated below) and ask students, can you move the ping-pong ball from one cup to the other without touching it?




After several attempts, if no one in class is able to find a solution, I might give them a hint with an aerosol demonstration. If they are still unable to find a solution, I might show

them what I would do (illustrated below) and follow it up with questions that come to everyone's mind.




This way, students not only learn problem-solving and questioning skills, but they also see the relevance of learning science and its use in everyday life. Lewin referred to goals as force fields because all the forces are directed toward the same region. Evidently, the fields generated for describing conflicting situations, such as blowing ("pushing," in the minds of individuals) to draw ("pulling") the ping-pong ball upward, facilitate the dynamic goal setting of individuals. Moreover, Lewin (1997e), in elaborating on how to bring about a "desired state of affairs" (p. 326), calls for a paradigm shift in thinking– moving from a traditional "goals to be reached" scenario to a change to "from the present level to the desired level" scenario. In my view, this paradigm shift when illustrated on a line continuum (say on a white board) makes goal-setting exercises tangible to individuals. In conclusion, Martin's (2003) use of a game metaphor for Lewin's field theory ideas paraphrases its power succinctly, because it compares fields to rule-based games and force fields to players' desire to accomplish common goals. These goals become corporeal indeed when presented along a line continuum, illustrating a change from the present level to a new desired level.

## Conclusion

This paper sought to articulate the significant contributions of Kurt Lewin to postmodern perspectives on culture and critical theory. Following a brief introduction of Lewin, I described my interest in his research, and some merits of his field theory. Throughout the paper, I juxtaposed his thinking with those of other critical thinkers such as Geertz, Gramsci, Freire, Foucault, Schutz, Payne, Delgado, and Stefancic. The key ideas proposed by Lewin portrayed in this paper include:

- The psychosocial problems of leading and being led
- The futility of polarizing conflicts into "us" versus "them"
- The need to empower men and women in the working class
- The need to challenge our own thoughts, perceptions, reasoning, and privileges
- The need to delegate responsibility because it facilitates the growth of individuals
- The importance of discerning general patterns using field theory principles
- The importance of an individual's level of aspiration in accomplishing goals
- The importance of raising the self-esteem of the minority groups for improving inter-group relations
- The importance of cognitive dissonance through conflicts, tensions, and challenges for promoting individual and institutional growth

In my view, Lewin's contributions described throughout this paper and summarized above as bullet points would make him a leading postmodern critic of our times. His conclusion that individuals are likely to succeed in group situations when they share a *common objective*, even though they come to the group with their own unique personal dispositions, is significant. My submission for a common objective in this paper has been

a plea to make students' aspirations, needs, and interests as the focus of pragmatic and "performative" educators, to use Giroux and Shannon term (1997), educators who advocate for, inform, and empower the public at large.

The paper also illustrated how I used the ideas championed by Lewin in depicting the plight of science education and classroom learning. Gramsci's (2000c) metaphor of schools as crucibles where new spirits are forged aptly describes how schools should be working toward empowering *all* students. I described how this might be achieved by helping the students become better critical thinkers, problem solvers, and inquiring individuals by making a case for using hands-on science learning in progressive classroom settings. As Lewin (1999) acknowledged, such knowledge and skills learned would not only empower all students but also "build the character of the citizens-to-be" (p. 290).

## Reference

Delgado, R., & Stefancic, J. (2001). *Critical race theory: An introduction*. New York: New York University Press.

Devadoss, M., & Muth, R. (1984). Power, involvement, and organizational effectiveness in higher education. *Higher education*, *13*, 379-391.

Dewey, J. (1998). *How we think* (Revised ed.). Boston, MA: Houghton Mifflin.

Foucault, M. (1984a). Truth and power. In P. Rainbow (Ed.) (1984). *The Foucault reader*. New York: Pantheon Books. 51-75.

Foucault, M. (1984b). Panopticism. In P. Rainbow (Ed.) (1984). *The Foucault reader*. New York: Pantheon Books. 206-213.

Freire, P. (2000). *Pedagogy of the oppressed* (30th anniversary ed.). New York: Continuum.

Gee, J. P. (2003). Opportunity to learn: A language-based perspective on assessment. *Assessment in education*, *10*(1), 27-46.

Geertz, C. (1973). *The interpretation of cultures*. New York: Basic Books.

Gilbert, T. F. (1978). *Human competence: Engineering worthy performance*. New York: McGraw-Hill.

Giroux, H. A., & Shannon, P. (1997). Cultural studies and pedagogy as performative practice: Toward an introduction. In H. A. Giroux, & P. Shannon (Eds). *Education and cultural studies*. New York: Routledge. 1-9.

Gramsci, A. (2000a). Socialism and culture. In D. Forgacs (Ed.) (2000). *The Gramsci reader: Selected writings 1916-1935*. New York: New York University Press. 56-59.

Gramsci, A. (2000b). Illiteracy. In D. Forgacs (Ed.) (2000). *The Gramsci reader: Selected writings 1916-1935*. New York: New York University Press. 67-68.

Gramsci, A. (2000c). Questions of culture. In D. Forgacs (Ed.) (2000). *The Gramsci reader: Selected writings 1916-1935*. New York: New York University Press. 70-72

Hickman, P. (2004, May 2). The nature of physics (Msg 7). Message posted to the listserv for the AAPT Committee on Teacher Preparation, archived at http://lists.aapt.org/cgi-bin/lyris.pl?enter=ctp-l&text_mode=&lang=english

John, M., Eckardt, G., & Hiebsch, H. (1989). Kurt Lewin's early intentions. European *Journal of social psychology, 19*, 163-169.

Lewin, K. (1997a). Defining the "field at a given time." In D. Cartwright (Ed.). *Field theory in social science: Selected theoretical papers*. Washington, DC: American Psychological Association. 200-211.

Lewin, K. (1997b). Formalization and progress in psychology. In D. Cartwright (Ed.). *Field theory in social science: Selected theoretical papers*. Washington, DC: American Psychological Association. 169-190.

Lewin, K. (1997c). Field theory and learning. In D. Cartwright (Ed.). *Field theory in social science: Selected theoretical papers*. Washington, DC: American Psychological Association.212-230.

Lewin, K. (1997d). Action research and minority problems. In D. Cartwright (Ed.). *Field theory in social science: Selected theoretical papers*. Washington, DC: American Psychological Association. 143-152.

Lewin, K. (1997e). Frontiers in group dynamics. In D. Cartwright (Ed.). *Field theory in social science: Selected theoretical papers*. Washington, DC: American Psychological Association. 301-336.

Lewin, K. (1999). The dynamics of group action. In M. Gold. (Ed.). *The complete social scientist: A Kurt Lewin reader*. Washington, DC: American Psychological Association. 285-291.

Lewin, K., Dembo, T., Festinger, L., & Sears, P. S. (1999). Level of aspiration. In M. Gold. (Ed.). *The complete social scientist: A Kurt Lewin reader*. Washington, DC: American Psychological Association. 137-182.

Marrow, A. F. (1969). *The practical theorist: The life and work of Kurt Lewin*. New York: Basic Books.

Martin, J. L. (2003). What is field theory? *American Journal of Sociology, 109*(1), 1-49.

Muth, R. (1984). Toward an integrative theory of power and educational organizations. *Educational Administrative Quarterly, 20*, 25-42.

Payne, M. (Ed.). (1996). *A dictionary of cultural and critical theory*. Malden, MA: Blackwell.

Rogers, C. R. (1969). *Freedom to learn*. Columbus, OH: Charles E. Merrill Publishing.

Schutz, A. (2004). Rethinking domination and resistance: Challenging postmodernism. *Educational Researcher*, *33*(1), 15-23.

Simon, H. A. (1981). *The sciences of the artificial* (2nd ed.). Boston: MIT Press.

Vygotsky, L. (1978). *Mind and society: The development of higher psychological processes*. M. Cole, & S. Scribner (Eds.) (1978). Cambridge, MA: Harvard University Press.