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Edited by
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PART I

Introduction

CHAPTER 1

Introduction: Educational Psychology—Limitations and Possibilities

JOE L. KINCHELOE

The great Russian psychologist Lev Vygotsky writing in the 1930s maintained that scholars in the discipline of psychology were drifting into the polar camps of behaviorism and phenomenology. There was no doubt that Vygotsky clearly saw into the future of psychology in general as well as its associated discipline, educational psychology. Indeed, the field of educational psychology would reflect these polar camps but the mainstream of the field was undoubtedly positioned within the behavioristic (or as time passed, the mechanistic) camp. Even after the decline of behaviorism as a school of psychological thought in the 1960s and 1970s, mainstream educational psychology would hang on to numerous behavioristic trappings while embracing the most mechanistic and rationalistic aspects of emerging schools of psychological thought (see Kozulin's [1997] Introduction in Vygotsky's *Thought and Language*).

THE EMERGENCE OF EDUCATIONAL PSYCHOLOGY: DIVERGENT TRADITIONS

This handbook begins with this insight, as the editors and authors explore the nature of educational psychology at the beginning of the twenty-first century. In this process they seek to examine and formulate new approaches to the subject that are practical, just, critical, and scholarly rigorous enough to address the complexity of the domain of study. The mechanistic tradition of educational psychology from behaviorism to cognitivism has emphasized the quantifiable behavior of groups of individuals—focusing in particular on producing generalizable empirical data about these aggregates of people. The contributors and editors of this handbook have not found this dominant mechanistic tradition to be very helpful in contributing to the improvement of teaching and learning. Indeed, we have often found the social, political, pedagogical, economic, and philosophical influences of this dominant impulse to be profoundly harmful to those—especially those marginalized because of race, class, gender, national origin, ethnicity, geographic place, etc.—who are vulnerable to its power.

Thus, the contributors to this volume find the roots of their disciplinary orientation more within the traditions of cultural and interpretive psychology where the focus is less on producing generalizable empirical data and more on the process of meaning making. In these alternative

traditions the effort to understand phenomena in relation to the processes and contexts of which they are a part takes precedence over identifying causal relations between discrete variables (see Smith [1998]). Thus, in this introduction I will explore the different traditions of educational psychology, focusing on the root belief structures that shape them. Following this effort I will analyze the contributions of the interpretivist tradition, in the process describing a *critical* interpretivist approach. Such analysis will emphasize the explanatory benefits of interpretivism while embracing the critical concerns with the role of power in human affairs and the ways it operates in relation to issues of oppression and social justice.

We see the results of the dominance of the mechanistic tradition, as Mary Frances Agnello points out in her chapter on scientific literacy testing, in the emergence and influence of IQ and other forms of testing and measurement as well as the demand that research in educational psychology be conducted only as a verifiable and statistics-based human science. Agnello goes on to assert that in this mechanistic tradition the focus on the measurement of "human responses to various stimuli" led to a split between those mechanists who would not study consciousness and those interpretivists who would. Picking up on this theme, Kathleen Berry in her chapter on memory traces the mechanistic perspective back to the science of Rene Descartes who positioned the study of cognition in biology as an analysis of the physiology of the brain. Memory, thus, was viewed as an object existing materially within the container of the brain. Memory and mind were viewed as fundamentally separate from body and spirit. (In this context see Richard Prawat's chapter on diverse historical understandings of the nature and location of mind.) In the Cartesian context the biologically grounded, cause and effect tradition of mechanism exercised its power over the interpretive tradition, positioning human beings more as objects than as subjects.

The debate between the two traditions of educational psychology, as Patricia Whang points out in her chapter on Buddhism and educational psychology, may be best exemplified historically in the early twentieth-century debate between mechanist Edward Thorndike and interpretivist John Dewey. In the eyes of the educational psychologists Thorndike won the argument, tying educational psychology to quantification and laboratory studies of teaching and learning. Thorndike's victory, Mark Garrison maintains in his chapter on psychometrics, meant that the knowledge produced by the testing technologies of educational psychology could be used to justify forms of oppression based on particular individuals being designated as less than human. Obviously, this is one of the negative social effects of the mechanistic tradition previously referenced.

Psychology is a child of the Age of Reason, the Western European Enlightenment of the seventeenth and eighteenth centuries. What scholars refer to as modernity arose out of this Scientific Revolution. Traditional sources of meaning were swept aside in the modernist tsunami and psychology emerged as a discourse designed in part to restore meaning in new social and intellectual conditions. The hope was that by placing our faith in the scientific method and its objectively produced knowledge that human beings could move beyond arbitrary authority. They would have the knowledge to make rational and moral decisions about their lives and the world around them. In later centuries we can see this same impulse at work as educational psychology would be used as a scientific means of determining educational purpose.

In the mindset of mechanistic educational psychology, educators do not determine their purposes based on larger understandings of justice and meaning as they interact with the demands of particular social, political, and cultural contexts. Instead, such educators derive purpose from the empirical studies of educational psychology. Objective knowledge in this context is used to guide what teachers and students should be doing in terms of efficiency and smooth functioning of bureaucratic organizations. In this context the work of those who study the political, social, cultural, and economic contexts of education in relation to larger philosophical and theoretical systems of meaning is irrelevant to the work of schools. The modes of knowledge constructed in these contexts are not viewed as legitimate in the mechanistic educational psychological cosmos.

PSYCHOLOGY/EDUCATIONAL PSYCHOLOGY AS THE MOST MODERN AND MECHANISTIC OF ALL THE SCIENCES

In the mechanistic articulation of educational psychology that emerged from Cartesian science, the life of the mind is constituted mainly by the cognitive process of formulating representations of the world that exists "out there" apart from human perception. A key dimension of the emerging educational psychological tradition here involves viewing cognitive activity as the act of the mind reflecting external reality. As many of the authors writing in this handbook contend, such a viewpoint rests on many problematic and unsupported assumptions. In an ontological context—ontology is the branch of philosophy that deals with being in the world—such a psychological perspective assumes that an objective reality exists apart from human agents. In an epistemological context—epistemology is the branch of philosophy that deals with the nature of knowledge and truth—it assumes that if we use the correct methods of knowledge production, we will assure that we "reflect" this objective reality correctly.

To be viewed by the high-status physical sciences as truly scientific, psychologists believed that they had to adopt such mechanistic, computational views of the mind. It is ironic that in the twenty-first century after many physical and social scientists are questioning the radical empiricism of mechanistic and computational modes of science, it is the field of psychology—educational psychology—in particular that is holding down the fort of mechanistic reductionism. What I mean by the term mechanistic reductionism involves the view that the mind can best be studied in contextual isolation in lab settings and that mathematical symbols and logic provide the best vehicles for researching and expressing the nature of cognitive activity. Such mechanistic reductionism views human psychology as an individual experience that can best be appreciated by uncovering the general laws of cognition that shape all human psychological activity now and forever (see Pickering [1999]).

Thus, psychology/educational psychology is the most "modern-ist" science—reflecting the original principles of the Scientific Revolution of the seventeenth and eighteenth centuries. Understanding this dimension to the psychological sciences, those coming from the interpretivist tradition in psychology and other fields of study try to convince the mechanists that so-called scientific views of cognition are not objective but are shaped by the social context, the historical era in which scientists operate. Often the assumptions embedded within our lived worlds are not visible until hundreds of years have passed. At that point what seemed simple and straightforward can be understood as riddled with problematic assumptions about human beings, selfhood, intelligence behavior, progress, and social values. With this established, interpretivists insist that psychology is produced by culture and concurrently culture is produced by psychology. This coconstructive process is always operating, making it difficult for individuals operating in a place and time shaped by psychology's belief structures to separate such *beliefs* from objective reality.

Thus, educational psychology's beliefs in the centrality of the individual as the primary locus of behavior, on the superiority of Western forms of rationality, on intelligence as what one scores on an IQ test, etc. may look very silly and even primitive in only a few decades. The discomfort mechanistic psychology has exhibited in considering other cultural ways of operating in and constructing the world as legitimate, and even intelligent, may soon be viewed as manifestations of callous and narcissistic forms of ethnocentrism. With these possibilities in mind, advocates of the alternative interpretivist tradition contend, it is important for educational psychologists to engage in philosophical and social theoretical analysis of their discipline.

Philosophical research, as I define it in my work on the *bricolage* (see Kincheloe and Berry [2004]), involves inquiring into the numerous assumptions that shape a field or a body of knowledge. In the professional education of educational psychologists such important activities are not to be found in the mechanistic curriculum. Such philosophical research is long overdue in

this domain. To function effectively in an informed and ethical way, educational psychologists must come to understand the ways the knowledge they are taught to accept as true are shaped by dominant power interests and ideologies. Such forces move educational psychologists to produce knowledge and engage in activities that often reward the socially, politically, and economically privileged and punish the marginalized (see Richardson and Woolfolk [1994]). In this context Ray Horn and myself and the authors included in this book emphasize the need for educational psychologists to carefully examine what passes as reason and validated research in the mechanistic tradition, in the process asking in a *critical* sense whose interests this most modernist of sciences serves.

In this context a central question of psychology/educational psychology emerges. How we answer it shapes the way in which we approach the field. How do humans represent and make meaning of the events that take place around them? Mechanistic psychologists maintain that the world is represented by symbols that are material (have substance) in some neuron-based or biochemical manner. In a more interpretive psychology the symbol processing that takes place is more conceptual and less biochemical. These symbols in interpretive psychology are very complex and cannot be separated from sociocultural and political contexts or situation-specific intentions, moods, and meaning constructions. In this context symbolic representation of the world and its events always connect the mind to micro (individualisitic) and macro (social) contexts. Thus, as we will emphasize throughout the handbook, educational psychology cannot be studied as simply an individualistic phenomenon.

Making these distinctions in relation to the question about representation and meaning making, it is important to note that a central task of educational psychology involves developing a theory of learning. It is necessary but not sufficient for educational psychologists to possess a theory of representation and meaning making. The field has a more difficult task—to find out not how individuals learn but how they learn in particular sociocultural settings, e.g., school, work, leisure, etc. Such a task, interpretivists posit, cannot be accomplished by only studying quantitatively measured behavior of groups of individuals that can then be generalized universally. Instead, individuals must be studied in their natural settings (not labs) using a bricolage of research methods including ethnography, phenomenology, history, life history**,** semiotics, and many others. Unfortunately, the most modern of sciences in its mechanistic articulation has not been comfortable using such research orientations. As a result, our understanding of how individuals represent and make meaning of the world and how they use these processes to learn about the world, themselves, and others has been profoundly compromised.

BORN IN THE USA: MODERNITY, MECHANISM, AND REGULATION

Thus, modern psychology and its educational psychological *nephew* were born in a Eurocentric, patriarchal, individuated, and decontextualized academic domain. The founding *fathers* within this mechanistic cosmos had faith that studying the abstracted, self-contained individual would lead them to an understanding of human life in general. Patricia Whang in her chapter in this volume extends this assertion contending that it is important to question "how the contributions made by educational psychologists have been constrained by the largely male and Euro-American perspectives, values, and traditions held by influential members of the field."

Since psychology emerged in movement from Western traditional to modern social orders, it was caught in the change of emphasis from the community and the household to the separate individual. In the premodern West, individuals were inseparable from the sociocultural context in which they were born and raised. Premodern westerners were simply not able to remove themselves from their social location and role(s) in order to try on new ways of being or new behaviors. To exist outside the local community was to "not be," to cease to exist. One's meaning

was to be found in the life of the community—not in one's individual longings. As modernity slowly unfolded in Western Europe in the fifteenth, sixteenth, and seventeenth centuries, individualism emerged as the construct around which society was grounded. Psychology could not escape this defining dimension of modernity, and without conscious notice embraced it in its own self-construction.

When the ed psych nephew was emerging in the United States, in the early twentieth century, this individualistic dynamic played an important role in focusing the discipline's attention on young people in particular who were struggling to deal with drastic social changes such as industrialization, urbanization, and immigration. In this context, disciplinary experts determined that one of central functions of the field had to involve providing social order in this period of change. Such ordering could be brought about via the use of educational psychology as an instrument of normalization and regulation. The poor, the non-white, and the immigrant were the individuals who were in most need of regulation because of what was perceived as the danger they presented to the larger society. Thus, educational psychology was there to "prove" that these individuals did not possess the intellectual ability to succeed in school and therefore needed to be socially regulated so they would not stain the social fabric.

In this multicultural, industrialized context the notion of education for an educated citizenry took a back seat to the goal of education as protecting the social order. With its emerging intelligence testing and professed ability to rank order people's worth, mechanistic educational psychology became a central technology of social regulation. As Patricia Whang points out in her chapter here, ed psych's regulatory function became an important dimension of the United States' educational efficiency movement of the first couple of decades of the twentieth century in which individuals were socialized to work in the boring factory work of mass production. In this mechanistic social context behavioral psychology with its emphasis on the regulation of human behavior emerged. In many ways behaviorism was the highest expression of the mechanistic psychological orientation as it viewed humans as passive beings who could be shaped by a system of rewards and punishments to meet the demands of dominant forms of social, political, and scholarly behaviors.

TECHNOLOGIES OF SOCIAL REGULATION: THE POWER OF THE MECHANISTIC PARADIGM

We cannot understand the social role of psychology and educational psychology outside of a context dominated by measuring, evaluating, sorting, training, resocializing, and regulating. The discipline gained tremendous power as it came to "educate" political leaders, educators, and business leaders about what constituted the most important social problems of the day. In the process psychology/educational psychology began to take over social functions once reserved for the church. Instead of employing divine authority to claim the truth of its knowledge and its works, psychology claims scientific validation. There is simply no clear boundary line separating the inner world of psychology from the outer world of cultural politics—both domains often serve power interests that are not working for the best interests of individuals falling outside various dominant groups. As a form of regulatory power educational psychology operates to discover universal "truths" about individuals that can be used to determine their worth to the social order. Those who score low on the standardized tests, for example, cannot enter into the land of sociopolitical decision makers.

Even many of the most important reform movements in psychology have failed to challenge this regulatory feature. Humanistic psychology is in the end a regulatory technology as its concern with oppression avoids questioning the existing sociopolitical order. The psychology of Carl Rogers—as appealing as it may have looked to many—never understood this blurred boundary between

the social and the individual. Rogers never appreciated the ways that social power helped produce subjectivity/consciousness. A central point in educational psychology, thus, involves the power of the interaction between the individual and society, between macroregulatory practices and microregulatory practices. Thus, no matter what types of reforms are proposed in the discipline, if they don't eventually address these power dynamics then they will leave the regulatory status quo intact. In this context simply being learner-centered and focusing on the needs of the learner does not create an emancipatory educational psychology. Outside of these power concerns educational psychology consistently operates to support the regulation and control of various individuals.

In this context it is important to note that power doesn't only operate by denying individuals the "right" to engage in empowering activities. Power is often productive in that it produces particular forms of both things and people. For example, mechanistic educational psychology attempts to produce individuals who seek particular forms of regulation and control. Educational psychology's management of behavior in schools becomes more and more a technology of the self. As in *hegemony* operating at the macrolevel, students via psychological techniques are induced to regulate themselves, to grant their consent to the status quo. Of course, just like hegemony such regulatory strategies can be unsuccessful with particular individuals and groups. On the other hand, it can be (and has been) wildly successful.

Since educational psychology has been the dominant disciplinary discourse shaping schooling over the last century, education has been profoundly shaped by the regulatory power described above. Such power has promoted the dominance of patriarchy, whiteness, and class elitism and the ways of seeing and being they promote. One encounters these power inscriptions in the educational psychology validated teaching methods, classroom management procedures, content standards, official lesson plans, and testing procedures found in contemporary schools. Mary Frances Agnello extends this theme in her chapter here as she traces the impact of educational psychology on the control of teachers' work. Indeed, such control has never been stronger than in the middle of the first decade of the twenty-first century. As Mark Garrison points out in his chapter, the words measure, measures, or measurement can be found at least 135 times in the No Child Left Behind legislation. Every dimension of life in schools has been subjected to the testing technologies of educational psychology in the twenty-first century, in the process leaving nothing to chance. Mechanistic regulation has become more powerful than ever.

The authors of this handbook are deeply concerned with these power-driven regulatory dimensions of educational psychology. Sandra Racionero and Rosa Valls, for example, argue in their chapter that the social decontextualization of the mechanist paradigm assures that existing power relations are maintained and dominant culture continues to be viewed as superior to all others. In his compelling chapter on educational psychology in South Africa, J. E. Akhurst writes that during apartheid mechanistic educational psychology helped produce a theory of "deviance" where the "culturally different" learner was viewed as a dangerous person who was capable of challenging the dominant (white) culture. Teachers were induced to identify and "reorient" such young people. Not unlike their contemporary U.S. counterparts, South African educators under apartheid were given preconstructed syllabi to follow that were tied to carefully inspected textbooks. Administrators would not tolerate teacher divergence from this official curriculum and monitored teacher behavior via the administration of a system of standardized tests.

Only a multidisciplinary psychology with social, economic, cultural, political, and philosophical dimensions will help educational psychology come to understand its oppressive dimensions. In this context educational psychologists will come to understand that the content of the curriculum holds dramatic consequences and is not simply background noise to the brain activity under study. Analyzing the political implications of particular ways of thinking about educational psychology is not an outsider interruption to the "real work" of the discipline. Such analysis is central to the very purpose of studying cognition, selfhood, learning, and teaching in the first place. In particular,

teachers, students, and the public need to understand these broader dimensions of the work of educational psychology so they can evaluate how democratic and just the discipline's influence on teaching and learning actually is. The power of decontextualized, allegedly nonpolitical ed psych has dominated those around it for far too long.

MECHANISTIC VICTORIES: HARD SCIENCE GRANTS US THE "TRUTH" ABOUT THE HUMAN MIND

Thus, mechanistic psychology won victory after victory over more interpretive varieties, in the process securing the right to shape both educational psychology and school practice. Deploying the metaphor as human as machine, educational psychology promoted mind as a mechanism of mystery that operated in its own particular manner. Finding its philosophical roots as far back as Plato, mechanistic educational psychology organizes the world according to similarities and differences among phenomena as well as cause and effect relationships. This mechanism or philosophical realism runs through behaviorism and contemporary cognitive science. In contemporary mainstream ed psych, the mechanistic metaphor of choice is the mind as computer.

What began in the mid-twentieth century as an effort to employ computers as a means of mimicking the workings of the mind ended up describing the human mind as a computer. In effect, a method for making sense of the mind transmogrified into the end product, manifesting in the process both a flawed form of reasoning and a reductionistic understanding of humanness and the cognitive process. As Leila Villaverde puts it in her chapter on memory and educational psychology, "The world and human beings were believed to mimic machines and the object was to focus on the discreet parts of the larger operating system." The parts of the system worthy of note in this context involved the ways the brain encodes, stores, and retrieves data. Learning in such a context, she concludes, became characterized by rote and recall.

With its focus on obtaining scientific legitimacy, mechanistic educational psychology forged ahead with its lab studies and explorations of animal learning. Hard science—as in biology, chemistry, and physics—was viewed as sitting at the head of the scientific table. We are the *men* of science and our way of seeing the human mind is the only valid and worthwhile one, the mechanists proclaimed. Mary Frances Agnello captures this spirit well in her chapter in this volume when she contends that mechanists believed that mental activities were ordered by the same system of laws as those Sir Isaac Newton attributed to the physical universe. These ways of seeing dominated the field for decades, dispelling most challenges with a wave of the wand of hard science.

Since Thorndike convinced the field that Dewey's interpretivist concerns were irrelevant in the second and third decades of the twentieth century, it was only in the 1970s and 1980s that situated cognition began to make inroads into the mechanistic playground. Deborah Brown tells us in her chapter in this volume on action research that significant progress was made in questioning mainstream assumptions at the Institute for Research on Teaching at Michigan State University during the last three decades of the twentieth century. When this work was combined with a variety of expressions of sociocognition, critical pedagogy, reconceptualized curriculum theory, cultural psychology, feminist critiques of developmentalism, and critical educational psychology, the foundation for a new conversation in educational psychology was constructed.

This is not to say that a new paradigm emerged or that the victories of the mechanistic perspective were reversed. In the middle of the twenty-first century mechanism still rules the ed psych roost and with the help of governmental initiatives such as No Child Left Behind is gaining renewed power in many venues. Operating as if mechanistic and reductionistic scientific practices have never been challenged, many proponents of contemporary mechanistic educational psychology assume that there is only one way of viewing phenomena such as cognition or

intelligence. Of course, this holds profound consequences when students—often from the social, cultural, and economic margins—are judged to be deficient or incapable of productive thinking or activity. Far too often such deficiency is nothing more than a way of operating that falls outside the purview of the mechanistic imagination. An *epistemological* pluralism, a diversity of paradigmatic perspectives, is direly needed in mainstream educational psychology for both catalyzing the advance of the discipline as well as saving "different students" from the label of "failure" and the justification of their marginalization. The editors and authors of this handbook believe that it is more important than ever to challenge the victories of mechanism.

MECHANISTIC PSYCHOLOGY AND NAÏVE REALISM

The great cognitive psychologist Jerome Bruner uses the phrase "empty mechanism" to describe the decontextualizing, individuating educational psychology that has resulted in universal pronouncements about the nature and development of the human mind. (See Lise Bird's powerful chapter on developmental appropriateness in this context.) The naïve realist epistemological stance of the mechanistic position unquestioningly believes that its findings are

- transhistorical and transcultural truths
- descriptions of the mind that correspond to a natural reality
- political neutral pronouncements about the psychological world (see Kenneth Gergen [1997]).

Even when particular scholars such as Jean Piaget operated outside the mechanistic context, the naïve realism of field induced educational psychologists to discount such transgressions and emphasize the most reductionistic dimensions of such work (see Burman [1994]). The reasoning of the mechanistic paradigm is universalistic, unhampered by those pesky differences of culture. Thus, the unquestioned epistemological assumptions of mechanism tacitly shaped what aspects of the mind psychologists could or could not see. And this is one of the key points of this handbook: structures, unseen and ignored by mainstream psychology, have profoundly shaped what passes as our knowledge of the subject matter of educational psychology.

In his own brilliant way John Dewey in *How We Think* in 1933 exposed the deficiencies of an epistemology of naïve realism. Such a form of empiricism, he contended, leads to "mental inertia, laziness, [and] unjustifiable conservatism." In psychology such a lack of rigor, albeit in the name of hard science, induces scholars to invent "fantastic and mythological explanations" for cognitive processes. Thus, inventions such as Spearman's "g"—the internal force that propels mental ability—or IQ or multiple intelligences are assumed to be "real." In this process belief in such scientific phantasms becomes disciplinary dogma and the rigor of subsequent research and theorizing is actually subverted. In the end we are not nearly as smart as we think we are as scientific and rational beings. With the help of this naïve realism the heart of psychology was extracted and consumed in the ritual of modernist science.

Thus, we come to the more fallible and tentative psychology of interpretivism. We begin to see that all psychological assertions are interpretations of a complex reality and that those who articulate a view of the mind with the claim of truth are victims of the sirens of realism and *positivism*. Such truth mongers fail to discern the social, cultural, discursive, epistemological, and ideological construction of our sense of reality. Naïve realism/positivism in this context fails to account for the fact that all entities are parts of larger processes that change over time. Mechanistic psychologists caught in the trap of these epistemological webs do not understand that when we view particular psychological phenomena in light of different contexts, we may see them in entirely new ways. Indeed, the supply of such contexts is infinite.

In the practice of mechanistic educational psychology the belief that experts have developed the proper *way* to view psychological phenomena, the proper space from which to observe them becomes quite problematic when considered in relation to the infinite supply of observational contexts (see Bredo [1994]). Let's think of intelligence from a 487th contextual perspective. Using research techniques such as factor analysis to reduce the complexity of a wide array of variables to a few ostensibly related ones, mechanistic educational psychologists find "the answer," or at least "correlations." As with Richard Herrnstein and Charles Murray (1994) in their best-selling *The Bell Curve*, fancy methodological footwork turns correlations between African-Americans and low IQ scores into attributions of causality and truth. Statistical correlations between African-Americans and low IQ scores are magically transformed into genetic inferiority and is the cause of African-Americans' low intelligence. If it didn't serve to hurt so many people, such an assertion would be humorous. This is where we begin to discern the tragedy of the naïve realism of mechanistic educational psychology.

With these naïve ways of seeing so firmly implanted in educational psychology, numerous practitioners in the field find administering tests, determining academic grade levels, and assessing the developmental progress to be their main activities. Depending upon their scores and levels, students will be directed to particular vocations and life paths—I was told I should be a piano tuner because I was not "academic material" but had an interest in music. If such practitioners of ed psych come to question the validity and effects of their tests and measurements, they often do so on their own initiatives—few who taught them ask social and political questions of the process. Without such hard questions and without monkey wrenches thrown into the gears of such mechanisms, the poor and marginalized will continue to be relegated to unchallenging and unrewarding life paths while the socioeconomically privileged will assume the good jobs and interesting pursuits. These privileged students will continue to succeed in education and will learn the predigested knowledges of schooling because they have been assured that there is a future benefit to learning such material. Such students are not "smarter" than their less privileged peers; they simply have a different social relationship to school and its role in their lives.

Certainly one of the most important dimensions of mechanistic educational psychology involves the dismissal of the importance of studying psychological phenomena in social, cultural, political, economic, and philosophical context. We see the results of such dismissal in the examples previously provided. Buoyed by this contextualization, thinking can no longer be viewed as a mere individual computational process. As Dewey argued, such a mechanistic perspective demeans the complex nature of thought. Thought is not simply a procedure that follows rules and instructions. Even the most controlled bureaucrats can become brilliant rule benders and creative exploiters of the regulations they are given. They will learn to negotiate the demands of their bosses with the needs of their clients. Thus, their thinking is shaped by numerous forces that must be encountered and dealt with in their immediacy.

These ideas about contextualization and the complexity of everyday cognitive activity are profoundly important as we consider the history of educational psychology. As psychology moved from behaviorism to cognitivism in the middle of the twentieth century, it worked to present a less passive view of the human. Yet, despite the effort, learning continued to be viewed as a mechanistic act with an end product of neat solutions to well-defined problems. In cognitivist-based educational psychology classes in teacher education, students were taught that learning was a technical, linear, and rationalistic process. Such students were induced to believe that teaching involved primarily the act of inputting data into the students' "processing mechanisms." Here it is translated into symbols, inserted into memory banks, and made ready for future usage. Though it was a reform movement, cognitivism adeptly retained the mechanism in mechanistic educational psychology. The mainstream scholarship and teaching of the discipline retains this mechanism in the twenty-first century.

THE ORIGINS AND PURPOSES OF INTERPRETIVIST PSYCHOLOGY

What I am calling interpretivist psychology is concerned with research into the meanings of human action and expressions as well as developing insight into beliefs about the self and the "other" in particular historical and cultural settings. In interpretivism's more critical guise it is also concerned with the social construction of the self and the ways discourses, ideologies, and other power structures help construct the meanings humans give to the world in ways that hurt particular groups and individuals. Over the last three centuries the roots of this interpretivist tradition can be traced to such thinkers as Vico, Lazarus, Wundt, the Russian school shaped by Leontiev, Luria, and Vygotsky, and the American pragmatists Peirce, James, and Dewey. John Dewey captured the spirit of interpretivism with his analysis of the two dimensions of learning theory. As Douglas Simpson and Xinoming Liu describe in their chapter on Dewey's contribution to educational psychology in this volume, the great pragmatist viewed learning theory from two angles—the micro and the macro.

In Dewey's formulation the micro perspective focused primarily on the student, while the macro focused on the teacher, other students and the more general environment that surrounds the student. In the micro-context Dewey connected the student's native appetites, instincts, and impulses to the general impulse to activity, thus constructing learning as a natural addendum to being a human being. This dimension of learning was then connected to places, subjects, ideas, emotions, and any other social dynamic that exerts an influence on the student. In this context Dewey maintained that learning always involved the student's interaction with the environment. The role of the teacher was to make sure that such interactions could develop in ways that would eventuate in personal, social, and moral growth. Like Dewey scholars such as Lev Vygotsky and many others would focus on the continual interactions between biology and culture. In the case of Dewey and Vygotsky the message was clear: for educational psychology to become a rigorous, practical, socially responsible discipline, it would have to broaden its modes of analysis. As Patricia Whang maintains in her chapter in this volume, the field would have to broaden its "sources of influence."

In the 1970s and 1980s such broadening began to take place with the emergence of *situated cognition* and *complexity theory*. With these perspectives were combined critical pedagogy, multiculturalism, *postcolonialism*, and interdisciplinary approaches to research—an alternative knowledge base for educational psychology was taking shape (see Beth Blue Swadener and Kagendo Mutua's important chapter on decolonizing research in educational psychology). As Montserrat Castello and Luis Botella argue in their chapter, "Constructivism and Educational Psychology," the new paradigm of the discipline draws upon this knowledge base always focusing on the integration of the social and the cognitive. Such integration, they posit, allows educational psychologists to consider both individual representations and the social situations where education and cognitive activity occur. The editors and authors of this handbook believe that these perspectives can help make contemporary educational psychology a more emancipatory domain that helps teachers make education a more democratic form of social practice.

As Lois Shawver maintains in this volume, the old universal meta-narratives of educational psychology cannot survive the electronic hyperreality of fingertip knowledge. Faith in a Cartesian–Newtonian explanation of cognition cannot be maintained in the contemporary era. Indeed, informed by a bricolage of diverse, multidisciplinary knowledges, interpretivist educational psychologists of the twenty-first century know too much to perpetuate the status quo of the discipline. Drawing upon feminism and the post-discourses, interpretivists reject mechanism because they understand

- the connection of the knower to what is known—thus, there is no privileged vantage point to gain objective truth about human cognition.

- the necessity of side-stepping the mechanist tendency to decontextualize the subjects of research and the researcher from their sociohistorical context—thus, no individual activity exists in simple isolation.
- the impact of the psychologist's values on how he or she sees the world—the frames we bring shapes the knowledge we produce.
- the inseparable nature of language and data in the field—no psychological data is pure and objective.
- the elitist nature of the relationship between educational psychologists and the consumers of the knowledges they produce—psychological knowledge production must always involve a democratic dialogue between producer and consumers of information.

Such insights allow interpretivists the empowerment to free ed psych from its status as a "nonsocial social science." Operating on the multilogical, multidisciplinary terrain of interpretivism, scholars represented by the authors operating in this volume work to bring the psyche and consciousness back to center stage in the discipline. Always positioning this move in a variety of larger contexts, the editors and the authors work to view subjectivity in more complex frames than the automatic processes and quantitative constructs of the mechanists. It is Ray Horn's and my interpretation that mechanistic psychology has failed to construct a compelling description of what it means to be human. To describe cognitive processes without an understanding of the construction of identity and selfhood or devoid of insight into the nature of consciousness provides little help in the larger effort to make sense of human beings and their relationship to the processes of teaching and learning.

Mechanists, interpretivist educational psychologists maintain, have provided a cornucopia of fragmented information about the brain. In this process they have failed to carefully examine the larger theoretical dimensions of their mission. Such a failure has moved them to discern their goal as producing a final, fixed, universal notion of *the mind*—one that works as well today as it will in the year 2525 and in every sociocultural context. Psychological theorizing, interpretivists contend, should not involve such decontextualized, monological pronouncements nor should it be considered objective knowledge that can simply be transferred directly to practice. Knowledge production and usage are far more complex activities. Thus, interpretivists argue that educational psychologists have to start at the beginning and actually rethink what it is that we are trying to do in the first place.

THE INTERPRETIVIST RETHINKING OF EDUCATIONAL PSYCHOLOGY

Such a rethinking involves the difficult and long neglected task of asking what shapes our view of what a science such as educational psychology should be trying to accomplish. The goal is not, interpretivists argue, the attempt to gather pieces of the larger jigsaw puzzle of the mind so that one day we will know all there is about it. Instead, interpretivist educational psychology posits that we must expose the often-occluded background assumptions on which psychologists draw to help them shape their professional activities. The science of psychology found its roots in the common cultural, social, political, and philosophical assumptions of the historical epoch in which it developed. In this context there were unquestioned ways of seeing men and women, white people and those not considered white, the rich and the poor, the sexually "normal" and the sexually "deviant," the intelligent and the stupid, etc. Many find such insights very disturbing because of their exposure of the ways hard sciences reflect the biases and prejudices of their *Zeitgeists*. Indeed, they are disturbed by the disrespect for scientific authority such expose might foster.

Without this interpretivist expose, living human beings—in particular, students—will continue to be reduced to transhistorical and transcultural central processing mechanisms. In the

mechanistic context culture and psychology were separated like roosters at a Balinese cockfight. With uncritical modes of sociological and anthropological analysis focused at the institutional level and mechanistic psychology focused at the technical level, there was no place for the interpretivists concerned with the interaction of the macro-meso-micro levels to go. Bricolage, offering a way out with its emphasis on interrelationship and multilogicality, displays a quest for different ways of knowing and inquiring. In the bricolage educational psychologists come to know diverse ways of being human—especially the subjugated ones—and employ them in their understandings of the divergent construction of humanness. In this way they will be more sensitive to multiple ways of being humane and intelligent. Such insights will subvert mechanistic psychological tendencies to certify one's own ways of thinking and being as the superior ones around which all others should be evaluated (see Elizabeth Tisdell's chapter on spirituality and interconnectedness in this volume).

Employing multicultural ways of seeing from subjugated and indigenous traditions and multiple methodological insights from a variety of schools of thought is central to the critical interpretivist rethinking of educational psychology. In the spirit of the bricolage a methodology such as phenomenology—long abandoned after the victory of behaviorism and technicist cognitivism—provides a way to bring the value of subjective human experience to the ed psych table. At the same time, hermeneutics—in Gestalt psychology a central analytical tool—can be resuscitated for great value in a critical interpretivist reconceptualization of educational psychology. Few analytical discourses could do more than phenomenology and hermeneutics to catalyze educational psychology's search for answers to questions about meaning, self-awareness, and the influence of social context. Such tools will help interpretivists focus their attention on issues of human dignity, freedom, power, authority, regulation, and social responsibility.

In their struggle to recast ed psych the interpretivists seek old and new ways to enhance their ability to contextualize humanness—as hermeneutics puts it, to see the discipline in light of numerous horizons. In this *modus operandi* history, cultural studies, linguistics, sociology, and communications to name just a few become requisite disciplines in the psychological bricolage—educational psychological studies. In this configuration educational psychology becomes a multilogical, interactive, ever-evolving, always in process pursuit where individuals and their relationships to each other and the world around them become central foci of professional attention. Human meaning making is seen here as inseparable from lived experiences and multiple contexts and can take place in the body as well as the head. Thus, the study of any psychological phenomenon cannot be removed from contexts in which they take place. The effort to study memory in a lab using human recall of nonsense syllables is misguided (see Villaverde and Berry in this volume). When framed outside issues of context, purpose, disposition, meaning, etc., the study of memory is a waste of time (see Smith [1998] for an expansion of these ideas).

EPISTEMOLOGY AND EDUCATIONAL PSYCHOLOGY

Let us pause to clarify the epistemological dynamics that are central to our paradigmatic concerns in this handbook. Epistemology is the branch of philosophy that studies the nature and production of knowledge. In the effort to understand why we view the world and ourselves in the ways we do, few disciplines contribute more than epistemology. Our epistemological assumptions, though we don't know they are there, are always working to shape our construction of the world and subsequently our actions in it. Naming and exposing epistemological assumptions is a central dimension of the critical interpretivist psychology explored in this volume. In this context we can better understand the importance of what Montserrat Castello and Luis Botella are telling us in their chapter on constructivism in this volume. Epistemological perspectives, they contend, provide psychologists with criteria to choose among competing theoretical perspectives. In a

mechanistic paradigm epistemological questions are deemed irrelevant because knowledge is simply a representation of the world "out there," and as such is judged on the basis of its truth value. This is the end of the epistemological story in mechanism—there is no need to bother with further epistemological deliberations.

Interpretivists, however, are not so lucky. They struggle with the relationship between knowledge and the world around us. They understand that the arguments we make cannot be separated from the epistemological positions we accept both consciously and unconsciously. Simply put, mechanistic educational psychology has tacitly accepted a correspondence epistemology—a naïve realism as we labeled it above—that asserts that there is a single reality that can be discovered via the Cartesian–Newtonian scientific method. Viewing epistemological issues as much more complex, interpretivist educational psychologists see this correspondence perspective as dangerous and misleading. With this in mind interpretivists seek to expose the ways ideology shapes our view of the world, language tacitly constructs it, and sociohistorical context renders certain views natural and others unnatural. (See Stephen Brookfield's important chapter, "The Ideological Formation and the Oppositional Possibilities of Self-Directed Learning," for insight into the effect of ideology in this domain.)

Thus, mechanism's correspondence and interpretivism's constructivism move the differing paradigms to adopt divergent metaphors to ground their psychological labors. Because of this they ask different questions about the mind and selfhood and construct varying interpretations of cognitive activities. Knowing this, John Shotter (1993) argues that mechanistic psychology promotes the idea that

> Everything intelligent we do involves a "cognitive process" working in terms of "inner" mental representations of the "external" world, and that the way to study such processes is by modeling them in computational terms. (73–74)

Shotter believes that the miscalculations of correspondence epistemology will lead to the destruction of the dominance of mechanism. More and more scholars will come to see the ways mainstream mechanistic psychologists have misled themselves. What they have labeled as intelligence and set out to measure with great pomp and precision is less a "real" entity that corresponds to the external world than a human construction that resonates with the cultural beliefs and social needs of people operating at a particular time and in a specific place.

From the mechanist perspective the constructivist epistemology of interpretivism is relativistic. If we do not establish a strict correspondence between truth and external reality, mechanistis argue, interpretivists will be unable to discern between truth and falsity (see Thayer-Bacon [2000]). Interpretivists deny this charge, maintaining that psychologists can develop criteria for developing interpretations of the psychological world that fall neither into relativism or some form of correspondence absolutism. If educational psychologists accept a correspondence epistemology, knowledge becomes a warehouse of representations. Cognition becomes an act of ordering these representations. Teaching in this epistemological context becomes a process of efficiently transferring true knowledge into students' brains. When the representations in minds of students match those of the teacher, learning has taken place.

Thus, knowledge for mechanists consists of elements and factors (things-in-themselves)—knowledge for interpretivists involves complexes and contexts and their relationships. Such epistemological distinctions hold profound implications for pedagogy. As Cynthia Chew Nations argues in her chapter in this handbook, in the mechanistic framework the teacher becomes the source of students' knowledge of elements and factors. In a more constructivist interpretivist model, she continues, teachers create active learning environments where students learn to think critically. In a critical constructivist context thinking critically involves coming to understand the

complexes, contexts, and relationships that shape the lives of diverse individuals. Knowledge in a critical interpretivist epistemology no longer simply resides in textbooks and students' brains. Instead, critical interpretivist knowledge is always being constructed, always being produced in the interaction of perspectives generated in diverse contexts. As learners examine these diverse knowledge constructions and their relationships to one another, they begin to aspire to a higher domain of cognitive thought. The process of moving to these higher levels of thinking is a powerful and exciting activity. Its promise of new insights about self and world motivate me to engage in this work on educational psychology.

MOVING TO A NEW EPISTEMOLOGICAL TERRAIN

Many scholars have argued over the last three or four decades that a correspondence epistemology promotes a misleading portrait of the process of recognition. Recognition does not consist of simply comparing two pictures with one another. The process is much more complex, as illustrated in human beings' recognition of emotional feelings, justice, and genius. One does not hold a picture of genius up to what he or she is observing in the lived world—other types of thinking are operating in this context. The individual here is producing situated and implicit knowledges that help him or her interpret the nature and meaning of the phenomenon he or she is encountering. Thus, a simple correspondence-based test cannot be used in such situations to determine if the observer has accurately represented reality.

Jeanette Bopry in her chapter on Francisco Varela extends this epistemological point. This correspondence dynamic, she asserts, does not help us understand the way dogs perceive the world. Dogs' ways of constructing the world is very different from humans but is not "wrong." Such a reality implies that there are numerous ways of making sense of the world that work for the individual or animal that constructs them. Perceptions emerge when cognitive systems interact with the environmental context surrounding them. Bopry adeptly articulates this point: "My description of a sunset is not a description of an external phenomenon as much as it is a description of my own visual field." Thus, knower and known are eternally joined together, as no constructions of reality can be made without the presence of both mind and environment.

In this context we can clearly understand the epistemological foundations on which interpretivism rests. The interaction/connection between the individual and culture and the knower and the known is central to an understanding of the learning process. Indeed, the cultural system of which one is a part profoundly shapes the ways one thinks, the ways one constructs the world around oneself. Because of the diversity of such contexts and the infinite ways they shape cognitive behavior, mechanistic efforts to generate universal general laws are futile. Guided by a constructivist epistemology, interpretivists view cognition as a contextually specific, interactive, ever-evolving process in which the person both constructs and is constructed by the various contexts enveloping him or her.

Operating on this new epistemological terrain, interpretivists understand they must be better scholars than those who preceded them in educational psychology. They must gain an interdisciplinary understanding of the cognitive process. (See Lara Lee's chapter, "Reconnecting the Disconnect in Teacher–Student Communication in Education," on the role of communications in an interdisciplinary educational psychology.) In this context they enter the bricolage, making use of diverse disciplinary tools and perspectives to gain a deeper and thicker view of these complex social, cultural, economic, political, philosophical, and psychological dynamics. Such insights dramatically reorient our pedagogical understandings, as we are empowered as scholar-teachers to discern the ways particular students in specific circumstances construct their own meanings of academic experiences (see Alison Cook-Sather's chapter "Recognizing Students among Educational Authorities"). Contrary to the pronouncements of many, such epistemological/cognitive

understandings do not simply *dictate* our pedagogical strategies—instead, they *inform* them. One can still use a wide variety of teaching methodologies in light of such knowledge. Teachers by no means are condemned to teach the same way.

If we understand that learning takes place in context and in process, then we begin to appreciate the impact of the prior knowledge students bring to a classroom on the learning process. Many boys coming from working-class backgrounds, for example, may carry with them to school an understanding of academic work as an effeminate pursuit. Such prior knowledge plays a dramatic role in shaping their disposition toward learning. An educational psychologist or a teacher who does not know this operates at a severe disadvantage. Sandra Racionero and Rosa Valls in their chapter on dialogic learning are well aware of such dynamics and maintain that teachers who understand them focus more attention on the nature and needs of the learner. This moves pedagogy away from the mechanistic focus on the teacher as the "unique agent in the teaching–learning process." Again, such insight does not dictate pedagogical method. To focus on the nature and needs of the learner does not mean that teachers do not ever confront students with bodies of knowledge. There is still much analysis to do on just what it means to be more attentive to the nature and needs of the learner.

To be attentive to the nature and needs of the learner in a critical interpretivist sense does not mean that we focus our attention on natural and ready-made students. It also does not mean that we attend to the learner so we can "normalize" him or her—fit him or her to the needs of dominant institutions. Here is where critical interpretivists have to be very careful. We can develop the most child-centered pedagogies possible that not only focus our attention on the nature and needs of the learner but allow the learner to produce his or her own knowledge about the world. If such knowledge is not problematized, subjected to ideological, discursive, and cultural analysis, then we may empower students to become hegemonized by the needs of the dominant culture. While critical interpretivists most definitely want students who actively participate in the world, we also want students with the ability to ask hard questions of the knowledges they encounter and even the knowledges they produce. Such a goal requires even more of the teacher who must understand the nature and needs of the student in a larger sociocultural and political context. Such a teacher must always be aware of the political consequences of particular epistemologies, psychologies, and pedagogies.

MECHANISM AND THE CENTRAL PROCESSING MECHANISM

With these epistemological understandings in mind one is better equipped to understand how mechanistic educational psychology has come to "believe in" a central processing mechanism (CPM). Indeed, the primary task of such a paradigm is to delineate the nature of this hidden mechanism and how it operates. To study it mechanists must remove it from everything else and then in its isolation delineate exactly how it represents the real world, categorizes the different aspects of the world, draws on stored memories, learns, etc. This mechanism stands apart from everything on which it operates and must be described in this way—the focus is on its universal properties. The capacity or efficiency of this CPM is what mechanists claim to be measuring when they administer psychological tests. Of course, the problem is that since we don't have any clear understanding of what the CPM is and little understanding of what exactly constitutes its high-level and efficient operation, then we're not exactly sure what such tests are measuring. When we bring our epistemological insights to bear in this situation, we can uncover further confusion about the relation of the CPM to social, cultural, political, economic, and philosophical context.

Mark Garrison in his chapter on psychometrics extends these observations, maintaining that there is an irrational dimension to the measurement work of mechanistic psychology. Garrison

contends that the psychometric project can be better understood as a political theory that attempts to assign worth to human beings. A key aspect of its operation as a political theory is that it constantly argues that there is nothing political about its operations. In this context it can be understood as a conservative political theory that attempts to assert the just nature of the status quo. Mechanistic psychology in the work of psychometrics claims that it facilitates the efficiency of the democratic sociopolitical process that allows people of superior intellect to attain power. Psychological tests become more important in the mechanistic context than an individual's real-life performance. If I illustrate great intellectual achievement, for example, but my IQ is low, my worth as an intelligent, high-functioning person can be diminished by the label "overachiever."

The results of psychometric tests speak with the voice of scientific authority. They move through psychometrics to education where they are accepted as the final truth about psychological issues and the worth of individuals. "This student who scored low on the aptitude tests," mechanists tell us, "is not college material." Using this narrow, brain-centered, test-driven view of the quality one's CPM, mechanistic educational psychology assures us that individuals who don't receive their blessing in the form of high-test scores simply are incapable of learning. They must be relegated to the dustbin of society. It is a powerful political theory that can make such decisions with the imprimatur of scientific authority. Yet, it is grounded on a house of epistemological cards, for it applies numerical values to objects that Mark Garrison maintains do not even have a referent in a constructed real world. Even if we assume the truth of a correspondence epistemology, we still don't know the nature of the CPM.

Jerome Bruner, one of the most important interpretivist educational psychologists of the last third of the twentieth century and the first decade of the twenty-first century, rejects the notion of a CPM, asserting that the field should look instead for "cultural amplifiers" of cognition. Bruner wants to know what situations and contexts help us think better and more clearly and how do we bring them into the educational process. In the psychometric approach the focus of measurement of the CPM is pursued to the exclusion of other dimensions of intelligence. In many ways it might be described as a psychology of nihilism, as it assumes that nothing that can be done to improve the intelligence of those with low IQ. Even such elusive constructs as creativity, Jane Piirto argues in her chapter in this volume, have been addressed by psychometrics. In such a process our understanding of creativity—like intelligence—has been undermined. In this conceptual context Julia Ellis's chapter, "Creative Problem Solving," provides educational psychologists and teachers with both a powerful theoretical insight into creativity as well as a masterful microanalysis of practical ways of integrating such understandings into classroom practice.

HURT: MECHANISTIC PSYCHOLOGY AND THE DEFICIT MODEL

In its roles as the purveyor of truth about the workings of the brain and the great social regulator, mechanistic educational psychology has often unleashed great harm on children. George Dei and Stanley Doyle-Wood in their chapter in this volume make this point dramatically when they illustrate the ways mechanistic ed psych helps create a "deep curriculum" of Eurocentrism that many times forces minority students into a "disembodied silence." Indeed, students whose abilities and selfhood are dismissed by the mechanists are hurt badly. This is one way that student subjectivity is produced, as countless students learn from the deep curriculum that they are "stupid." Over the last thirty years I have interviewed numerous students who have clearly learned the most important lesson of mechanistically driven schools: they are not capable of doing academic work.

In the mechanistic context many psychologists teach teachers that not all students can learn. This is the deficit model of psychology and pedagogy that undermines so many young lives. The academic and social failure that results from such oppressive assumptions, Kathryn Herr

writes in her chapter on problem teens, is viewed as a personal failing. Mechanistic psychology's personalization of failure is viewed outside of any larger social or cultural context and then is used to construct a crisis of youth. In this context Herr describes the growth industry of "kid fixing" with its emphasis on different types of intervention for different categories of young people. For middle-class children/youth with health insurance, therapy is offered; for poor and minority young people prison is the solution of choice.

Picking up on Herr's insights, Scot Evans and Isaac Prilleltensky insist in their chapter, "Literacy for Wellness, Oppression, and Liberation," that educational psychologists in this context should avoid "psychologizing problems and victim-blaming approaches." Such approaches illustrate yet again the decontextualizing tendencies of mechanistic psychology, as they substitute individual remedies for larger social problems. Evans and Prilleltensky maintain that psychologists must learn how social violence is manifested in the lives of individual young people. Such a task is difficult, however, in a field that is obsessed with labeling and categorizing children and young people. Recognizing such troubling disciplinary tendencies, Beth Blue Swadener and Kagendo Mutua in their chapter, "Beyond Schools as Data Plantations: Decolonizing Education Research," maintain that an interdisciplinary field of educational psychology must not be used to pathologize young people and their families. In the contemporary neoliberal culture of labeling and assessment, Swadener and Mutua insist, many educational psychologists and school leaders simply ignore the way in which categories of child and youth pathology and "risk" are socially constructed.

In the pathologizing and victim-blaming deficit model of contemporary educational psychology, the hurtful practices of the mechanistic approach to the discipline can be seen in crystal clarity. Indeed, the reasons young people fail rest as more in the social, philosophical/epistemological, cultural, economic, and political configurations of the society than in his or her individual deficiencies. How is failure defined? How is aptitude constructed? What is the process by which success gains its meaning in diverse cultures? As interpretivist educational psychologists operating in the multidisciplinary bricolage attempt to answer these questions, we begin to understand the complex ways in which such meanings gain widespread acceptance. I would maintain that the effort to understand the origins of a deficit psychology and its influence in the twenty-first century cannot be understood outside of a larger historical understanding of race and class politics in macro- and micro-contexts.

MACRO-HISTORICIZATION: THE IMPORTANT "RECOVERY" ROLE OF MECHANISTIC PSYCHOLOGY

The mechanistic victim bashing of the late twentieth and early twenty-first century can be better understood as a part of a larger reactionary sociopolitical impulse of the era. Though it seems far away and detached from contemporary psychological practice, the context constructed by the last 500 years of European colonialism in the world is central to our understanding of present practices. After centuries of exploitation the early twentieth century began to witness a growing impatience of colonized peoples with their sociopolitical, economic, and educational status. A half millennium of colonial violence had convinced Africans, Asians, Latin Americans, and indigenous peoples around the world that enough was enough. Picking up steam after World War II, colonized peoples around the world threw off colonial governmental strictures and set out on a troubled journey to independence. The European colonial powers, however, were not about to give up such lucrative socioeconomic relationships so easily. With the United States leading the way, Western societies developed a wide array of neocolonial strategies for maintaining many of the benefits of colonialism. This neocolonial effort continues unabated and in many ways with

a new intensity in an era of transnational corporations and the "war on terror" in the twenty-first century.

Though most Americans are not aware of it, the anticolonial rebellion initiated the liberation movements of the 1960s and 1970s that shook the United States and other Western societies. Indeed, the civil rights movement, the women's movement, the anti-Vietnam War movement, the Native American rights movement, and the gay rights movement all took their cue from the anticolonial struggles of individuals around the world. For example, Martin Luther King wrote his dissertation on the anticolonial rebellion against the British led by Mohandas Gandhi in India. King focused his scholarly attention on Gandhi's nonviolent resistance tactics, later drawing upon such strategies in the civil rights movement.

By the mid-1970s a conservative counterreaction—especially in the United States—to these liberation movements was taking shape with the goals of "recovering" what was perceived to be lost in these movements (see Gresson [1995]). Thus, the politics, cultural wars, and educational and psychological debates, policies, and practices of the last three decades cannot be understood outside of these efforts to "recover" white supremacy, patriarchy, class privilege, heterosexual "normality," Christian dominance, and the European intellectual canon. They are the defining macro-concerns of our time, as every topic is refracted through their lenses. Any view of educational psychology, curriculum development, or professional education conceived outside of this framework ends up becoming a form of ideological mystification.

Mechanistic educational psychology is enjoying contemporary success in its testing and labeling functions in part because it plays such an important role in "recovering" what was perceived to have been lost in the anticolonial liberation movements. One of the psychological dimensions of what was perceived to be lost was the notion of Western or white intellectual supremacy. No social mechanism works better than intelligence/achievement testing to "prove" Western supremacy over the peoples of the world. Psychometricians operating in their ethnocentric domains routinely proclaim the intellectual superiority of Western white people. Richard Herrnstein and Charles Murray, for example, in their best-selling book, *The Bell Curve*, write unabashedly that the average IQ of African peoples is about 75. The fact that the concept of an intelligence test is a Western construct with embedded Western ways of understanding the world is never mentioned in this brash assertion. Thus, the contemporary psychological obsession with labeling, measuring, and victim blaming is concurrently a macro-historical, meso-disciplinary, and a micro-individual matter. Critical interpretivist educational psychologists cannot allow mechanistic reductionism to continue to subvert our understanding of the complexity of these issues.

FAILURE AND DIFFERENCE

The social dimension of the psychological process by which individuals are labeled failures is obvious. A political economy of aptitude exists that has to do with an individual's access to the psychological resources of the larger society—to Bruner's cultural amplifiers of cognition. How can we measure intellectual ability without taking into account an individual's or a group's access to such cultural tools? In light of the Eurocentrism and reductionism embedded in mechanistic ways of viewing the psychological realm, we begin to understand that those individuals labeled as failures are often social and cultural outsiders. Their difference from the white, male, upper middle/upper class, conformist mainstream is viewed as deficiency, irremediable incompetence. Without an educational psychology and a pedagogy that find insights in diverse traditions, epistemologies, worldviews, and macro-histories, these attributions of the failure of those different from the Eurocentric center will continue to rule the day.

As George Dei and Stanley Doyle-Wood contend in their chapter in this handbook, "we must all develop an anticolonial awareness of how colonial relations are sustained and reproduced in

schooling practices." Since the macro always intersects with and shapes the micro, the power of colonialism and the neocolonialism of the twenty-first century is always embedded in the individual mind. Taking a cue from Dei and Doyle-Wood, critical interpretivists employ anticolonial knowledges and epistemologies in the effort to reconstruct educational psychology. Brenda Cherednichenko's insights in her chapter, "Teacher Thinking for Democratic Learning," extend these ideas into the everyday life of the classroom. In this context she writes that many teachers hold a cultural and socioeconomic class affinity with many of their successful students. As a result these are the chosen ones who are provided a "more complex, challenging, and intellectual curriculum." Because marginalized students lack access to the intellectual tools of high culture—Bruner's cultural amplifiers—they are deemed unworthy of help.

In the present era of standardized curricula and top-down content standards the pronouncements of Dei, Doyle-Wood, and Cherednichenko too often fall on deaf ears. In this conceptual context Sandra Racionero and Rosa Valls remind readers that when educational psychologists and teachers fail to consider difference, school culture takes on hegemonic purposes. In this hegemony of whiteness boys and girls from minority contexts realize that academic success demands that they give up their ethnic and cultural identities. Indeed, they must work to become as much like individuals from dominant cultures as possible. What is sad is that even such an effort doesn't assure them of acceptance and attributions of success in the scholarly domain. Delia Douglas expands these racial dynamics in her chapter on the everyday educational practices of white superiority.

Even after they jump though all the scholarly and advanced degree-mandated hoops, they often find that such certification is not enough. They must prove themselves again and again to those from the elite halls of racial, class, gendered, and ethnic privilege. Educational psychologists in a reconceptualized discipline can play a key role in researching the ways these hurtful dynamics manifest themselves in school setting, Scot Evans and Isaac Prilleltensky maintain in their chapter here. To accomplish such a goal, Evans and Prilleltensky conclude, educational psychologists must develop a sensitivity to power and structures of inequality. It is in this way that educational psychologists can help alleviate the suffering caused by equating difference with deficiency. In the context of these structures of inequality Rochelle Brock's two highly creative chapters on race and critical thinking expand our understanding of these dynamics.

CONSTRUCTING, SITUATING, AND ENACTING

Getting beyond the hurtful dimensions of mechanistic educational psychology demands much work and an engagement with the complexity of the discipline's domain of inquiry. The authors and editors of this handbook fervently believe such a move is possible. Numerous important breakthroughs in the last few decades have empowered critical interpretivists to move to a new terrain of educational psychology. In the next few sections of this introduction I will lay out one path to such a terrain. Via the understandings of constructivism, situated cognition, and enactivism, I believe that the field of educational psychology can be transformed. Drawing upon the insights generated from these discourses and interpreting them in the bricolage of multidisciplinary understandings, critical interpretivists can move to a domain that Ray Horn and I have described as postformalism. In no way do we proclaim that postformalism is the end of psychological history—of course not. We do suggest, however, it might suggest an important stop on our journey to a more just, power-sensitive, and scholarly rigorous articulation of educational psychology.

Our earlier epistemological analysis of constructivism lays the foundation for our critical interpretivist trek. Constructivist epistemology leads us to a vantage point where we begin to understand the interaction of individual and context as the construction of more a *process* than a

thing-in-itself. As a process this individual-context interaction results more in an ever-changing mutual modification than an act of producing a "finalized something." Thus, individual and context are coconstructed, as they enter into a dynamic interactive process—the human being changes as does the environment in which he or she operates. Jeanette Bopry in her chapter here clarifies our understanding of this coconstructivism as she describes perceptions as emerging from the interaction of a cognitive system with its environment. This interaction in the language of complexity theory is labeled "structural coupling." Such a process, Bopry maintains, is recursive "in that changes in A triggered by B will trigger changes in B which will trigger changes in A." Tara Fenwick in her chapter draws upon her own important work in complexity theory to highlight these insights. The systems shaped by the structural coupling, she maintains, are inseparable as they create "a new transcendent unity of action and identities." Such insights hold profound implications for the future of educational psychology and pedagogy.

For example, the field of neuroscience, John Weaver writes in his chapter on "Neuropolitics," illustrates the biological and cognitive importance of structural coupling of the individual and the environment. Every neuron in the brain is constructed to engage in a particular activity. Yet, at birth, Weaver contends, all neurons can be employed to perform any task regardless of their predisposition. Thus, human beings are capable of creating new neural networks to facilitate their insight into the surrounding cosmos. Educational psychologists can make good use of this neuroscientific understanding to help teachers and students create new neural matrixes by exposing them to new and diverse ways of seeing the world. In many ways this is an amazing scientific insight in that it subverts mechanistic forms of cognitive essentialism that insist humans cannot "learn intelligence," that they cannot teach themselves to become smarter. Thus, structural couplings connecting students with diverse contexts and sociocultural processes produce neurological, cognitive, political, and ethical benefits. Critical interpretivists use this knowledge in their larger effort to reconceptualize educational psychology, in the process creating a psychology and subsequently a pedagogy of optimism and hope.

Thus, this educational psychology of optimism and hope focuses on the importance of these insights into the interaction of individual and context, the macro and the micro. As David Hung, Jeanette Bopry, Chee Kit Looi, and Thiam Seng Koh maintain in their chapter, "Situated Cognition and Beyond: Martin Heidegger on Transformations in Being and Identity," the whole is not made up of discrete things-in-themselves but is an interaction of intimately connected dynamics. The relationship connecting these entities, Hung, Bopry, Looi, and Koh posit, shapes the meanings they assume. No meaning exists outside of these interrelationships. Indeed, the mind is shaped by these structural couplings and cognitive activity comes to be understood in terms of this individual-contextual relationship and the coconstructive process that modifies both. Knowing in this configuration is always a social process seeking to interpret the meaning of diverse relationships. Teachers and learners in this complex process always know that there is no final interpretation. Epistemologically savvy, they realize that they must be humble for all of their interpretations are incomplete and flawed in ways not discernible in the present sociohistorical context.

In this interpretivist context, learning, Tara Fenwick in her chapter reminds us, is viewed as a "continuous invention and exploration, produced through the relations among consciousness, identity, action and interaction, objects, and structural dynamics of complex systems." Relationship in this domain takes on an importance previously unimagined in the psychological sciences. A quick return to some previously addressed concepts is appropriate in this context. Our previous discussion of epistemology and positivism's unquestioned acceptance of a naïve realism becomes very important in this context. Intimately connected to the positivist epistemology is a positivist *ontology* that views the world as a simplistic domain composed of things-in-themselves that lend themselves to precise empirical measurement. Such an epistemology and ontology allow

psychologists and teachers to evade a confrontation with complexity and operate in the shadow of reductionism. Such naivete undermines the scholarly rigor of educational psychology, rendering acts of penetrating insight, contextual analysis, and interpretive genius irrelevant. Knowledge is produced by following positivist procedure not by analyzing phenomena in new contexts and as parts of unseen processes.

Psychologists who embrace these positivist epistemologies and ontologies study an objective world and its contents as isolated phenomena. In this naïve realist framework things-in-themselves wait around like belles at the ball for a knower to arrive and "discover" them via use of the correct research method. Such a system shapes not only the production of knowledge but the reception of knowledge as well. Naïve realism fosters the faith that knowledge discovery is the end of the research and learning process. After researchers, teachers, and students "know" one of these things-in-themselves, they have nothing more to learn. Thus, in this epistemological and ontological context the purpose of learning is to obtain the "truths" already certified and commit them to memory.

In the world of mechanistic psychology's naïve realism all of our work on the interaction of whole and parts, process, structural coupling, complexity, interrelationship, power, and justice is irrelevant to the real work of the discipline. Returning to Tara Fenwick's important contributions to these ideas, the interpretivist concerns laid out here set up the possibility of inspired human action. The more teachers and learners understand about the interactions of complex systems, the more empowered they are to participate in creative shared action. What I have referred to elsewhere as a "critical ontology" holds particular importance in this context. If we better understand the constructed, situated, and enacted nature of humans "being-in-the-world," then we appreciate that—in the words of Hung, Bopry, Looi, and Koh—we construct "the world by living in it."

Being-in-the-world demands that we constantly learn and interpret. Critical interpretivist educational psychologists take these ideas seriously as they attempt to better understand both the knowledge production and learning processes. These tasks cannot be performed rigorously and justly without engaging diverse and multiple levels of analysis. Scot Evans and Isaac Prilleltensky are helpful in their delineation of what these levels involve: "personal, interpersonal, organizational, community, and social." For teachers and students to learn, to develop a sense of democratic sensitivity and social justice, and to develop a satisfactory balance of a wide variety of needs, they must engage with all of these levels. It is disconcerting to note that mechanistic psychology, operating in its positivistic framework, excludes such interaction as an act of degradation to the sanctity of scientific work.

INTERPRETIVISTS DRAWING ON THE POWER OF SITUATED COGNITION

Critical interpretivists carefully study and learn numerous lessons from situated cognition which emerged in the 1980s as a challenge to mechanistic cognitivism. Led by psychologists such as Jean Lave and Etienne Wenger, situated cognition insisted that we would learn far more about the cognitive process if we focused more attention on practical forms of thinking found among everyday people in everyday pursuits. Such research is important on many levels, not the least of which it would help move such psychologists away from their obsession with the computer model of the human mind. In this context situated cognitivists examined on the cognitive processes of workers engaged in vocational pursuits around the world. In these imminently practical contexts situated cognitivists came to understand in great clarity the way that mechanistic educational psychologists had become obsessed with producing a model of the vehicle in which cognitive activity takes place, in the process missing the activity itself.

Central to the situated cognitivist position is the understanding that the cognitive activity always takes place in a community of practice. As Diana Ryan and Jeanette Bopry contend in their chapter, "Stakeholder-Driven Educational Systems Design: At the Intersection of Educational Psychology and Systems," community members develop ways of doing things that are mutually valued and in so doing, they learn from each other." Picking up on these situated cognitivist concerns, Hugh Munby, Nancy Hutchinson, and Peter Chin in their chapter on workplace learning and education posit that the concern with practical learning forces educational psychologists to rethink our notions of teaching, learning, and knowledge. After an encounter with situated cognition and its interest in how individuals learn in the workplace, we can never think about cognition in the same way again. Indeed, cognitive studies in the situated cognitivist configuration, Munby, Hutchinson, and Chin tell us, would be better off to focus its attention on practical forms of reasoning that eventuate in action (knowing how) rather than on theoretical reasoning that leads to the development of declarative knowledge (knowing that).

While this is a complex issue, after the work of the proponents of situated cognition one would think that only dyed-in-the-wool mechanists would unproblematically privilege the value of knowing that over knowing how. Yet, as Munby, Hutchinson, and Chin assert, there is a political economic dimension to these knowledges that exerts a profound impact on how they are represented and valued. The declarative knowledge of knowing that possesses a higher status in Western societies as it is associated with professions such as law and medicine. The professional curriculum for law and medicine, of course, is filled with data banks of declarative knowledge.

This is not to say that law and medicine don't require knowing in action—of course they do. Entry into the field, however, is patrolled by tests demanding particular forms of declarative knowledge. Thus, Munby, Hutchinson, and Chin insist that the question posed by situated cognition to students of educational psychology and pedagogy is profound: Is the schools' emphasis on declarative/decontextualized knowledge misguided? These are central questions for the field of educational psychology. Again, while there are no simple answers, the effort to address them leads us all to new insights into the nature of cognition and its relationship to teaching and learning. Critical interpretivists take these inquiries very seriously. Situated cognition obviously avoids privileging monological forms of declarative knowledge as the most important form of knowledge and its commitment to memory as the ultimate objective of the educational process.

As Hung, Bopry, Looi, and Koh describe it in their chapter here, situated cognition views knowing as a social process where learners seek to understand interrelated phenomena. Concurrently, these same learners, argue the proponents of situated cognition, have to understand their own historicity—their construction in a particular historical context—and the ways it shapes their multiple relationships to the learning process and what is being learned. Here the individual-context relationship is reconceptualized. The learner is no longer merely seen as operating in an environment; the person and environment join together as portions of coconstructed wholes. To separate them is to destroy them. Learning is embedded in these coconstructed wholes and emerges in the actions that occur in these contexts. The knowledge learned is not transmitted in some simple sense from teacher to learner. Again, critical interpretivists see no easy and obvious lesson about the nature of teaching to be derived from situated cognition. They do, however, find it to be essential knowledge for those attempting to design revolutionary new forms of educational psychology and pedagogy.

INTERPRETIVISTS DRAWING ON THE POWER OF ENACTIVISM

Picking up on the work of the Santiago school of cognitive theory, we now examine enactivism as an important contribution to the cognitive theoretical bricolage engaged by critical interpretivist educational psychologists. Embracing constructivism as their intellectual ancestor, Humberto

Maturana and Francisco Varela argue that the world we know is not pre-given but enacted. Thus, in the spirit of constructivism, they maintain that the act of cognition does not primarily involve the Cartesian effort to commit to memory "*mental* reflections" of the real world. Instead of attempting to reconstruct "true" mental reflections of the "real world," learners should focus on our actions *in relation* to the world. Observing the mind from biological and psychology perspectives, enactivists undertake the struggle to repair the damage unleashed by mechanism's reduction and fragmentation of the psychological world.

When we add enactivist insights to critical interpretivism's theoretical bricolage of critical theory/critical pedagogy, feminism, constructivism, and complexity theory, we gain a powerful theoretical recipe for a new educational psychology. As Erica Burman, Issac Prilleltensky, Valerie Walkerdine, Jerome Bruner, Jean Lave, Etienne Wenger, John Pickering, Ken Gergen, James Wertsch, Roy Pea, and many others have argued over the last few years in the spirit of Lev Vygotsky, cognition is a socially situated dynamic that always takes place in specific historical contexts. Enactivism profoundly contributes to the work of these scholars, contending that it is in this specific sociohistorical context that humans realize who they are and what they can become. A central contribution of enactivism involves its assertion that humans realize their highest cognitive abilities in specific everyday circumstances—in the enaction of cognitive activity in the lived world.

Francisco Varela argues that individuals engage in a higher order of thinking when they learn to utilize knowledge and feelings from a circumstance where particular ways of thinking and acting are deemed intelligent and transfer them to more complex situations where intelligent action is deemed ambiguous. Thus, intelligent behavior in an enactivist context does not involve a form of reasoning where universal rules are followed—divergent contexts will demand diverse modes of intelligence. In this context intelligent and even ethical action may seem logically contradictory to those operating at Piaget's *formal level of cognition*. Varela (1999) uses the Vajrayana Buddhist tradition's notion of "crazy wisdom" to denote someone who has learned to operate at the level of ambiguity and complexity. At another point in his work he refers to such abilities as "intelligent awareness." Teachers, educators, and educational psychologists who operate in the critical interpretivist framework perform their teaching and research with an appreciation of crazy wisdom and intelligent awareness.

In the enactivist frame we crawl outside the conceptual window and move into the postmechanistic psychological cosmos. In a biological context we come to understand that throughout the world of animals all beings possess knowledge that is constituted in the concrete situation. In this context we grasp Varela's (1999) point in *Ethical Know-How*: "What we call general and abstract are aggregates of readiness-for-action" (p. 18). This means that students don't manifest their intelligence simply by developing efficient mental file cabinets for storing data; it tells us that various knowledges are important as we discern their meanings and relationships and become empowered to use them in the improvisation demanded by particular circumstances. In an academic setting the particular circumstance might involve making an argument, defending a position, figuring out how to use knowledge of oppression to help an individual who is suffering, or a teacher struggling to deal with a student who is having difficulty in a math class.

Appreciating these enactivist insights educational psychologists and teachers are ready for another cognitive theoretical step forward. As we come to understand these enactivist concepts concerning the realization of our cognitive abilities in concrete circumstances, we return to the complex dynamics of self-production. In critical interpretivism the understanding of how the self is produced and how this process shapes how we construct the world becomes profoundly important. In modes of teaching and researching where this feature is omitted, nothing can be done to make up for the exclusion. Enactivism refuses to ignore the disjunction between what cognitive psychology has traditionally confirmed vis-à-vis our immediate experience, consciousness, or

awareness of selfhood. At times in the recent history of cognitive psychology—for example, in behaviorism—scientists insisted that consciousness did not exist because it did not lend itself to empirical measurement. Other cognitive perspectives, while not denying its existence three times before the cock crowed, simply ignored it. Obviously, such approaches to consciousness, immediate experience, and awareness of selfhood left an unfillable theoretical hole in its wake. Why, Varela asks, do humans experience the self so profoundly? Just ignoring the hole will not make it go away.

Informed by enactivism we ask what is the nature of the disjunction between scientifically validated cognitive theory and our experience of consciousness. Operating on the grounding of our understanding of consciousness construction, we follow Varela's description of the emergent and self-organizing dimensions of selfhood, his notion of the virtual self. The emergent, virtual self arises out of a maze of relationships—in much the same way hermeneutics describes the emergence of meaning in the relationships produced by the hermeneutic circle. It has no definable CPM, no "brain command" where control is coordinated. Consider this cognitive dynamic in light of our understanding of the cultural politics of the construction of the self. Such a process operates to create new social, cultural, political, and economic relationships to produce new and more market-compliant, consumer selves. In this context we begin to understand the pedagogical implications of the emergent self. The self is infinitely more malleable, more open to change than we had previously imagined. Given one's motivation, of course, this dimension of selfhood can be mobilized for great benefit or manipulated for great harm.

Buoyed by these insights, we enter the arena with a new insight into what can be. We know that despite the power of generations of cognitive determinists operating under the flag of IQ, human beings can learn to become more intelligent. Individuals can *construct* their own intelligence in a supportive context. And in this context such people understand that selfhood is even more of a miraculous phenomenon than many had imagined. In the emergent context we gain a perspective; indeed, to live is to have a point of view. A critical teacher or researcher, however, gains numerous levels of understanding on the origins of his or her perspective.

Varela writes of a moment-to-moment monitoring of the nature of our selfhood. Such monitoring involves gaining meta-awareness of the various connections we make to diverse dimensions of the sociophysical world around us. It involves isolating and letting go of an egocentrism that blinds us to the virtual and relational nature of our selfhood. In a critical interpretivist educational psychological context it means avoiding those definitions of higher-order thinking that view it as an egocentric manifestation of the combative proponent of rationality. In the process we also elude the cultural and gender inscriptions such perspectives drag along with them. With these knowledges we are prepared for the struggle to reconceptualize educational psychology.

So critical interpretivists begin to play more focused attention to the ways complex systems display emergent properties by way of the interaction of simple elements. The structural couplings that develop in this interaction make possible such emergence. Thus, as Jeanette Bopry posits in her chapter on Varela, the human nervous system does not pick up information from the environment. Instead, it makes meaning, it interprets its interaction with its context. This is why enactivists assert that they don't see the external environment but their own visual field. To figure out the significance of what they see in their fields, human beings—according to the enactivists—must reach out to others for help. How do my perceptions mesh with the perceptions of others? As Bopry puts it, "we share a reality because we have cospecified it through the coordination of our actions with the actions of others." The development of a view of reality takes place in social interaction—such a view emerges from individuals talking to one another about what they see in their visual fields.

In Western societies our language constructs a view of worldviews and knowledge about the world as a "thing" that one deposits in the container of the mind. Thus, knowledge is viewed as

something contained in vocabulary, written documents, databases, etc. Drawing on Varela and Bopry, critical interpretivists understand knowledge is too complex to be simply contained. Bopry puts it succinctly: "Within the enactive framework knowledge is effective action within a domain." Indeed, knowledge is always constructed (enacted) within a context. Thus, this enacted view of knowledge reshapes our view of intelligence. Intelligence is no longer equated simply with the ability to solve pre-given and well-structured problems. In an enactivist context it involves one's capacity to construct frameworks of understanding that resonate with and extend the insights of others. Bopry is quick to point out in this context that the networks created in this context do not have to be the same as everyone else's. There is room for disagreement and diversity of the worlds of understanding that human beings create. The key point is that the frameworks of insight different individuals create resonate, that is, it engenders thought and positive interchange among groups of interpreters.

Given our epistemological insights critical interpretivists understand that this enactivist understanding of intelligence with its frameworks of insight does not mean that intelligent people recover a pre-given, objective reality. Thus, as Varela insists, cognition is constructed not by representations of true reality but by embodied action in lived contexts. This means that the world is enacted, made in the everyday activities of human beings interacting with their environments. The everyday world of humans is a cosmos of situated individuals, perpetually having to devise their next steps in light of the contingency of the next moment.

Contrary to mechanistic psychological precepts, this ongoing configuration of what to do is not a rationalistic selection process among a pre-given smorgasbord of possible courses of action. It can more accurately be described as a never-ending improvisational performance in an ever-changing environment. Definitions of intelligence and even ethical action do not amount to much if they are merely abstract principles that are separated from the necessity of figuring out what to do in immediate situations. Outside of these immediate contexts definitions of intelligence, precepts for professional performance, and rules for ethical action become stale utterances and banal homilies of the cloistered scholastic. Such pronouncements like the seed of Onan fall on barren ground.

MOVING TO THE CRITICAL: POSTFORMALISM

Drawing upon the innovations delineated by the long tradition of interpretivism, the psychological work of John Dewey and Lev Vygotsky, cultural psychology, the paradigmatic analyses of Ken Gergen, constructivism, situated cognition, and enactivism, Shirley Steinberg and I have worked over the last fifteen years to develop a critically grounded foundation for educational psychology. Incorporating insights from feminist theory, African-American ways of seeing, *subjugated knowledges*, the ethical concerns of liberation theology, and a variety of critical theories from the Frankfurt School, Paulo Friere, and critical pedagogy to particular *post-discourses*, we have sought to provide a contemporary critical interpretivist educational psychology grounded on a multilogical version of scholarly rigor and a concern for social justice.

This postformalism also draws on the work of Jean Piaget, although parting company with him around the importance of the social and questions of the universality of Western science. Piaget's formal thinking implies an acceptance of a mechanistic worldview that is caught in a linear, reductionistic, cause–effect form of reasoning. Unconcerned with questions of power relations and the way they structure our consciousness, Piaget's "higher-order formal operational thinkers" accept an objectified, unpoliticized way of knowing that breaks a social, educational, or psychological system down into its component parts in order to understand how it works. Aggrandizing certainty and prediction, formal thinking organized certified facts into universal theories. The facts that do not fit into the theory are jettisoned, and the theory developed is

the one best suited to limit contradictions in the knowledge produced. Thus, formal thinking operates on the assumption that resolution must be found for all contradictions. Schools and standardized testmakers, assuming that formal operational thought represents the highest level of human cognition, focus their efforts on its cultivation and measurement. Students and teachers who move beyond such cognitive formalism are often unrewarded and sometimes even punished in educational contexts.

Humble in their debt to the above-mentioned sociopsychological discourses, postformalists attempt to politicize cognition. In this context they attempt to remove themselves from the alleged universalism of particular sociopersonal norms and ideological expectations. The postformal concern with questions of meaning, emancipation via ideological disembedding, and attention to the process of self-production moves beyond the formal operational level of thought with its devotion to proper procedure. Postformalism grapples with purpose, focusing attention to issues of human dignity, freedom, authority, scholarly rigor, and social responsibility. Many have argued that postformalism with its bricoleur's emphasis on multiple perspectives will necessitate an ethical relativism that paralyzes social action. A critical postformalism grounded on an *evolving criticality* refuses to cave in to relativistic inaction. In this context postformalism promotes a conversation between critical theory and a wide range of social, psychological, and philosophical insights. This interaction is focused on expanding and constructing self-awareness, new forms of critical consciousness, and more effective modes of social action.

Thus, in the spirit of John Dewey and Lev Vygotsky postformalism is about learning to think and act in ways that hold pragmatic consequence—the promise of new insights and new modes of engaging the world. In this context students in postformal schools encounter bodies of knowledge, not for the simple purpose of committing them to memory but to engage, grapple with, and interpret them in light of other data. At the same time such students are confronting such knowledges they are researching and interacting with diverse contexts. They are focused on the process of making meaning and then acting on that meaning in practical and ethically just ways (see Sharon Solloway and Nancy Brooks' important chapter on postformalism and spirituality in this volume).

Postformal Thinking: Toward a Complex Cognition

Indeed, such students are becoming students of complexity and processes. Postformal students move beyond encounters with "formal" properties of subject matter. Cartesian logic and the mechanistic education it supported focused attention on the formal dynamics of defining subject matter, subdividing it, and classifying it. As Dewey put it in the 1930s in *How We Think*: in formal thinking and teaching "the mind becomes logical only by learning to conform to an external subject matter" (p. 82). The student in this context is told to meticulously reproduce material derived from arithmetic, geography, grammar, or whatever. The concepts of meaning making or use in context are irrelevant in the formal context. Thus, as complexity theory would posit decades after Dewey's work on cognition: objects in the rearview mirror are more complex than they may appear.

In the spirit of complexity postformalists understand that since what we call reality is not external to consciousness, cognition operates to construct the world. It is more important than we ever imagined (see Horn [2004]). Like cream in a cup of dark roast Columbian coffee, complexity theory blends well with Dewey's critique of formalism. Cognitive activity, knowledge production, and the construction of reality are simply too complex to be accomplished by following prescribed formulae. The reductionistic, obvious, and safe answers produced by formalist ways of thinking and researching are unacceptable to postformalists. What are the epistemological and ideological processes, postformalists ask, that operate to confirm such knowledge claims while disconfirming

others? Understanding the pluralistic nature of epistemology, postformalists see beyond the one-truth reductionism of formalism. Understanding, for example, that there are many ways to define and measure intelligence moves postformalists to engage in a more rigorous analysis of such a phenomenon.

The procedure-based, decontextualized, epistemologically naïve formalist way of approaching educational psychology is the method of beginners not of seasoned, rigorous scholars. Just as physics and biology have retreated from formalist efforts to search for subatomic particles and genes as the ultimate organizational components of matter and life, psychologists of a postformal stripe see the mind less as a compilation of neurons and more of a complex set of processes operating in diverse contexts. Such reductionistic formalist obsessions emerge when research topics are dehistoricized and decontextualized. This is why postformalists are dedicated to the study of context. Without such contextualization Abraham Maslow's hierarchy of needs is put forth as a universal truth, just as relevant for a nineteenth-century woman in an isolated tribe in an Amazon rainforest as it is for Prime Minister John Howard in twenty-first-century Australia. Without postformalism's contextual intervention, Piaget's formal operational thinking becomes the standard for measuring the highest order of intelligence for African tribespeople in rural Namibia as well as for affluent students from the Upper East Side in New York City. Needs and concepts of higher-order thinking, once historicized and culturally contextualized, emerge as social constructions. It is hard to discern the footprints of social construction in the formalist haze.

Picking up on Tara Fenwick's delineation of experiential learning, postformalists deepen their appreciation of the importance of experience in the intersection of constructivism, situated cognition, and enactivism. Carefully examining the interaction of experiential learning in everyday contexts with particular critical theoretical insights, postformalism traverses a terrain of complexity leading to new insights about cognition and the forces that shape it. Respecting Fenwick's admonitions, postformalists refuse deterministic and elitist orientations that view individuals as "blind dupes" of social structures. Instead postformalists learn from people's everyday lived experiences, always appreciating the need to question anyone's experience—their own included—for the role power plays in refracting it. No experience—no matter the context in which it is embedded, no matter how "theoretically sophisticated" it is deemed to be—is free from the influence of power. Drawing on insight from experience in postformalism is always accompanied by the hermeneutic act of interpreting the meanings of such experience in light of particular contexts and processes. There is nothing simple about experiential learning in postformalism.

The postformal effort to deal with the complexity of experience is intimately connected to the previously discussed multilogicality of the bricolage. One of the central dimensions of this multilogicality involves the effort to overcome the monological limits of formalistic science and its companion, hyperreason. In this context postformalists point out the ways that mechanistic notions of intelligence and ability have dismissed the insights and contributions of the socially and economically marginalized and alternative ways of developing found in differing cultural contexts. Formalism's lack of respect for those who fall outside its boundaries is unacceptable in the contemporary world; in this context postformalism constantly pushes the boundaries of cognition and knowledge production with its emphasis on subjugated knowledges and indigenous ontologies. In postformalism complexity theory breaks bread with a literacy of power. In the process a powerful synergy is constructed that shines a new light on the field of educational psychology.

In postformalism critical social theory works in the trenches with diverse discourses in the process expanding our understanding of complexity and challenging critical theory itself. In this context critical theory sees itself in terms of an evolving criticality that is perpetually concerned with keeping the critical tradition alive and fresh. Such theoretical moves challenge educational

psychology to ask how it is shaped by its own culture. Postformalism is the uninvited guest in the summer house of cognitive studies that keeps pressuring the discipline's elite to understand that mechanistic psychology is an ideology with devastating effects on those not in the country club of modernity. Pointing out that mechanism operates in the low-affect social world of naïve realism, postformalists chart its values of neutrality and amoral technicism. We keep politics out of psychology, psychometricians insist, and we just objectively measure human intelligence and that has nothing to do with the cultural realm. In a neosocial Darwinist era where survival-of-the-fittest perspectives find wide acceptance, these formalist educational psychologies once again provide justification for the failure of the socially, economically, culturally, and politically marginalized. Postformalism will not allow such reductionism to stand.

Postformalism, Complexity, and Multiple Perspectives

In this context postformalists turn their critical lenses on the complexity of the interrelationship between consciousness and culture. Culture makes personhood possible with the preexisting world it has constructed. Such a cosmos is made up of ideas, various constructions of the physical world, interpretations, linguistic structures, and emotional registers. Such dynamics are embedded in various social institutions, discursive practices, social relationships, aesthetic forms, and technologies. Individuals construct their lives with the assistance of these cultural inheritances—the concept of identity itself is meaningless without them. Thus, again the point needs to be made: the domain of psychology is more complex than it seems in the mechanistic portrayal. Any psychology, postformalists maintain, that claims predictive ability in the complexity of everyday life does not appreciate the complications of mind, consciousness, culture, and power.

For example, a mechanistic psychology that assumes IQ can predict the future academic performance of students and uses it in this way misses numerous important points of great relevance to postformalists. On one simplistic level there is a predictive element to IQ and academic performance, as long as particular conditions are held constant. As long as students do not learn about the social, cultural, political, and economic structures of both IQ testing and schools and schools continue to emphasize IQ test type skills, there is a correlation between test scores and academic performance. The assumption here is that students be kept in the dark about the panoply of forces that help shape their relation to the test. Thus, in order for this predictive dimension to work we must keep test takers as ignorant as possible about what exactly the test reflects about the relationship between the student and dominant culture.

When students are informed about these complex dynamics, they can begin to reshape that relationship. Also, the predictive dimension rests on the assumption that no curricular innovation will take place that will focus students' attention more on meta-understandings of curriculum and the construction of knowledge. As long as these dynamics are ignored and the curriculum is viewed as a body of previously produced truths to be committed to memory, then the logic behind both IQ and curriculum are similar. Students tend to act and react similarly to situations grounded on this formalist logic. When such formalist logic is challenged and more interpretive, complex, and activity-based cognition is demanded, the predictive dimension of IQ testing evaporates into the mechanistic mist.

Thus, questions concerning the predictive capacity of IQ and other forms of standardized testing are much more complex than mechanistic educational psychology has claimed. Thus, postformalists call for a far more complex understanding of the cognitive act as well as its measurement and evaluation. In the spirit of complexity postformalists promote the ability to both appreciate and deal with uncertainty and ambiguity. In this context they are aware of the underside of the mechanistic quest for certainty and the social and personal damage such a trek produces. Given the vast array of abilities human beings can possess and the infinite diversity

of contexts in which to develop and apply them, the mechanistic tendency to label individuals as simply "intelligent" or "not intelligent" is an insult both to the field of psychology and the individuals affected by such crass labels.

Intelligence in the postformal articulation is *not* a description of the hereditary dimensions of the CPM and the efficiency of its operation. Understanding complexity, postformalists maintain that intelligence is more a local than a universal phenomenon. As such, postformalist intelligence involves diverse individuals responses to challenges that face them in light of particular contexts, access to cultural amplifiers, cultural capital, and particular tools and artifacts, specific values, social goals and needs, patterns of construction, linguistic dynamics, and traditions of meaning making. Thus, the postformal mind is shaped by specific contexts and is constructed by particular interrelationships in certain domains. It is enacted into existence—that is, it emerges as it acts in relation to these contexts and domains. Understanding the functioning of this mind is never certain and easy and measuring it in some quantitative manner is even harder. But that's okay, postformalists are comfortable with such complications in the zone of complexity.

Central to this postformalist appreciation of complexity is the general task of understanding both the situatedness of mind in general and our selves in particular. (See Wolff-Michael Roth's powerful chapter, "Situating Situated Cognition," on the nature of this situatedness of mind.) In this context we embrace our postformal humility because we come to appreciate just how limited by time and space, by history and culture our perspectives are. A scholar of any discipline would always be humbled if she had access to a time machine that allowed her to view scholars from the twenty-fifth century reading and commenting on her work. And hers was work that was deemed of sufficient quality to merit comment in 2477! This is one of many reasons that postformalists value the effort to seek multiple perspectives on everything they do. As I have argued previously in this introduction, the more diverse the experiences and the *positionalities* of those issuing the multiple perspectives the better. In the spirit of subjugated knowledges it is important to gain the views of individuals from groups that have been marginalized and dismissed from the mainstream scholarly process.

Thus, complexity demands that postformalists pursue multiple perspectives and multilogical insights into scholarly production. One dimension of such multilogicality involves tracing the developmental history of ideas. How was it shaped by tacit assumptions and contextual factors such as ideology, discourse, linguistics, and particular values? These dynamics are central tasks in postformal scholarship and pedagogy. Indeed, students' ability to understand the ways that ideas and concepts are constructed by a variety of forces and how power is complicit with which interpretations are certified and which ones are rejected is central to being a rigorous educated person. Of course, a central contention of postformalism is that hegemonic educational structures operate to undermine the presence of multiple perspectives in the school. Indeed, one of the most important goals of many of the educational reforms championed by right-wing groups in Western societies over the last few decades has been the elimination of such "dangerous" perspectives from the school. With the victory of these forces in the United States embodied in the appointment of George W. Bush to the presidency in 2000, policies based on these exclusionary practices have been institutionalized.

Thus, the multilogical goals of postformalism have suffered a setback. As George Dei and Stanley Doyle-Wood and Montserrat Castello and Luis Botella maintain in their chapters in this volume, educational psychology must realize the limitations and monologicality of traditional sources within the discipline. In this context Susan Gerofsky in her chapter on research in educational psychology writes of the need for interdisciplinarity to broaden the field's access to diverse perspectives. The point in all of these chapters fit into the postformalist critical interpretivist notion of the future of educational psychology. To move forward the field must see the psychological domain from outside of a white, Eurocentric, patriarchal, class elitist position. Some of

the most important positions may be the ones with which mainstream educational psychology is the most unfamiliar. Employing these knowledges postformalism provides a way out, an escape from the ideological blinders of the mechanistic worldview.

Postformalism and the Basis for a Political Educational Psychology

In a hegemonized and colonized educational system the role of educational psychology becomes even more important than it has been—and it has historically played a central role in shaping educational policy and practice. Postformalism is deeply concerned with exposing the importance of mechanistic educational psychology and its real life consequences. As Ellen Essick points out in her chapter, "Gender and Educational Psychology," women are regulated via the "performance of femininity." Essick's powerful argument helps readers understand the way these politics of gender shape and are shaped by educational psychology. Taking a cue from Essick, postformalists call for a political educational psychology that studies not only the performance of femininity but also power-shaped performances in the domains of race, class, ethnicity, sexuality, etc.

Erica Burman's powerful chapter on the gendering of childhood extends these power and gender themes, as it traces the way they inform even the way we theorize the development of children. (In this context take a look at Nicole Green's fascinating account of the problems of mechanistic developmentalism in "Homeschooling: Challenging Traditional Views of Public Education.") In Burman's analysis of developmentalism, the child manifests cognitive development by embracing a masculine rationalistic gender model. In this same manner mechanistic descriptions of higher order thinking have privileged a cultural masculinity. Power operates not only in these ways in ed psych but is connected to all dimensions of the domain. Every theory, every research method, every interpretive construct in the field is a contested concept that is intimately connected to issues of power. How psychologists and their discipline is historically and socially situated is a dynamic of power—moreover, the way we interpret this situatedness is affected by power. (See Rochelle Brock and Joe Kincheloe's chapter on the politics of educational psychology, "Educational Psychology in a New Paradigm: Learning a Democratic Way of Teaching.")

In his chapter, "Reclaiming Critical Thinking as Ideology Critique," Stephen Brookfield argues in the spirit of critical theorist Herbert Marcuse that "the struggle to think conceptually is always a political struggle." He follows this notion with the assertion—central to postformalism's notion of a political educational psychology—that "political action and cognitive movement are partners . . . in the development of a revolutionary consciousness." In this spirit postformalists reassert the inseparability of the political and the psychological. How we teach individuals to think in a rigorous manner is highly political. What we teach them to think about is infused with politics. There is no way to escape this power dynamic, no matter how hard many mechanists say they have tried.

When we construct a curriculum, power is involved. When we evaluate student performance, power is involved. When we embrace certain educational goals and reject others, power is involved. Some educational psychologists suggest that intelligence involves knowing your way around. Postformalists ask: where is it that we want to know our way around and what is it we want to do after we know our way around. Both of these questions are both constructed by and answered in relation to issues of power. As critical interpretivists have taught us, cognition does not take place in a vacuum. Do we work to get to know our way around the country club so we can cultivate business contacts and improve our personal socioeconomic status? Or do we get to know our way around the political structures of the city so we can work to help individuals struggling to survive the poverty they face daily?

A political educational psychology asks and answers these types of questions. Francisco Varela asks in this political psychological context: how can compassionate concern be fostered in an

egocentric culture that is taught to avoid such an orientation. Taking Varela's question seriously, postformalists merge their critical orientation with enactivism. Combining their power literacy with an enactivist effort to enact compassion in the specificity and immediacy of everyday life, postformalists struggle to transcend egocentrism and move psychological scholarship to a new domain of political understanding and informed action. At this point Varela's insights dovetail synergistically with the cognitive theory of John Dewey.

Dewey was always concerned with connecting the ability to think critically with issues of ethical sensibility and social reform. Indeed, he was impatient with scholars who sought to develop grandiose theories and abstract truths outside of any connection to the real life problems of human beings. Cognitive studies in this critical context can never retreat to the privileged position of mere contemplation—there must always be an active, operative grounding to such scholarship. Had they been contemporaries Dewey and Varela could have engaged in a fascinating conversation around the issue of enacting reflective, contextualized, and critical forms of thinking. Montserrat Castelló and Luis Botella in this volume challenge educational psychologists to take up these political challenges, maintaining that any form of ethical practice demands that they engage in the social debates of their time and place.

One might ask why do relatively few professionals operating in the field of educational psychology connect their work to such social debates. Obviously, the epistemological and paradigmatic dynamics discussed throughout this introduction contribute to such inactivity. The political tasks of postformalism are often hidden from overt view by the power wielders of the contemporary electronic social condition. In the information saturation of *hyperreality* power shapes information and access to dangerous information that challenges the status quo in a covert manner. Michelle Stack writes in her chapter in this volume about the power of television to represent the world in particular but in hidden ideological ways. As Stephen Brookfield writes in "Reclaiming Critical Thinking as Ideology Critique," we often operate in the midst of ideology without ever knowing it. Indeed, educational psychologists and many teachers unfamiliar with critical power theory will often deny the political nature of their professional work. I'm just measuring student academic performance, psychometricians will tell us. It is the role of postformalists to help such professionals understand the discursive, ideological, and regulatory dimensions of their work.

Such an effort to bring individuals to a literacy of power is delicate and complex. It must be undertaken with great respect for the many talents the learner possesses and the unique knowledges he or she brings to the table. Just as one learns mathematical literacy or technological literacy, the individual engaged in developing a literacy of power enters into particular power relationships with the critical teacher. The critical teacher must always be sensitive to the ways this relationship can be abused and be represented as a simplistic hierarchy as one "in the know" and one who is ignorant. Postformalists are radical in their pursuit of humility in their efforts to engage various individuals in a literacy of power in general and in the psychological domain in particular. It must sensitively and carefully lay out the way that particular ways of conceptualizing cognition and the role of educational psychology produce a power illiteracy.

As Scot Evans and Isaac Prilleltensky maintain in their chapter here, such an illiteracy renders individuals unable to "challenge dominant ideas about what society should be like." Indeed, they posit, psychological counselors, for example, who lack a power literacy often engage unconsciously in psychologizing problems in ways that socially and politically decontextualize their interventions. Such psychologizing leads to strategies that blame the victim for his or her oppression. Understanding these political dynamics, counselors can operate with an understanding of connecting the macro and the micro, the social and the individual. Beckoning the spirit of Dewey, Patricia Whang extends Evans and Prilleltensky's insights by reminding readers in her chapter in this volume that education always performs for better or worse particular social functions. A literacy of power moves us to see beyond the blinders of mechanism's abstract individualism.

Postformalists thus develop new purposes for educational psychology. They ponder questions of "what could be" in addition to questions of "what is." They ask what difference my work can make at both the social and the individual levels. The development of a critical consciousness becomes central to the educational psychological enterprise, as professionals carefully analyze what it means to see behind the curtain of everyday life. As they see behind the curtain they begin to understand the tacit forces invisible to mechanistic eyes. Defining critical consciousness as the process of individuals working together to gain awareness of repressive political conditions, Cathy Glenn in her chapter in this volume discusses the process of respectfully engaging students in a negotiation of what it might mean to gain and act on a critical consciousness.

In Glenn's pedagogical process students and teachers work together to interrupt the operations of dominant power in ways that expose their respective complicity in supporting such frameworks. While Glenn's understanding of this delicate process does not necessitate a particular form of pedagogy, it does demand that students not be treated as passive receptacles of expert produced truths concerning the nature and effects of power. This theme of the multiplicity of pedagogies available to accomplish such a delicate educational psychological task is a theme that runs throughout this handbook. These are complex and ambiguous issues that demand rigorous study, experiential insights, and profound interpretive labors in our effort to develop effective strategies. Glenn's nuanced discussion of the complex pedagogical implications of teaching for the purpose of developing a critical consciousness constitutes one of the high points of this handbook.

Smartin' Up: Postformalism and the Quest for New Orders of Cognition

Postformalism understands that intelligence, justice, emotion, activity, disposition, context, access, power, justice, tools, process, and ethics ad infinitum cannot be separated in the study of educational psychology. With these connections in mind postformalists warn scholars about the complexity of the scholarly process they're about to get into when they seek to engage in postformal educational psychology. Much is asked of those who enter into this realm. In their chapter on situated cognition David Hung, Jeanette Bopry, Chee Kit Looi, and Thiam Seng Koh provide great insight into the complexity of this scholarly process. Indeed, postformalists urge adherents at every level of theory and practice to enter into research groups, to develop lifelong learning relationships with those interested in the multiple dimensions of postformal psychology.

As I write about the process of becoming a bricoleur in my work on social, educational, and psychological research, the multidisciplinarity and multiperspectival demands of the bricolage cannot be learned in an undergraduate, master's or PhD. program. Becoming a scholar of postformalism—like becoming a scholar of the bricolage—is a lifelong learning process. Everytime I enter a new dimension of postformalism, I feel as if I need to put myself through another self-taught doctoral program. Lifelong interactive learning relations with other individuals make the process much easier. My motivation to engage myself and others in this process never wanes, for we are dealing with one of the central processes of humanness—making ourselves smarter, more ethical, more sensitive to the needs of others, more active in helping alleviate those needs, and more aware of the nature of our connections and interrelationships with various dimensions of the world around us. I want "smartin' up" in all the complexity that our study of these multiple and interrelated domains informs us.

In this postformal context as we transcend the "rational irrationality" of formalism and mechanism, we help students get in touch with what John Dewey called their own "vital logical movement." In the history of mechanistic educational psychology it was these forms of analysis that were denigrated and replaced by formalist logical procedures. In the memorization of these cut-and-dried logical steps millions of children and young people lost their passion for learning and growing. Indeed, they dedicated their lives to getting out of learning situations, in the process

relinquishing their disposition to explore themselves and the world around them. Do not mistake this rejection of dry formalistic procedure as a call for a "return to nature" and the hereditary natural developmental process of the child. (See Lise Bird Claiborne's compelling chapter on developmentalism and developmental appropriateness to gain a textured understanding of the complexity of the developmental process.)

The vital logical movement of individuals can be facilitated by good teachers and by entry into Vygotsky's zone of proximal development (ZPD) where students learn by association with skilled others. Thus, as is generally the case with postformalism, we seek to expand cognitive abilities in ways that are informed by multiple insights while avoiding dogmatic blueprints for how to do it. Formal reasoning is profoundly different from everyday thinking. Formal thinking embraces a subject matter that is impersonal as algebraic formulae and consciously operates to remove itself from the subjectivity, the dispositions, and intentions of the thinker. Postformalism categorically rejects this type of cognition and seeks to connect with and understand all that formal reasoning seeks to exclude.

In the postformal context we get smarter by creating our own multilogical ZPDs. In these contexts we construct our own community of experts—whether virtually by reading their work or by interacting with them personally. In our self-constructed ZPDs we build new intellectual and action-based relationships and structurally couple with multiple minds. Schools, postformalists argue, should be grounded on these types of cognitive principles—not on the psychometric, abstract individual, decontextualized, and personally disconnected models of the no-child-left-behind ilk. We can teach students to be lifelong learners who understand that intelligence is not a fixed, hereditarian concept but a fluid, socially constructed construct that can be learned when individuals are exposed to dynamic and challenging new contexts—for example, teacher and/or self-constructed ZPDs. Viewed in this context postformalism is a psychology of hope than transcends the nihilism of mechanism. Postformalists refuse to believe that human beings are condemned to academic hell because of the infallibility and intractability of test scores.

Thus, as a critical discourse, postformalism seeks an empowering notion of learning. Directly challenging mechanistic psychology's passive view of the learner, postformalism is dedicated to a respect for human dignity and the diverse range of talents and abilities that individuals operating in diverse social, cultural, geographic, and economic context develop. Indeed, postformalist look behind IQ and other standardized test scores to uncover the infinite talents that people with low-test scores develop in the idiosyncratic contexts of their lives. When mechanistic influenced pedagogies refuse to consider these amazing talents and pronounce individuals with low-test scores incapable of learning, they commit a psychological and educational crime against such students.

Postformalists in this context believe in the ingenuity of human beings, the power of individuals to learn, to create their own ZPDs. One of the most important impediments to such human agency is the ideology of mechanistic psychology. This regressive ideology works to convince individuals from marginalized backgrounds that they are incapable of learning like "normal" students. Unfortunately, mechanists do a good job of convincing such boys and girls, men and women of their "lack of ability." Over the last few decades I have interviewed scores of brilliant people who told me that they were not good at "school learning" or "book learning." Often they told me of their lack of intelligence as they were in the middle of performing difficult and complex forms of mental labor. They may not have done well in school but they had learned the most important mechanistic psychological lesson—they were not academic material.

In my conversations with those students mislabeled and abandoned by mechanistic educational psychology, I observe powerful intellectual abilities in their interactions with the world. They often illustrate a compelling ability to see things previously not discerned in domains dominated by conventional perspectives. They many times break through the tyranny of "the obvious"

with insights gained by viewing a phenomenon from an angle different from the "experts." Postformalists are proud to have "friends in low places" who see schools, for example, from the perspective of those who have "failed." As a postformalist I treasure these perspectives. Indeed, they have played a central role in how I have come to understand educational institutions. Over the last couple of decades I have written extensively about what such brilliant people have taught me as I work to be a better educator, psychologist, sociologist, historian, philosopher, and student of cultural studies—in my struggle to become a bricoleur.

Postformalism and the Relational Self: Constructing a Critical Ontology

Postformalists connect these political insights to the enactivist contention that learning takes place when a self-maintaining system develops a more effective relationship with the external features of the system. In this theoretical intersection emerges the postformalist notion of a critical ontology. As previously discussed ontology is the branch of philosophy that studies the nature of what it means to be in the world. In a postformalist critical ontology we are concerned with understanding the sociopolitical construction of the self in order to conceptualize and enact new ways of being human. These new ways of being human always have to do with the critical interpretivist psychological insight that selfhood is more a relational than an individual dynamic. In this context enactivists is highlighting the profound importance of *relationship* writ large as well as the centrality of the nature and quality of the relationships an organism makes with its environment.

In a cognitive context this is an extension of Vygotsky's ZPD to the ontological realm. In the development of a critical ontology we learn from these ideas that political empowerment vis-à-vis the cultivation of the intellect demand an understanding of the system of relationships that construct our selfhood. In a postformal education these relationships always involve students' connections to cultural systems, language, economic concerns, religious beliefs, social status, and the power dynamics that constitute them. With the benefit of understanding the self-in-relationship teachers and students gain a new insight into what is happening in any learning situation. Living on the borderline between self and external system and self and other, learning never takes place outside of these relationships (see Pickering, 1999). Such knowledge changes our orientation to the goals and methods of educational psychology and pedagogy.

Thus, a critical ontology is intimately connected to a relational self. Humans are ultimately the constructs of relationships, not fragmented monads or abstract individuals. From Varela's perspective this notion of humans as constructs of relationships corresponds precisely to what he is labeling the virtual self. A larger pattern—in the case of humans, consciousness—arises from the interaction of local elements. This larger pattern seems to be driven by a central controlling mechanism that can never be located. Thus, we discern the origin of mechanistic psychology's dismissal of consciousness as irrelevant. This not only constituted throwing out the baby with the bath water but discarding the tub, the bathroom fixtures, and the plumbing as well. In this positivistic/mechanistic articulation the process of life and the basis of the cognitive act were deemed unimportant. A critical ontology is always interested in these processes because they open us to a previously occluded insight into the nature of selfhood, of human being. The *autopoiesis*, the self-making allows humans to perpetually reshape themselves in their new relationships and resulting new patterns of perception and behavior.

Postformalists understand that there is no way to predict the relationships individuals will make and the nature of the self-(re)construction that will ensue. Such uncertainty adds yet another element of complexity to the study of sociology, pedagogy, and psychology, as it simultaneously catalyzes the possibilities of human agency. It moves those critical interpretivists who enamored with postformalism yet another reason to study the inadequacies of Cartesian science to account

for the intricacies of the human domain. Physical objects *don't necessarily* change their structures via their interaction with other objects. Postformalism's critical ontology understands that human beings *do* change their structures as a result of their interactions. As a result the human mind moves light years beyond the lifeless mechanist computer model of mind.

Kathryn Herr picks up on these critical ontological concepts in her chapter in this volume. Such a relational model, she writes, allows students to move from mechanistic developmental models based on separation to relational concepts that value human beings' ability to enter into positive, growth-producing relationships. With these issues in mind, Herr maintains that this relational competency catalyzes the development of creativity, autonomy, and assertion. Indeed, she posits, one comes to learn more about himself or herself via modes of affiliation and connection to other people. Such a psychology of self holds profound political dynamics, Herr concludes. The linear, autonomy-focused developmental models of Erik Erikson, for example, are designed to serve the needs of a free market economy and a "stacked deck" faux-competitive society. A critical ontology understands that affiliation is not a threat to autonomy. Instead relationship enhances our effort to build a empowering life where concern and care for others is central to everyone's best interests. Learning, of course, takes place in these relational ZPDs—not as a separate, decontextualized, competitive activity.

Enactivist concepts of structural coupling and coemergence reenter the postformalist cosmos in this relational ontological context. We are empowered to see beyond individual learners, Tara Fenwick writes in her chapter, abstracted from the processes and environmental contexts of which they are a part. "They focus on *relations*," she asserts, "not the components, of systems, for learning is produced within the evolving relationships among particularities that are dynamic and unpredictable." Our very identities are shaped by these interactions. Thus, drawing upon these relational ontological dimensions, postformalists profoundly reshape what it is that educational psychologists study. David Hung, Jeanette Bopry, Chee Kit Looi, and Thiam Seng Koh in their chapter in this handbook contribute to these ontological dimensions of educational psychology. Focusing on ontological relationship, they maintain that purposive behavior involves interconnected acts connected to physical and social contexts. Change and process are the key features of these interrelationships, which in their interaction produce a complex whole—a systematic unity that constitutes a new identity.

Postformalists help construct communities of practice to catalyze these critical ontologies, these relational selves. Understanding the subtle emergent character of this construction process, postformalists know that they cannot simply mandate particular relationships and force the construction of particular learning communities. Individual learners working together must construct their own communities of practice and their synergistic relationships. Postformal teachers also know, however, that they can operate to enhance such activities as opposed to impeding them. Understanding the notions put forth in critical interpretivist educational psychology, postformalism and critical ontology, empowers educators to enhance rather than impede. In such understanding "learning that" enters into a dialectical relationship with "learning how." As is usually the case different types of knowledge are required to accomplish particular complex tasks. Postformalists bring the knowledges discussed in this introduction into relationship with the immediacy of human beings interacting with one another in specific lived contexts.

In this epistemologically informed ontological context—simply put, understanding the way the produced knowledge shapes the nature of our being in the world—we focus our postformal attention on Hung, Bopry, Looi, and Koh's chapter here and its focus on the ontological insights of Martin Heidegger. If learning is inseparable from meaning making, they contend, then it is also inseparable from the process of identity formation (being) in a social community. Here, Hung, Bopry, Looi, and Koh contend, we can begin to distinguish between "learning *about*" and "learning *to be*." Thus, learning is as much an ontological act as it is an epistemological act. Most school

learning in a mechanistic context, they continue, is about committing to memory preexisting knowledge domains—the truth of scientifically based disciplines. In learning to be, the authors maintain, individuals become members of communities of practice, in the process constructing a new relational identity. Katheryn Kinnucan-Welsch in her chapter on teacher professional development considers these ideas in relation to the effort to improve teacher education.

This relational identity plays a central role in constructing what it is that a student learns. We can see this ontological dynamic play out in schools on a daily basis as students who enter particular youth subcultures where the changes in their identities profoundly shape not only what they know about the world but also how they see both the world and themselves. This is a profound learning experience. Thus, we cannot see learning and being apart from our contexts. Thus, we are not self and world in the way coffee is in a can. The self is the world and the world is the self in a critical ontology. Human being cannot be understood outside of sociopolitical context, postformalism asserts. This is a subtle proposition. As Hung, Bopry, Looi, and Koh remind us, "although being can be phenomenologically perceived separately from the world, being exists or takes meaning only in relation to the world."

In this context the absurdity of the way IQ tests have been developed and used comes into clear focus. Constructed as measures of the individual's ability, their failure to account for the connection between the individual and the contexts of which he or she is a part renders them useless. If the individual and his or her cognitive orientations are shaped by this being-in-the-world, psychological tests miss the origins and causes of why individuals display particular cognitive characteristics. They attribute to nature what is a manifestation of particular social, political, economic, cultural, and historical relationships. Thus, postformalism views the self and the development of selfhood and cognitive ability in new and exciting ways. In his chapter on transformative learning Edward Taylor argues that these dynamics create a dramatic rupture with the past. Our relational ontological perspectives provide us with a new way of understanding the way individuals relate to the world around them.

CONCLUSION: THE LARGER STRUGGLE

As it integrates the powerful insights emerging from the interpretivist tradition in educational psychology, constructivism, situated cognition, enactivism, and multiple forms of criticality, postformal pushes the cognitive envelop. I find great hope in these ideas as they provide a compelling way out of the dead end of mechanistic educational psychology. As I write this introduction in the repressive political atmosphere of the first decade of the twenty-first century, the attempt to escape mechanistic educational psychology and the regressive, antidemocratic sociopolitical and educational system it is used to support has never been more important. Ray Horn and I along with the brilliant authors included in this volume hope that this work contributes to the effort to escape these authoritarian, antidemocratic, and inegalitarian impulses of the present era. If it does then we will have considered it a great success.

TERMS FOR READERS

Bricolage—The French word "bricoleur" describes a handyman or handywoman who makes use of the tools available to complete a task. Some connotations of the term involve trickery and cunning and are reminiscent of the chicanery of Hermes, in particular his ambiguity concerning the messages of the gods. If hermeneutics came to connote the ambiguity and slipperiness of textual meaning, then bricolage can also imply imaginative elements of the presentation of all formal research. I use the term here in the way Norman Denzin and Yvonna Lincoln (2000) employ it

in *The Handbook of Qualitative Research* to denote a multimethodological form of research that uses a variety of research methods and theoretical constructs to examine a phenomenon.

Complexity theory—Posits that the interaction of many parts gives rise to characteristics not to be found in any of the individual parts. In this context complexity theory studies the rules shaping the emergence of these new characteristics and the self-organization of the system that develops in this autopoietic (self-creating) situation. As the complex system is analyzed, complexity theorists come to understand that it cannot be reduced to only one level of description.

Critical—Having to do with critical theory which is concerned with questions of power and its just distribution. (See Kincheloe [2004] for an expansion of these ideas).

Epistemology—The branch of philosophy that studies knowledge and its production. Epistemological questions include: What is truth? Is that a fact or an opinion? On what basis do you claim that assertion to be true? How do you know?

Ethnography—A form of social and cultural research that attempts to gain knowledge about a particular culture, to identify patterns of social interaction, and to develop interpretations of societies and social institutions. Ethnography seeks to make explicit the assumptions one takes for granted as a culture member. Ethnographic researchers make use of observation and interviews of culture members in their natural setting, their lived contexts.

Evolving criticality—The notion of criticality—the concern with transforming oppressive relations of power in a variety of domains that lead to human oppression finds its origins in critical theory and evolves as it embraces new critical discourses in new eras. In this context much of my work has been involved with tracing an evolving criticality that studies the ways that new times evoke new manifestations of power, new consequences, and new ways of understanding and resisting them. Concurrently this evolving criticality devises new social arrangements, new institutions, new modes of cognition, and new forms of selfhood.

Formal level of cognition—Constitutes Jean Piaget's highest order of human cognition where individuals exhibit the ability to formulate abstract conclusions, understand cause–effect relationships, and employ the traditional scientific method to explain reality.

Hegemony—Italian social theorist Antonio Gramsci theorized in the 1930s that dominant power in "democratic societies" is no longer exercised simply by physical force but through social psychological attempts to win men and women's consent to domination through cultural institutions such as the schools, the media, the family, and the church. In hegemony the power bloc wins popular to consent by way of a pedagogical process, a form of learning that engages people's conceptions of the world in such a way that transforms (not displaces) them with perspectives more compatible with those of dominant power wielders.

Phenomenology—The study of phenomena in the world as they are constructed by our consciousness. As it analyzes such phenomena it asks what makes something what it is. In this way phenomenologists "get at" the meaning of lived experience, the meaning of experience as we live it. In this effort phenomenology attempts to study what it means to be human.

Positionalities—Who people are, where they stand or are placed in the web of reality. The term connotes the historical construction of human identity.

Postcolonialism—In the most technical sense the term refers to the period after colonial rule, but there are many dimensions of postcolonialism that transcend this meaning. In a critical context one of those dimensions involves examining and working through the effects of colonialism in

the political, social, cultural, economic, psychological, and educational spheres of both colonizer and colonized states and peoples.

Post-discourses—The theoretical ways of understanding that developed in the last third of the twentieth century that questioned the assumptions about the world put forth by modernist, scientific Western frameworks. They would include postmodernism, poststructuralism, postcolonialism, and postformalism.

Semiotics—The study of the nature and influence of signs, symbols, and codes.

Subjugated knowledges—Derived from dangerous memories of history and everyday life that have been suppressed and information that has been disqualified by social and academic gatekeepers, subjugated knowledge plays a central role in all critical ways of seeing. Through the conscious cultivation of these low ranking knowledges, alternative democratic visions of society, politics, education, and cognition are possible.

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CHAPTER 2

Educational Psychology Timeline

ED WELCHEL, DORIS PAEZ, AND P. L. THOMAS

Early 1800s	Jonathan Friedrich Herbart postulated that activities of the mind could be expressed mathematically. He is considered the first educational psychologist.
1883	G. Stanley Hall, aka "the Darwin of the Mind," established the first psychological laboratory in the world at the Johns Hopkins University.
	G. Stanley Hall published *The Content of Children's Minds*.
1886	J. Dewey writes a psychology textbook.
1887	G. Stanley Hall establishes the *American Journal of Psychology*.
1887	G. S. Hall, as the first president of Clark University, creates the first pedagogical seminary (workshop) focused on the scientific study of education, which led to the publishing of a journal, *Pedagogical Seminary* (eventually this became the *Journal of Genetic Psychology*), and the introduction of pedagogical courses in the psychology department at Clark by W. F. Burnham. Burnham stayed at Clark for 36 years and that is considered the first true "Educational Psychology" department.
1889	Edward L. Thorndike, considered the foremost authority on behavioral psychology, joins Teachers College faculty and remains there throughout his career.
	James Sully, *Outlines of Psychology: Theory of Education*.
1890	William James, *Principles of Psychology*.
	James McKeen Cattell coins the phrase "mental test."
1891	William James is asked by Harvard to address teachers in Cambridge, Mass. These "talks" were later published as *Talks to Teachers on Psychology*, which is considered the first educational psychology textbook.
1892	G. S. Hall calls a meeting of 26 prominent psychologists to form an association. This is considered the founding of American Psychological Association (APA).
1894	J. Dewey becomes a faculty member at the University of Chicago. He publishes an article on relative frequency of word use by young children ("The Psychology

	of Infant Language" in *Psychological Review*) and founds an elementary school, considered the first university laboratory school.
1895	First course in educational psychology is taught at the University of Buffalo.
1896	Lightner Witmer establishes the first psychological clinic in the United States, at the University of Pennsylvania.
1897	Joseph Mayer Rice, considered the "father of research on teaching," presents empirical evidence on the futility of the "spelling grind" to school administrators.
1900	J. Dewey, as president of APA, gives a "presidential" address to APA members on educational issues and the building of mutually respectful relationships between educational psychologists and classroom teachers.
1905	Alfred Binet, *New Methods for the Diagnosis of the Intellectual Level of Subnormal*.
	Alfred Binet and Theodore Simon design tests to quantify intelligence in children.
1906	Ivan Pavlov establishes classical conditioning in his publications.
1909	Maria Montessori, *Corso Di Pedagogia Cientifica* (*The Method of Scientific Pedagogy Applied to Child Education*).
1910	*The Journal of Educational Psychology* is founded.
	John Dewey, *How We Think*.
1911	E. L. Thorndike, *Animal Intelligence*.
	John B. Watson, *Psychology as the Behaviorist Views It* (1913).
	E. L. Thorndike, *Educational Psychology*.
1915	Sigmund Freud, *On Repression*.
1916	Lewis M. Terman publishes *The Measurement of Intelligence*.
	A complete account of E. L. Thorndike's studies is published in the Egyptian-journal *Al-Muktataf*.
1918	William H. Kilpatrick publishes "The Project Method" in *Teachers College Record*—claimed to combine Thorndike's educational psychology with Dewey's educational philosophy.
	Robert S. Woodworth publishes *Dynamic Psychology*—introducing the concept of "drive."
1919	E. P. Cubberley, *Public Education in the United States*.
1920	John B. Watson and Rosalie Rayner, *Conditioned Emotional Reactions*.
1922	John Dewey, *The Human Nature and the Conduct*.
	"The army intelligence tests have put psychology on the map of United States"—J. M. Cattell.
1923	Sigmund Freud, *The Ego and the Id*.
1924	Max Wertheimer, *Gestalt Theory*.
1926	The College Board sponsors the development of the Scholastic Aptitude Test (SAT) and administers the test for the first time this year.
1930	B. F. Skinner, "On the Conditions of Eliciation of Certain Eating Reflexes."
1931	L. L. Thurstone publishes *Multiple Factor Analysis*, a landmark work focusing research on cognitive abilities.
1933	Alfred Adler, *On the Sense of the Life*.

1934	Psychology begins to be a requirement in undergraduate course work.
1935	B. F. Skinner, "Two Types of Conditioned Reflex and a Pseudo-Type"—Pavlovian conditioning and operant conditioning distinguished.
1937	B. F. Skinner employs the word *operant* for the first time and applies *respondent* to the Pavlovian type of reflex.
	Anna Freud, *The Ego and the Mechanisms of Defense*.
1938	B. F. Skinner, *The Behavior of the Organisms*.
1942	Carl Rogers introduces patient-centered therapy.
1946	Harold E. Jones becomes the first president of APA's Division 15, Educational Psychology.
1947	Jerome Bruner and Cecile Goodman, *Value and Need as Organizing Factors in Perception*.
1948	B. F. Skinner, *Walden Two*.
	The C. G. Jung Institute is established in Zurich.
1949	Jerome Bruner and Leo Postman, *On the Perception of Incongruity: A Paradigm*.
1953	B. F. Skinner, *Science and Human Behavior*.
1954	Abraham Maslow, *Motivation and Personality*—introduces a hierarchical theory of human personality.
	B. F. Skinner demonstrates at the University of Pittsburgh a machine designed to teach arithmetic, using an instructional program.
	Anne Anastasi's textbook, *Psychological Testing*.
1955	Social psychologist Richard Crutchfield publishes "Conformity and Character."
	Lee J. Cronbach and Paul E. Meehl, "Construct Validity in Psychological Tests."
1956	Jerome Bruner and collaborators, *A Study of Thinking*.
	Benjamin Bloom, *Cognitive Taxonomy of Objectives*.
1957	B. F. Skinner and Charles B. Ferster, *Schedules of Reinforcement*.
	B. F. Skinner, *Verbal Behavior*.
1958	Allen Newell, Marvin E. Shaw, and Herbert A. Simon, "Elements of a Theory of Human Problem Solving"—the first exposition of the information-processing approach in psychology.
1959	Wolfgang Köhler, *Gestalt Psychology Today*.
	John W. Thibaut and Harold H. Kelley, *The Social Psychology of Groups*.
	Noam Chomsky, *Verbal Behavior*—revision of B. F. Skinner's edition.
1960	Robert Watson, "History of Psychology: A Neglected Area."
	First school of professional psychology established in Mexico.
1961	Carl Rogers, *On Becoming a Person*.
1962	Creation of bachelor courses and the profession of psychologist.
1963	J. B. Caroll publishes "A Model of School Learning" in *Teachers College Record* and *The Place of Educational Psychology in the Study of Education* ("The Discipline of Education" edited by J. Walton and J. L. Keuthe).
1964	Humanistic psychology emerges as the "third force" in psychology.
	T. W. Wann edits *Behaviorism and Phenomenology: Contrasting Bases for Modern Psychology*.

1965	Roger Brown, *Social Psychology*.
	Roger M. Gagne, *The Conditions of Learning*.
	The *Journal for the History of Behavioral Sciences* is founded.
1966	Jerome S. Bruner, *Studies in Cognitive Growth*.
1967	Robert Watson establishes the first history of psychology PhD program in the world.
1968	Abraham Maslow, *Toward a Psychology of Being*.
	Malcom Knowles presents the concept of a "learner-centered" instructional approach.
1969	Albert Bandura, *Principles of Modification of the Behavior*.
1970s	Throughout this decade, Joseph Schwab accused educators and curriculum scholars of "doctrinaire adhesion" to educational psychology.
1971	B. F. Skinner, *Beyond Freedom and Dignity*.
1972	Ron Harré and Paul Secord, *The Explanation of Social Behavior.*
1973	Karl von Frisch, Konrad Lorenz, and Nikollaas Tinbergen receive the Nobel Prize in recognition of their studies on the behavior of animals.
1975	Mary Henle, *Gestalt Psychology and Gestalt Therapy*.
Late 1970s to early 1980s	Resurgence of theories about cognitivism and knowledge acquisition.
	John Robert Anderson (1976) presents the Adaptive Control Theory (ACT), which modifies the view of cognitivism.
	D. E. Rumelhart and Donald Norman, theory of "accretion" or knowledge acquisition, which postulates that instructional design and curriculum design should match.
	David Merrill postulates the "component display theory," which emphasizes that learners should have control over the sequence of learning.
1980	M. J. Lerner, *The Belief in a Just World*.
	One of ten doctorates granted in the United States is estimated to be in psychology.
1981	American Psychological Association grows to approximately 50,500 members.
1982	D. Kahneman, P. Slovic, and A. Tversky, *Judgment under Uncertainty: Heuristics and Biases*.
	The Humanistic Psychology Institute becomes the Saybrook Institute.
1983	Howard Gardner, *Frames of Mind*.
1985	Howard Gardner, *The New Mind's Science*.
1986	China's "Humanistic Psychology Craze," especially its "Maslow Craze" gradually takes shape and, through 1989, Maslow's books sell 557,900 copies.
1990	Donald Norman, *Things That Make Us Smart*.
1991	Howard Garnder, *The Unschooled Mind*.
1992	First published work on critical postformalism, Joe L. Kincheloe, Shirley R. Steinberg, and Deborah J. Tippins, *The Stigma of Genius: Einstein and Beyond Modern Education*.
1993	Roger Sperry, "The Impact and Promise of the Cognitive Revolution."
	Joe L. Kincheloe and Shirley R. Steinberg establish postformalism as a challenge to traditional educational psychology.

1994	Richard Herrnstein and Charles Murray, *The Bell Curve*.
	Roger Sperry dies.
1996	Joe L. Kincheloe, Shirley R. Steinberg, and Aaron Gresson, *Measured Lies: The Bell Curve Examined*. The book challenges the psychometrics of Herrnstein and Murray.
1997	Kieran Egan, *The Educated Mind: How Cognitive Tools Shape Our Understanding*.
1999	Joe L. Kincheloe, Shirley R. Steinberg, and Patricia H. Hinchey, *The Postformal Reader: Cognition and Education*.
	Joe L. Kincheloe, Shirley R. Steinberg, and Lila E. Villaverde, *Rethinking Intelligence*.
	Second edition of Joe L. Kincheloe, Shirley R. Steinberg, and Deborah J. Tippins, *The Stigma of Genius*.
	Howard Gardner, *The Disciplined Mind*.
2000	Joel J. Mintzes, James H. Wandersee, and Joseph D. Novaka, *Assessing Science Understanding: A Human Constructivist View*.
2001	Seymour Saranson, *American Psychology and Schools: A Critique*.
2002	Expansion of the *Educational Psychology Series* by Academic Press reflects current issues and notable "younger" or next-generation educational psychologists.
	Joshua M. Aronson, *Improving Academic Achievement: Impact of Psychological Factors on Education.*
	Daniel J. Moran and Richard W. Malott, *Evidence-based Educational Methods*.
	Roger Marples, *The Aims of Education*.
	Susan Bentham, *Psychology and Education*.
	Robert D. Greer, *Designing Teaching Strategies: An Applied Behavior Analysis Systems Approach.*
	Joshua Aronsen, *Improving Academic Achievement: Impact of Psychological Factors on Education*.
2004	Joe L. Kincheloe, *Multiple Intelligences Reconsidered*.
	David Dai and Robert Sternberg, *Integrating Perspectives on Intellectual Functioning and Development.* (Sternberg's reflections and "newer" perspective)
	Chery Sanders and Gay Phye, *Bullying: Implications for the Classroom*. (new emphasis on bullying apparent in the literature)
	Larisa V. Shavinina and Michel Ferrari, *Beyond Knowledge: Extracognitive Aspects of Developing High Ability*.
	IDEA reauthorized as Individual with Disabilities Education Improvement Act (IDEIA), ensuring greater flexibility for assessment (e.g., eliminates need for cognitive-achievement discrepancy in learning disability identification).

PART II

Introducing Theorists Important to Education and Psychology

CHAPTER 3

Albert Bandura

SABRINA N. ROSS

Imagine two siblings (one an older brother and the other a younger sister) on a shopping trip with their mother. The older brother sees a toy he wants and continuously begs the mother to buy it until she gives in and purchases it for him. The younger sister, observing the reward her brother received for his behavior, begins to beg for a toy until she too receives one. The sister has learned to change her behavior by observing her brother's behavior and its consequences. This is the concept of observational learning developed by Albert Bandura as a major part of his Social Cognition Theory. Social cognition theory is a grand theory of human development that seeks to explain the entirety of human development and psychological functioning occurring over the life course of the individual. Bandura's theory countered commonly held views of learning through direct reinforcement by presenting humans as intelligent and adaptable learners capable of extracting complex guidelines for behavior from instances of observational learning. The reconceptualization of the process of human learning in straightforward and practical terms makes his social cognitive theory one of the few grand theories that continue to enjoy relevancy and application in contemporary times. A discussion of Albert Bandura and his development of the social cognitive theory follows.

Bandura's social cognitive theory explains the influences of social modeling, human cognition, and motivation on behavior. The development of Bandura's theory of social cognition was influenced by his early psychological research studies and also by his early life experiences. In his theory, Bandura presents humans as adaptable and agentic (i.e., capable of effecting desired change) individuals who use direct and indirect learning sources to guide their present and future actions.

Albert Bandura was born on December 4, 1925, in a small town of Alberta, Canada, the youngest and only male of six children. Bandura's belief in human agency was encouraged by his early educational experiences. He attended a small, understaffed, and inadequately resourced school in Canada that served both elementary and high school students, but although the school was underresourced, students there excelled academically. The meager staff and resources at his school made it necessary for Bandura and other students to take responsibility for their own learning. He believed the students' involvement in their own learning attributed greatly to their

academic success; these early experiences instilled in Bandura the importance of self-direction and motivation in learning. These themes are emphasized in his social cognitive theory.

Bandura also recognizes in his theory the ability of individuals to react to chance encounters and fortuitous events in ways that can meaningfully alter their life course. Bandura's decision to major in psychology resulted from his reaction to one such event. He entered undergraduate school at the University of British Columbia and enrolled in an introductory psychology course because it fit an early morning time slot that he needed for his class schedule. Once in the class, he loved it and decided to major in psychology. Before taking the psychology course, he had intended to major in the biological sciences.

After receiving his bachelor's degree in 1949, Bandura attended graduate school at the University of Iowa. He received his Master of Arts degree in 1951 and his PhD in 1952; both degrees were in clinical psychology. He accepted a faculty position at Stanford University in California in 1953. He remained at Stanford for the entirety of his career.

One of Bandura's earliest projects at Stanford involved the study of hyperaggression in male adolescents from well-to-do and seemingly well-functioning households. He hypothesized that the hyperaggressive adolescents were modeling the hostile behavior of their parents. Although the parents did not allow their sons to display aggression in their homes, they encouraged aggressive behavior in school by telling the adolescents to physically defend themselves during disputes. When these adolescents got in trouble at school for their aggressive displays, their parents typically sided with them against the school administrators. Bandura hypothesized that the adolescents learned their aggressive behavior by imitating their parents' aggression. He further hypothesized that even though the adolescents were punished for behaving aggressively at home, their observation of their parents' aggression was a more powerful influence on their behavior than was the punishment. His research findings were important because they provided evidence against the popular Freudian assumption that parental punishment would discourage aggression in children. Bandura's work with aggressive adolescents demonstrated that observation of parental behavior was a more powerful influence on child behavior than was punishment. Bandura along with his first doctoral student, Richard Walters, published his findings in his first book *Adolescent Aggression* (1959). His early work on adolescent aggression and parental modeling paved the way for his concept of observational learning.

Perhaps the most famous study that Bandura conducted on observational learning and aggression was the Bobo doll study. Bandura showed kindergarten children a film in which one of his female students physically attacked a Bobo doll, an inflatable balloon that was weighted at the bottom to make it bob back and forth when struck. After viewing the film, the children were made to feel frustrated by being placed in a room full of toys that they were not permitted to touch. Finally, the children were led to a room with a Bobo doll and other toys identical to those in the film they had viewed. The majority of the kindergartners imitated the aggressive behavior they viewed in the film; almost half continued to reproduce this behavior months later. Bandura conducted many variations on the Bobo doll experiment; each resulted in a reproduction of the aggressive behavior modeled.

Bandura's findings from the Bobo doll study dispelled several assumptions about learning and aggression. At the time he began his studies, many psychologists believed that learning was simply the result of direct reinforcement. In cases of direct reinforcement, the learner is given a reward each time the desired behavior is approximated until the desired behavior is achieved. Bandura's variations on the Bobo doll experiment demonstrated that learners do not require direct reinforcement for learning to take place. Rather, learners can receive vicarious reinforcement by seeing a model rewarded for his or her behavior and change their own behavior as a result. Recall the example of the older brother and younger sister shopping with their mother; the sister observed her brother receiving reinforcement (i.e., the toy he was begging for) for his behavior

and changed her own behavior as a result. This is an example of learning that takes place through vicarious reinforcement.

Another Freudian assumption popular with psychologists at the time of Bandura's early Bobo doll experiments was that viewing violent or aggressive acts would have a draining effect that reduced aggression in the individual. This assumption was termed the catharsis effect. Both Bandura's Bobo doll study and his studies with aggressive adolescent males disproved the assumptions of the catharsis effect. On the basis of these studies and others, Bandura developed a theory of observational learning and motivation that he termed social cognition theory.

In social cognition theory, Bandura presents human behavior as being largely a product of direct and indirect learning. As discussed previously, direct learning (also referred to as trial and error learning) is reinforced through the learner's receipt of rewards or punishments. Indirect learning (also called vicarious learning and observational learning) occurs when the learner alters his or her behavior without receiving rewards or punishment. Recall again the example of the brother and sister on the shopping trip with their mother. Before she began imitating her brother's begging, the sister had received no direct reinforcement for her behavior; she observed the brother beg and be rewarded, then she changed her behavior. For Bandura, observational learning had important advantages over trial and error learning. Whereas trial and error learning is risky and time-consuming, observational learning saves the learner both time and risk by allowing him or her to learn from the successes and mistakes of others. For Bandura, humans have a great capacity for symbolism; we can retain socially modeled information in the form of mental images or verbal descriptions that serve as symbols for future behavior. Through social modeling, individuals can extend their learning by using symbols from the original modeled behavior to guide future rules for action. Returning once again to the example of the brother and sister on the shopping trip, Bandura argued that the sister will be able to apply her learning to different situations. For example, having retained the symbol of her brother receiving a reward for begging his mother, she might try begging her father or grandparents for a desired toy. She might try begging her mother to allow her to spend the night at a friend's house. In each case, the learner becomes able to apply his or her observational learning to new situations in ways that guide his or her future actions.

Central to Bandura's theory of social cognition is the term triadic reciprocal causation, which describes the simultaneous influences of thoughts, feelings, and the environment on human behavior. For Bandura, human behavior results from interactions between individual biological factors (e.g., cognitive capabilities), psychological factors (e.g., emotional states), and the environment. These factors influence and are, in turn, influenced by one another; the interactions among these biological, psychological, and environmental factors produce variations in human behavior. The results of reciprocal causation are that humans are at the same time producers of and products of their environment.

For a practical example of triadic reciprocal causation, imagine that you and other college students are seated on the first day of class, waiting for your professor to arrive. As you wait, you join in small talk with the other students. The professor arrives; upon entering the room she makes eye contact and confidently announces that class will now begin. According to Bandura, the behaviors of the professor will be influenced by her emotional state (e.g., Is she excited about teaching the course? Does she believe herself to be an effective instructor?), her cognitions (e.g., her initial thoughts about the course and students), and the classroom environment. Suppose that when the professor enters the classroom you and your classmates continue with your small talk and fail to acknowledge her entrance. Your actions might create a negative classroom environment for the professor to react to. On the other hand, you and your classmates might stop talking as the professor enters and focus your attention on her, indicating that you are ready to begin class. These two very different environmental responses on your part will interact with the professor's

thoughts and beliefs to influence her actions as she begins teaching the course. In turn, you and your classmates will react to the professor's subsequent behavior, possibly altering her behavior and the classroom environment as a result. In this way, the professor and the environment are continuously interacting with and influencing each other through reciprocal causation.

Three very important concepts in Bandura's social cognition theory are social modeling, the self-system, and self-regulation. The concept of social modeling, or observational learning, has been discussed previously. This concept will be discussed in greater detail now, along with the concepts of the self-system and self-regulation for greater clarity of social cognition theory.

SOCIAL MODELING

Bandura used his Bobo doll study to identify the steps involved in the process of social modeling. He hypothesized that social learning could occur through the learner's actual observation of real people, observations of the environment, or observations of television or other media. In order for learning to occur, the individual must be attentive to the modeled behavior (e.g., the sister must be actively paying attention to the brother's behavior). In addition, characteristics of both the learner and the model influence learning. For example, learner fatigue or distraction decreases learning while model attractiveness, competence, and prestige increase learning of the modeled behavior.

The learner must be able to utilize mental imagery or verbal descriptions to retain the modeled behavior so that it can be reproduced later. Reproduction involves translation of the retained images and/or descriptions into actual behavior; in order for reproduction to occur, the learner must have the ability to reproduce the behavior.

The learner must be motivated to engage in the observed behavior. For Bandura, the factors influencing motivation include past reinforcement or punishment, incentives or threats, and seeing the model of the behavior reinforced or punished (as occurred when the sister observed her brother receiving his desired toy). According to him, reinforcements are better motivators of behavior than are punishments. Unlike traditional behaviorists, he does not believe that direct or vicarious reinforcements and punishments cause learning; instead he believes that they provide reasons for the learner to demonstrate learned behaviors.

In general, children tend to engage in observational learning more than adults, and inexperienced persons do it more than those with experience. For Bandura, individuals use language and symbols to translate their observations of socially modeled behaviors into guides for future actions. The extent to which socially modeled behaviors translate into future actions for the learner depends on human motivation and self-management. He hypothesized that human motivation and management are derived from an internal structure called the self-system.

The adaptive nature of humans enables them to extend observational learning to future behaviors through the self-system. For Bandura, the self-system is a set of cognitive structures that influence perception, evaluation, and behavior regulation. Bandura developed the concept of the self-system to explain consistency in human behavior. He believes that the learner consciously engages the self-system to evaluate behavior in relation to previous experiences and future consequences. As a result of these evaluations, self-regulation occurs. Self-regulation is the individual's ability to control his or her behavior.

Self-regulation is engaged when one violates some form of previously adopted social norm or standard. It involves three steps: self-monitoring, judgment, and self-response. Self-monitoring is simply the awareness of one's own behavior. Judgment involves comparing one's behavior with personal standards (i.e., judging one's behavior against oneself) or other standards of reference. Self-response involves the internal feelings associated with judgments of individual behavior. If the judgment is favorable, a rewarding self-response (e.g., feelings of pride or satisfaction)

may result, and if the judgment is unfavorable, a negative self-response (e.g., feelings of shame or inadequacy) may result. In general, individuals aim to perform actions that provide a sense of satisfaction; they tend to avoid engaging in behaviors that induce self-devaluing reactions. Over time, one's tendency to meet or fail to meet self-standards can influence perceptions of self-concept and self-efficacy. Self-concept is an individual's judgment of his or her capability. Self-efficacy is an individual's perceived ability to be effective and perform actions necessary to change one's environment.

For Bandura, self-efficacy serves as a source for human motivation across the life cycle. Self-efficacy is acquired or changed through four sources: mastery experiences (successful performance), social modeling, social persuasion, and physiological or emotional arousal. In general, successful mastery experiences increase self-efficacy while failures lower self-efficacy. Observing others succeed (social modeling) can increase self-efficacy if one perceives oneself to be like the model; observing others fail can decrease self-efficacy. Social persuasion involves the degree of praise or insult one receives for completed behaviors. Praise of the persuader can increase self-efficacy if the persuader is credible and is describing a behavior that is within the learner's ability to perform. One's physiological state also can influence self-efficacy. Whereas high levels of emotional arousal (e.g., adrenaline) can decrease performance and self-efficacy, lower levels of emotional arousal can increase performance and self-efficacy.

As mentioned earlier, Bandura's social cognition theory is a grand theory of human development that seeks to explain human behavior across the life course. For Bandura, the establishment of self-efficacy throughout various developmental "milieus" (i.e., changing situations) in the life cycle is determinant of healthy and adaptive human functioning. According to him, these milieus (i.e., infancy, family relations, peer relations, school, adolescence, adulthood, and advancing age) are commonly recognized but are not fixed stages in the Piagetian sense of human development. Bandura views development as a lifelong process, marked by individual variations in cognitive ability, environmental influence, and perception.

SOCIAL COGNITIVE THEORY AND POSTFORMAL THOUGHT

Postformal thought questions Piaget's assertions that adolescent thinking and adult thinking are qualitatively identical as well as Piaget's contention that formal operations is the final stage of cognitive development in humans. Bandura's social cognitive theory is compatible with postformal thinking in its rejection of highly fixed stages of cognitive development and its recognition of qualitatively different types of cognitive functioning that occur throughout the life cycle. For Bandura, cognitive functioning does not follow a universal or fixed path. It is multidirectional and follows diverse trajectories of change depending on individual abilities and the social context. The emphasis of social cognitive theory on the importance of context in evaluating thinking and learning outcomes discourages its adherence to fixed stages of cognitive development. Variations in social context and individual characteristics will necessarily produce variations in cognitive development.

As mentioned earlier, Bandura explains human development as the establishment and maintenance of self-efficacy resources throughout the life cycle. Such development differs according to the milieu or changing situation the individual encounters. In each milieu, Bandura identifies cognitive functioning as involving the individual's adaptation to changing situations in practical ways that enhance self-efficacy.

In infancy, adaptation involves learning that one's actions influence the social environment. The establishment of a sense of personal agency and causality result from this adaptation and enables the infant to engage in abstraction and learn to gauge likely outcomes of actions through social modeling experiences. Bandura's next milieu, the family context, provides children with ample

vicarious experiences that inform the use of social and verbal behavior to alter social outcomes and enhance self-efficacy. The peer context reinforces the child's self-efficacy as the child learns coping and problem-solving behaviors through the development of peer relationships.

Particularly applicable to educational psychology and critical theory is Bandura's recognition of the importance of self-efficacy in the school milieu for successful educational outcomes. For Bandura, the school milieu is the place where individuals learn the knowledge, strategies, and skills needed for successful participation in society. Self-efficacy is critical for mastery in the school environment and the wider social environment. According to him, individuals possessing high self-efficacy at academic task mastery will perform more successfully than individuals lacking academic self-efficacy and will also perform better at activities outside the school environment. Thus, those who come to school cognitively prepared will likely be successful in school, and their academic success will increase their academic self-efficacy and motivate them to continue to do well. For those students who enter the school setting with low academic self-efficacy, however, their school experiences will likely serve to further decrease their self-efficacy and impede their development, leaving them ill-prepared for the future. Thus, while educational practices such as competitive grading and ability grouping may serve to enhance the self-efficacy of students already possessing high levels of academic self-efficacy, these practices can also decrease the self-efficacy of students entering school with low academic self-efficacy. Bandura's recognition of social influences on school performance disparities makes his theory compatible with critical theorists who recognize the bidirectional influence of children's individual characteristics and social context on their school performance.

Adolescence, the next milieu in Bandura's theory, involves cognitive skills of adaptation, avoidance of health risk behaviors, and practice of forethought regarding potential career paths. The adult milieu differs markedly from the adolescent milieu in that it involves the adoption and management of social roles involving marriage, employment, and financial management. The milieu of middle years involves stabilization of self-efficacy, but this stability is often reversed in advancing age, however, as physical functioning and memory decline. For Bandura, self-efficacy can be maintained in advancing age through reliance on differing levels of cognitive processes. For example, memory functions may decline in advanced age, but levels of information integration can remain consistent and levels of knowledge and expertise may increase.

Bandura's theory of social cognition employs a pragmatic approach to cognitive functioning that has real-world applicability; it recognizes fluidity in cognitive development whereby different cognitive processes become relevant as one's social, cultural, and temporal contexts change throughout the life cycle. Social cognition theory recognizes the context specificity of cognitive processes and allows for fluidity in the development and demonstration of cognitive functioning across the life cycle. In this way, social cognition theory is compatible with postformal thought.

CONTRIBUTIONS

By presenting human beings as reflective, self-directed, and self-managing individuals capable of adapting to changing environments with flexibility and adaptability, Bandura's social cognitive theory suggests a positive view of human existence. For him, both socially appropriate and socially inappropriate behaviors result from social cognitive learning, not childhood trauma or unconscious drives and impulses. As a result, maladaptive behaviors can be altered through appropriate social modeling. His straightforward, efficient, and effective methodology for treating socially inappropriate behaviors continues to have broad application in therapeutic and criminological contexts.

Bandura suggests that maladaptive behaviors (e.g., aggression, phobias, and depressive psychological states) arise through observational learning and persist because some reward (either

vicarious or direct) is associated with the behavior. The goal of therapy, for him, is to enhance the individual's ability to self-regulate his or her own behavior in ways that are socially appropriate. He advocates therapy that changes maladaptive behavior through vicarious modeling (i.e., learner observes others successfully modeling behaviors to be adopted), cognitive modeling (i.e., learner imagines himself or herself modeling appropriate behavior), and systematic desensitization (i.e., learner performs behaviors that invoke anxiety gradually to decrease phobic reactions). The therapeutic applications of Bandura's social cognitive theory focus on small changes in behavior that can be generalized to other maladaptive behaviors in the individual.

Bandura has influenced public reform efforts as well with his social cognitive theory. He argues that the media is a symbolic environment that serves as a source of social modeling for learners. He has specifically argued that the attitudes and behaviors of children and adults can be altered through the modeling of violent television and film images. His argument for the causal link between violent media images and aggression resonated with concerned parents and educators advocating for media reform and has resulted in ongoing studies about the relationship between violent media images and aggression.

Bandura's social cognitive theory emphasizes the flexibility and adaptability of the individual and recognizes the individual capacity for planning and self-direction. Bandura's focus on individual agency and capacity for self-management makes the application of his theory particularly useful in changing times and diverse cultural settings. The far-reaching effects of globalization on society and technology have necessitated that individuals be able to adapt to quickly changing economic, social, and political environments. The application of Bandura's theory suggests that in the midst of changing times, individuals have the capacity to adapt, plan, and execute their lives in meaningful, productive ways.

Bandura's expansion of his concept of human agency to group dynamics resulted in his concept of collective agency; collective agency is the belief of groups of people in their ability to work together to produce change. This theoretical expansion broadens the application of social cognition theory to include strategies for social change.

CRITIQUES OF SOCIAL COGNITIVE THEORY

Biological theorists have been critical of Bandura's social cognitive theory, claiming that his social cognitive theory ignores the influence of genetics (e.g., individual biological states, physiological responses, differences in learning ability) on behavior. They argue that individual responses to their environment are partly genetic, and by ignoring this genetic influence, social cognitive theory ignores the role of the brain in information processing. In actuality, Bandura's social cognitive theory recognizes the influence of genetics on human behavior, but downplays this influence by arguing that social factors are a more powerful influence on behavior than are genetic factors.

HONORS AND AWARDS

To date, Albert Bandura has authored seven books and edited two additional works. In 1986 *Social Foundations of Thought and Action*, a book of his complete theories, was published. As a result of his contributions to the field of psychology, his advocacy for public reform, and his leadership and service endeavors, Bandura has received at least 16 honorary degrees and numerous awards and honors. Among his honors are the American Psychological Association Distinguished Achievement Award (1972), the William James Award from the American Psychological Society (1989), the Distinguished Lifetime Contributions Award from the California Psychological Association (1998), the Thorndike Award for Distinguished Contributions of Psychology to Education

from the American Psychological Association (1999), the Lifetime Achievement Award from the Association for the Advancement of Behavior Therapy (2001), the Lifetime Achievement Award from the Western Psychological Association (2004), the James McKeen Cattell Award from the American Psychological Society (2004), and the Outstanding Lifetime Achievement Award from the American Psychological Association (2004).

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Evans, R. I. (1989). *Albert Bandura: The Man and His Ideas. A Dialogue*. New York: Praeger.

CHAPTER 4

Jerome Bruner

THOMAS R. CONWAY

Jerome Bruner is still active today in the field of educational psychology. He has continued to evolve his ideas about learning and education in many books and articles. He made a large contribution to the development of curriculum theory during the 1950s and 1960s and is considered the leading figure of the "Cognitive Revolution" in the field of psychology. Most of Bruner's professional life has been spent in the northeastern section of the United States. During the 1970s, Bruner spent some time in England at Oxford University as the Watts Professor of Experimental Psychology. Since the late 1990s, Bruner has been a professor of psychology at the New York University of Law. During the 1960s, Bruner's ideas and theories on education had their greatest impact on the field of educational psychology.

Jerome Bruner was born in 1915 to a middle-class family from a suburb of New York City. At the young age of 12, Bruner's father died. After his father's death, Bruner moved around with his mother frequently, going to several different high schools. Bruner attended Duke University for his undergraduate degree in the 1930s and then went on to Harvard University for his graduate studies. At Harvard University, Bruner received his PhD. in Psychology in 1941. It was at Harvard that Bruner studied under the auspices of Gordon Allport, a leading psychologist of the time. Bruner's dissertation dealt with the impact of a leader's use of technology (i.e., the radio) upon people in society. Burton Weltman in writing about Bruner's work states, "his research focused on the relationship between propaganda, education, and public opinion" (Weltman, 1995, p. 223). Looking back at his work, Bruner claims his work was propelled by an obsession with Nazi Germany and ultimately dismisses the early years of his work (Bruner, 1983, p. 38).

During World War II, Bruner worked for the United States Army's Intelligence Corps focusing on issues of propaganda (Hevern, 2004). His interest in public opinion and eventually his concern about the world of education were given genesis during this era. Shortly after World War II, Bruner returned to Harvard as a professor to continue his life in the world of academia. During his early years at Harvard as a professor, Bruner began to study the concept of perception. It was at this time Bruner began to reject the notions of behaviorists and began his quest to discover what motivates people to learn. Throughout his work, Bruner found that people tended to see what they wanted to see (Weltman, 1995). At this time, Bruner began to work on studies in cognition.

It would be these studies in cognitive development that would propel Bruner to the forefront of educational psychology in the late 1950s.

Bruner took issue with the teachings of B. F. Skinner, a leading behavioral psychologist. Behaviorism had dominated the field of psychology, especially following the war years of the 1940s. According to Skinner, behaviorism addressed the following concepts: that individual nature could be managed by social nurturing; inherited traits could be countered by societal factors; and conditioning could help people learn or to be trained. For Bruner, the biggest problem with behaviorism is that it denied the capacity of human reason. Bruner believed that reason could control human behavior. He had a problem with people who conditioned other people. He felt that this type of conditioning was antidemocratic and too controlling. Bruner in his work began to write about how the right hand controlled the imagination and emotion of human beings and the left hand controlled the scientific and rational side of our thinking. The theory of the right hand and left hand led Bruner to think more about how meaning is constructed. It was with these theoretical writings that Bruner began to be noticed by other leaders in the field of psychology and eventually emerged as a leader.

The seminal event that brought Bruner to the national scene was the 1957 launching of the satellite Sputnik by the Soviet Union. This event caused fear in both the hearts and minds of liberal and conservative thinkers in America. The Cold War between the United States and the Soviet Union was in full momentum by the end of the 1950s. The 1950s has often been characterized by romantic imagery of the stable American family, but a level of anxiety and fear existed in most corners of America. The Sputnik launching by the Soviets gave a platform for people critical of American education to claim that we were behind the Soviets in mathematics and science. A national conference of leaders was convened to deal with this apparent educational gap. Bruner was the leader of the national conference at Woods Hole on Cape Cod in 1959. The conference was sponsored by the National Academy of Sciences and the National Science Foundation (Smith, 2002). It was from the discussions at the conference that the classic work *The Process of Education* (1960) by Jerome Bruner emerged. This book provided the research-based evidence that backed many new curriculum programs of the 1960s. It was during this period of time that Bruner became a leading figure in the cognitive revolution that would control the world of education during the 1960s. Bruner became a leading figure on many panels such as the President's Advisory Panel of Education, advisor to the Head Start Program, and president of the American Psychological Association from 1964 to 1965 (Smith, 2004).

The Woods Hole conference helped to usher in the New Curriculum movement of the 1960s. The New Curriculum movement ultimately was concerned with the fact that the United States did not produce enough top-notch scientists (Weltman, 1995). Course materials and teacher training in the sciences was blamed for the failure of American students, as compared to students in the Soviet Union. The curriculum that was developed from the conference would ultimately lead Bruner to develop "Man: A Course of Study" (MACOS) in the mid-1960s. The MACOS curriculum was more social-studies based and sought to answer the following questions: what makes a human being uniquely human and how did humans get to be this way. Bruner was the leading figure in the development of constructivist theories of learning. The constructivist theory of learning is concerned with how an individual constructs meaning. The consequences for education were that teachers should be concerned with how a learner is thinking as opposed to the material that is taught. In addition to this concern, a teacher must realize that knowledge is not independent from the experiences of the learner. By promoting constructivist theory of learning, Bruner is oft aligned with Jean Piaget and Lev Vygotsky.

Bruner used a similar framework for his ideas as Piaget but disagreed about absolute stages of development. Bruner's objection with Piaget's stages of development was his disagreement with what makes a child ready for an "adult concept" (Weltman, 1995). Piaget's theory of

development had become gospel during the 1950s. Education in America had become dependent upon the biologically determined stages as outlined by Piaget. Piaget argued that pushing a child too early might be detrimental to a child's learning. Thus, the system of American education was neatly divided into grade levels and according to these grade levels different concepts would be taught. A young child would not be ready for the scientific fields of biology, chemistry, and physics until the high school setting. In Bruner's work *The Process of Education,* he outlined several key concepts for learning to take place at any level. Bruner wrote two follow-up books about his theories that he outlined in *The Process of Education*. Those books were *The Process of Education: Towards a Theory of Instruction* (1966) and *The Relevance of Education* (1971).

In *The Process of Education: Towards a Theory of Instruction,* Bruner claimed that structure in learning was essential in helping a person to master concepts. Structure for a developer of curriculum is important because it helps the curriculum developer to divide a subject matter into steps. This division of subject matter helps the learner to master the new concept. According to Bruner, the use of structure in education helps to make a student's learning more efficient, useful, and meaningful (Weltman, 1995). In Bruner's *The Process of Education: Towards a Theory of Instruction,* he defines that structure is needed in order to understand the larger body of knowledge. Structure does not necessarily include a list of basic facts or details that a learner must memorize. For Bruner the understating of subject comes from understanding the main concepts. Discovery learning uses this principle. A student in a discovery learning setting does not simply memorize the teacher's explanations of topics but instead works through examples to learn the subject's structures.

Bruner criticized that American education wasted too much time in delaying concepts that a young learner may be ready to comprehend. His term for readiness was the idea of a spiral curriculum (Smith, 2002). A spiral curriculum should always revisit ideas and build upon them until a learner has grasped the bigger picture. Within this spiral curriculum, Bruner's concept that intuition is a key element in the learning process was important. A learner can start with a hunch and then explore that hunch to validate if their intuition was correct. It is this stimulation of intuition that allows for "any subject [to] be taught effectively in some intellectually honest form to any child at any stage of development" (Bruner, 1983). For Bruner a learner could make a guess at the structures before there was a need to rationalize about them. In his writings he compares this to the way scientists often make their discoveries. A scientist makes an observation about a human characteristic. The scientist then makes an intuitive guess as to the origins of this characteristic. Finally, a scientist must conduct an experiment to determine if the guess was correct. Therefore, Bruner in his writing and thinking makes the following statement: "The schoolboy learning physics is a physicist" (Weltman, 1995, p. 196). Lastly, Bruner states that a learner must be motivated to comprehend a concept and external elements, such as grades, rarely help a learner master a concept. Discovery is important for a learner to acquire new knowledge. Through a learner's own cognitive efforts, they can relate the new material to concepts they have learned before.

In developing these theories about instruction, Bruner worked with children in much the same way as Piaget did in his studies. Later in the 1970s, Piaget was critical of Bruner's theory and Piaget rejected the idea that anything can be taught to anyone at any age. Bruner observed several stages that a child goes through in discovering and learning concepts. A child comes to master their world by going through each stage. For Bruner, these stages are not absolutes. There are no boundaries or time limits with a stage, but in order to master a concept all three stages must be used. The three stages are known as enactive, iconic, and symbolic.

The first stage that Bruner defined was the enactive stage. A young child best understands their environment by interacting with the objects around them. A child is not using words or imagery at this level. At this level the objects around a child are used to help them make sense of their world.

An observation often noted by parents is that an infant or toddler often seems more fascinated by the box a gift came in as opposed to the actual gift. In this stage of learning, a child will play with coins and paper money in order to begin their understanding of currency. The second stage a child encounters is called iconic. At this level a child begins to make perceptions of their world. Visual memory begins to be developed by the child. Continuing with the example of currency, a child can begin to look at pictures of coins and money and make the connection of their values. Many children's books are filled with pictures of objects. Sometimes a child might not be able to touch or see an elephant first hand but through the iconic representation of an elephant in a children's book about circuses, a child has an interaction with an elephant. Icons are presented to the child or developed by the child on their own. The third stage is called symbolic. At this point the perceptual way of thinking gives way to symbol systems, such as, language, words, and numbers. The symbolic stage allows for concepts to become compacted in the learner's mind. Using the symbol of the dollar sign (i.e., $) in their writing will trigger for the learner their understanding of the concept of currency. Sayings such as "a penny saved is a penny earned" begin to carry meaning for the learner on the symbolic stage because of having mastered the concept of currency.

Children learn a subject matter by moving through the stages of enactive, iconic, and symbolic. The symbolic stage becomes the dominant level of learning for most people. In teaching a new concept it makes sense to use the order of the stages. However, a teacher of mathematics might realize that a student may conceptually understand the concepts of geometry but may still fall back on the iconic stage in order to work out the geometric problems. Using Bruner's theory, knowledge becomes a process in which a learner takes part in the construction and develops comprehension. Bruner wrote in *The Process of Education* that "the task of teaching a subject to a child at any particular age is one of representing the structure of that subject in terms of the child's way of viewing things" (Bruner, 1960, p. 33). The focus on the learner is very important. Thus, Bruner's theory is very student-centered. Anyone can learn any concept as long as the enactive, iconic, and symbolic terms are developmentally appropriate.

Bruner became a leading figure in America during the 1960s. After the assassination of President Kennedy in 1963, Lyndon Johnson took over as president and during his 1964 campaign looked at Bruner's concept of the Head Start program. Bruner conceived of Head Start as a way to bridge the cultural differences between the upper and lower classes of American society. Also, Bruner conceived of Head Start as a test of compensatory education (Weltman, 1995). President Johnson decided to use the Head Start program in his War on Poverty campaign. Bruner acted as an advisor to this program (Bruner, 1983, p. 152). The other major contribution to curriculum development and educational psychology during the 1960s by Bruner occurred with the development of MACOS starting in 1962.

The curriculum of MACOS was aimed at 10-year-old students, who were at the beginning stages of symbolic thought. MACOS was designed "to promote the social sciences rather than history, and structural concepts and values instead of facts" (Weltman, 1995, p. 248). The course came prepackaged with multimedia materials that a student would use to discover the concepts. Teachers needed to be extensively trained in order to use the program. The project received funding from the National Science Foundation. Between 1964 and 1967 the materials and course curriculum were tested effectively in volunteering school districts. The course was well received by students and was considered well designed by Bruner. The course emphasized discovery learning and critical thinking in interactive classroom settings. The students were not graded on their learning experiences in order to provide a stress-free environment (Weltman, p. 251). In the early 1970s a backlash against MACOS began to appear around the United States. Conservative parents in several states challenged that the program had a liberal bias and was inappropriate for their children. In particular some parents were concerned with the graphic presentation of

Eskimos seal hunting. Eventually, the controversy over the MACOS curriculum found its way to the United States Congress. Beginning in the 1970s, the National Science Foundation had to submit to the Congress for reviewing all project curriculums under budgetary consideration. As a result, MACOS lost funding and began to be removed from the many schools that adopted the curriculum. In the 1970s, Bruner's theories began to receive criticism from across the political spectrum. Left, right, and radical writers in the field of educational psychology attacked the writings about cognition by Bruner. Shortly after the failure of the MACOS project, Bruner left the United States and began his tenure at Oxford University.

Bruner continued to develop his theories about learning in many books and novels. In his later writings, Bruner became very critical of anti-intellectualism found in public opinion. One of Bruner's concerns in education had been how to bridge the gap between the "high brows" and "low brows" by developing a higher level of culture for all groups (Weltman, p. 259). Bruner wanted children to think like a scientist and thereby causing the child to appreciate the field of science. Bruner's work helped psychologists to see the child as a social being and not as a being who developed in isolation. Bruner's original theory of the child as an active scientist has changed over the years with his growth as a scholar. His concerns and writings have been focused more on the social activism and cultural studies. In his writings today, Bruner can be viewed as a poststructuralist. He has moved away from the formalism in his earlier writings and now tends to analyze statements and writings as forms of narrative text. Bruner continues to write about the link between psychology and education. His latest concern is with cultural psychology and its impact on education.

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CHAPTER 5

Judith Butler

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Olson and Worsham quoted Butler as stating,

> For me, there's more hope in the world when we can question what is taken for granted, especially about what it is to be a human . . . What qualifies as a human, as a human subject, as human speech, as human desire? How do we circumscribe human speech or desire? At what cost? And at what cost to whom? These are questions that I think are important and that function within everyday grammar, everyday language, as taken-for-granted notions. We feel that we know the answers.

WHY BUTLER?

Judith Butler is a very well known theorist of gender, power, sexuality, and identity. Many academics are introduced to Butler in graduate school, thus she has been described as "one of the superstars of '90s academia, with a devoted following of grad students nationwide," according to the Web site theory.org.uk. I fell in love with Butler while I was doing my dissertation; her theories on the aforementioned were fascinating (which we will get to later) and in my opinion could help the educational system become stronger. Butler's theories fall directly in line with postformal thinking. The definition of postformalism that I work from has been set forth by Joe Kincheloe, Shirley Steinberg, and Patricia Hinchey in this important book, *The Post-Formal Reader*: "Post-formal thinking is concerned with questions of meaning, self-awareness, and the nature and function of the social context. . . . Post-formalism grapples with purpose, devoting attention to issues of human dignity, freedom, power, authority, domination, and social responsibility" (1999, pp. 21–22). In thinking through this lens it couldn't be more obvious that Butler fits so nice and neatly within it, although Butler would hate the idea of anything fitting nice and neatly into a box.

Although Butler's main interest and passion resides with gender, power, sexuality, and identity, many crossovers can be derived from these and used to improve our educational system. Once we understand Butler's train of thought we can use the same reasoning and apply it to the many aspects of schools today in order to change what is a purely mechanistic system with all of its testing into a postformalistic system in which each student has control of their own learning.

BUTLER'S PASSION

A true Hegelian at heart, Butler has been influenced by Hegel before she even wrote her dissertation. Thus, Hegel himself is still influencing us, but through Butler's works instead of his own. In all of Butler's books she asks questions about the formation of identity and subjectivity. She traces the process of becoming through existing power structures and asks questions of those power structures, as stated by Sara Salih in her profound book, *Judith Butler*. Butler loves to ask questions, but rarely provides us with answers to those questions. Many find Butler's works in and of themselves to be a process of becoming.

Butler's best known work to date, which has also been regarded as her most important book, would have to be *Gender Trouble* (1990, 1999). In *Gender Trouble* Butler introduces us to the concept of gender as performativity, which she states is very different from performance. According to Butler the word "performance" denotes the existence of a subject, whereas "performativity" does not. This does not mean that there isn't a subject, but instead it may be behind or before the action in question, which was and still is a radical way of discussing gender identity. The performativity is created, as Butler states, through the social or the macro. The environment in which one is in helps shape one's gendered identity. Whereas each environment is different, one can perform gender very differently within each of the various environments. According to Butler, gender is something we "do," not something we "are." Butler's approach to gender identity has been said to come from Simone de Beauvoir's (1949) highly controversial book that was ahead of its time, *The Second Sex*, in which de Beauvoir states, "One is not born, but rather becomes, a woman. No biological, psychological, or economic fate determines the figure that the human female presents in society; it is civilization as a whole that produces this creature, intermediate between male and eunuch, which is described as feminine" (p. 281). Butler agrees in this sense of becoming, not born of or into, but instead of a process. She sees gender as what she has called an "artificial unity," where people are thrown together because of either their XX or XY chromosomes, as she states in her book *Gender Trouble* (1999, p. 114). Gender is an act or many acts put together, which is always occurring and reshaping or reinventing itself. For Butler, gender is produced, not a natural and definitely not a constant.

Butler also stated in *Gender Trouble* that feminists should not look at gender and the power structures that are produced and restrained by it in order to emancipate oneself, but instead understand how the category of "woman" is produced and for what political purpose (p. 2). In her book *The Psychic Life of Power*, Butler (1997) states that how we become our gender is by submitting to power (p. 2). She believes that the power structure itself gives us power and in order to change what power we have we must first change the system. Power forms our becoming and we in turn form power; it is very fluid. Just as Butler did not like the term "performance" when dealing with gender identity because it denotes the presence of a subject she also uses this idea of a non-preexisting subject in her ideas of reshaping power systems. Since we do not preexist, but instead become—or construct our own identities—Butler believes that it is possible to subvert oppressive power systems and recreate them into emancipatory systems.

In order to reshape power, thus reshaping reality we must reshape language, according to Butler. When Wittig (1992) stated in his book, *The Straight Mind and Other Essays*, that "Language casts sheaves of reality upon the social body, stamping it and violently shaping it," Butler agreed (pp. 43–44). In *Excitable Speech* (1997) Butler noted that we can turn words in our language that have negative connotations into ones that have positive connotations. We can embrace the term "woman" or "feminine" even when others are using it as negative. We can redefine what these terms mean and in turn how they should be used.

It is no secret that some do not like or agree with Butler, but no one can deny the fact that she has influenced and had a huge impact upon many different critical and theoretical fields. In Shildrick's

opinion, in his chapter on Judith Butler in Brown, Collinson, and Wilkinson's book *Blackwells Biographical Dictionary of Twentieth-Century Philosophers* (1996), Butler's theorizations of performative identity are indispensable to postmodern feminism. McNay agreed in his article "Subject, Psyche & Agency: The Work of Judith Butler" in volume 16 of the journal *Theory, Culture & Society*, when he stated that Butler has "pushed feminist theory into new terrain" (1999, p. 175). Whereas Dollimore (1996) stated in his article "Bisexuality, Heterosexuality, and Wishful Theory" in volume 10 of the journal *Textual Practice*, that Butler is brilliant; he also found her to be "hopelessly wrong" (pp. 533–535). Whatever opinion you may have of Judith Butler I am sure you have not seen or heard the last of her. As Butler states herself in *Contingency, Hegemony, Universality: Contemporary Dialogues on the Left*, which she coauthored with Laclau and Zizek, she has not "fallen asleep on the job" (2000, p. 269). She will continue to discuss the "politics of discomfort," as Salih has so eloquently stated in her book *Judith Butler* (2002, p. 151).

BUTLER APPLIED TO EDUCATION

In our schools today we have curriculums that are dictated by standardized tests, thanks to No Child Left Behind (NCLB), which I'm sure Butler would agree should be renamed All Children Left Behind. Testing, now more than ever in our history determines the educational purpose for each child and school. Everything revolves around the test!

From studies we know that certain "types" of students do poorly on standardized tests namely any child who is the "other," which is based on a concept by Michel Foucault in his best-selling book *The History of Sexuality*; which includes anyone who is not an upper/middle class, white male. Many children learn one thing from this constant testing—they are stupid, they are not as good as the other children, and they will not amount to anything in life. We then label these students as "special needs," which Butler would disagree with altogether. Putting anything into a tight, neat category is an injustice, according to Butler, but that is what our current system does to children whether they do well or do poorly on the tests. This is not just an injustice for those who don't do well; it is also for those who do well. They are being set up for failure right from the start, they might not be able to live up to the expectation that others have of them from their tests scores. This "artificial unity," as Butler (1999) has deemed it in her infamous book *Gender Trouble*, is a result of standardized testing. Students are grouped into categories dependent upon how well they did on their tests. In this group the only thing that they have in common is their test score range, which makes it an "artificial" group.

And whose knowledge has been deemed the "official knowledge" as to put children into these "artificial" groups? Butler knows that the "knowledge" on the standardized tests and the "knowledge" that is being deemed important in class is not the "others" knowledge, but instead an elitist knowledge. It is a Eurocentric, patriarchal knowledge that has been deemed important and "best." The tests that every student must take are nothing more than an attempt to brainwash and perpetuate white supremacy. The "others" or outsiders as some may call them are expected to conform, or they will be banished from the elitist system. Isn't it ironic that the public school system that Horace Mann and Henry Barnard, and later John Dewey, set out to create with their idea of the universal schooling for all, a system where ALL students could receive an education and be valued, has turned full circle into what they were trying to get away from in the beginning. If lawmakers had it their way, every child who is not the "norm" (aka a white, upper/middle class male) would not be allowed to attend public school. Instead of honoring each individual, as Butler would have, we have instead honored who we deem worthy. So it then becomes a case of those who do poorly on the tests are obviously unworthy.

Butler believes that there is no "right" and "wrong," there are no binary oppositions, instead everything is fluid because things change with the social. In other words the micro changes

along with the macro; each has an affect upon the other and each changes and is changed by the other. Interpretation is the key, according to Butler. Everything is up to interpretation. It is this interpretation that tells each of us what the world around us really is; it explains our own reality—knowing that there is no such thing as one "true" reality, but instead multiple realities, each being shaped by our interpretation of the macro. What Butler believes forms our interpretations is our culture, our social, and our environment in which we have been brought up and in which we currently live. So, again our interpretations are fluid as well, the micro and macro both play a part of forming each other's "realities." Which is why minorities (and I mean ALL types of minorities: race, creed, color, culture, gender, sexual orientation, etc.) do not do well on standardized tests because their "realities" are not the same as the white guy who made the test. What may be important to Mr. White Guy may not be, and probably isn't, what minorities deem as important. Instead of having children create their own realities, as Butler would have done in schools, NCLB has mandated that every student conform to the "right" and dominant reality.

When Butler stated that we could change reality and thus the power systems that operate within by changing the language, I believe she must have known that this would hold true for education as well. The power in our educational system, much less our country, is in the hands of the "elite," or what society has deemed elite—the Eurocentric, upper/middle class male, and in accordance with that falls the language we are to use, the "proper English" we are to teach our students. In order to change this power system, the system that thinks the answers to all our problems are in tests, we must change the language. A great place to begin this transformation is in our schools and classrooms. We concentrate on test scores for individuals and make sure that each individual child listens and memorizes, instead of coming together to learn from one another. Since there is no "I" in gender as Butler (1999) has stated in *Gender Trouble*, I would like to take it one step further and state that there is no "I" in education (p. 145). Gender is a performance, fluid and free, it changes as its environment changes, so should education.

In college I took a variety of subjects and courses. Some of which were standard banking system approaches to learning, while others were far greater than anything I could have imagined; classes where I was allowed to be free, to challenge myself, and educate myself. I was allowed to disagree with those philosophers, theorists, and scientists that many would say were "the greats." I learned from those around me through projects and discussions, some of which were very heated, but what is wrong with that. I became a more well rounded, better educated, and a more critical person through my discussions and dealings with different types of individuals, individuals who had been previously silenced in my educational world because their knowledge was not deemed worthy in my school. But why did I have to wait until I was in college to have these educational experiences? Why couldn't I have had them in preschool? Butler would agree that the reason I didn't was because it is too risky for those "elite" to have people think for themselves. If I had said the things that I did or gave the opinions I gave while I was in college during my K-12 education I would have been punished, just as Butler (1999) says we are punished for "doing" our gender "incorrectly" or against the status quo, in her book *Gender Trouble*.

With standardized testing, and NCLB in the larger context, there is always a right and a wrong, a correct way and an incorrect way, which is of course based on Eurocentric, patriarchal values. There is no interpretation, only the following of a set script, which ensures upper/middle class whites succeed and others fail and pushing those who do "fail" into trade schools or worse pushing them out of school altogether. Our country's lawmakers and those specifically behind NCLB's purpose would have to be to ensure our country has white, male CEOs and minority McDonald's workers, if they are even lucky enough to get that job in these trying times.

I'm sure Butler would agree that NCLB has begun and encouraged others to believe in the propaganda that they have been trying to "sell" for quite some time now. In my opinion, just as the Nazis unleashed their propaganda against the Jews in order to demoralize them and bring their

status as seen by the rest of the world down to lower than animals; NCLB is trying to do the same thing to all those children who do not fit the "correct" profile—white, upper/middle class male. All of those who do believe that standardized tests are correcting the problem are inadvertently following and perpetuating the aforementioned propaganda—the NCLB propaganda.

Butler believes that we need to empower those who are being disserviced under our current system. Instead of using what many deem the "filing cabinet system" where teachers impart wisdom, knowledge, or intelligence (whatever you want to call it) onto the students, thus mandating that they file it to memory so it can be spit out later on a test, we should actually help each other create knowledge. In this model teachers and students are all active participants, none no better than the rest. Again, they work together and learn from each other's "realities." They come into contact with "others" knowledge and grapple with it (which is part of the postformal definition used earlier) in order to interpret it for themselves in accordance with some other knowledge that they have previously interpreted and which has become a part of their own created identity. Together everyone will derive meanings of things in their own way, no right and no wrong. People just might even open their minds a bit.

Butler once spoke of an incident that happened to her in an interview she gave to Olson and Worsham (2000), which appeared in volume 20 of *The Journal of Composition Theory*, that speaks to this point of learning from each other. While she taught at Berkeley a student asked her if she was a lesbian. He asked it in such a way to make sure she knew that his definition and ideas of the word "lesbian" were negative. She did not let this deter her though. She saw this as an opportunity to educate him about her definition of the word "lesbian." She replied that she was indeed a lesbian and she said it without shame or humiliation, which stunned the student because he was obviously looking for a shameful, humiliated reaction. Butler stated, "It wasn't that I authored that term: I received the term and gave it back; I replayed it, reiterated it . . . It's as if my interrogator were saying, 'Hey, what do we do with the word *lesbian*? Shall we still use it?' And I said 'Yeah, let's use it *this* way!' Or it's as if the interrogator hanging out the window were saying 'Hey, do you think the word *lesbian* can only be used in a derogatory way on the street?' And I said 'No, it can be claimed on the street! Come join me!' We were having a negotiation" (p. 760). This of course is a very risky conversation to have according to the higher powers that run our country's educational system, but these are the kinds of conversations we need to be having, instead of having a mandated curriculum that makes children memorize "facts" (and I use that term loosely) and spit them out again on a test.

In education we need to discuss and learn from one another. We need to discuss those issues that have been deemed "taboo" in our culture, how else are we to move past them? How else are we to emancipate ourselves, change the power system, and thus change ourselves? This is real education, the type that will never occur under the NCLB legislation because it would disrupt the current macro system and that of course would just be too risky. Call me a dreamer, and maybe it is because I believe in Butler's passion, but I believe that we can have an educational system that has a positive, lasting effect upon society instead of the negative one we are now perpetuating and endorsing with our current educational system's legislation. I believe in an educational system that wipes out injustice and empowers those who are currently considered "others." We know how and what to implement in order to make this dream a reality, Butler has put forth many ideas that would help us achieve our goal, we just need to do it now.

Just as Butler loves to ask questions, we need to begin to ask questions of our educational system. We need to look at what is working and what is not working, what is damaging our children and what is empowering our children, what can help us and our descendants have a bright future, and what is keeping all of us from that future which unless we change will never be attained.

CHAPTER 6

John Dewey

DONAL E. MULCAHY

In his lifetime, John Dewey not only achieved prominence in the fields of psychology, philosophy, and education but very significantly shaped new thinking in all three. As is evidenced by the attention given in current debate to issues of assessment and testing in schools, of the insights he shared, none are more contentious and of continuing relevance today than his work in the field of educational psychology.

INTRODUCTION

From quiet, humble beginnings, and even self-doubt, John Dewey's long and highly decorated career leaves him remembered as one of the greatest thinkers of the twentieth century and a towering figure, alongside Plato and Rousseau, in the field of education. Throughout, Dewey remained a man of admirable personal qualities: a devoted husband and father, a source of succor and comfort to society's marginalized, a defender of citizens' and workers' rights, and a person of modest demeanor who dealt as nobly with pain and loss in his personal life as he did with fame and recognition. In his own life he exemplified his philosophical convictions: that theory is meaningless without action, that reason and emotions are interwoven, and that knowledge and intelligence are to serve living. Ever the pragmatist, Dewey also believed philosophy should be used to serve both education and social betterment.

As an educational psychologist, Dewey found himself at odds with many of his contemporaries. He understood the human mind to be in need of cultivation. He believed that one's mind is constantly striving to make connections from lived and learned experiences to new encounters and information. Of utmost importance to one's ability to learn, thus, was the relevance of new information or concepts. In believing that we learn in order to live, Dewey believed that the child's interest or impulses must be the starting point for the school curriculum. If the child perceives no importance or purpose in the activity undertaken, the child will not only be less willing but less capable of learning from the activity. Relevance, purpose, and connection of the curriculum to the student's immediate daily life, Dewey felt, was crucial to a democratic and psychologically sound approach to school. In opposition to such an approach were the likes of G. Stanley Hall and David Snedden who saw school as serving the purpose of creating a unified,

monocultural, socially efficient school and society. He also stood in opposition to the ideas of the famous educational psychologist of the day, Edward L. Thorndike.

It could be said that the scientific approach to education, conceived and developed by Edward L. Thorndike, has had the most profound and lasting impact on educational psychology and the urban school. In contrast to Dewey's understanding that one makes connections from one experience to another, and his view of the need for an individual to internalize and construct understanding, Thorndike held that students learned through response to stimuli. His "laws of learning" assumed children would learn only in response to punishment and reward. He also believed that what was learned in one context was not transferable to another. The need, therefore, for subjects such as Latin and the mental discipline that it nurtured, no longer existed. The notion of mental discipline as a concept was seen as mythical. Thorndike went on to create IQ tests and aptitude tests and many more mental tests to separate and track the intelligent from the unintelligent and the academic from the worker.

In *Left Back* Diane Ravitch, notes that this "mental testing was the linchpin of the scientific movement in education." The standardized test that remains with us today came from this period, the first created by Thorndike himself and his colleagues at Teacher's College. While most schools across the country used the tests as a convenient and easy method of sorting students, many critics at the time saw the danger of their misuse. According to Ravitch these critics warned that "the 'norm' on the new tests might be mistaken for a standard, when it was only a statistical average of those who had taken the test." Today we see the legacy of mental testing. It is a legacy that has left many believing one's intelligence is fixed and measurable. Thorndike's many textbooks and the administrative Progressives' desire for vocational schooling and a centralized school system all helped engrain such a notion in the generations of teachers and university professors that followed. Psychologists turned to the simplicity of testing to track students in the service of society, rather than engage, as would Dewey, a deeper and more complex psychology that recognized the cognitive process as a whole.

These views would lead Dewey to make highly significant contributions to the fields of philosophy, psychology, and educational theory, as we shall see. No less important was their challenge to widely accepted psychological beliefs of the day and their implications for theory and practice of education. Of particular interest here is the manner in which Dewey sought to democratize the notion of intelligence itself by challenging these beliefs and the way in which they shaped schooling to perpetuate existing social and economic inequalities. This he would do by emphasizing the importance of lived experience as the basis for future learning and attempting to give to all students the opportunity to bring their particular experience to bear upon the social, economic, and political issues of their own day. There is no better way to come to an appreciation of the persistent optimism of Dewey's thought and his constructivist stance on these matters than by understanding his early career and his social activism.

FORMATIVE INFLUENCES

Born in Burlington Vermont in 1859, John Dewey began his professional career as a rather shy young schoolteacher after completing his graduation from the University of Vermont in 1879. Having spent some 3 years teaching, in 1882 he entered graduate studies in philosophy at the Johns Hopkins University in Baltimore. Following the completion of his PhD in 1884 he accepted a teaching position in the philosophy department at the University of Michigan. In 1894 he moved to the University of Chicago as a professor of philosophy and head of the Department of Philosophy, Psychology and Pedagogy. Dewey founded the Laboratory School at the University of Chicago where he worked closely with his wife. After a disagreement with the university authorities related to the running of the Laboratory School, in 1904, Dewey moved to the New

York City and the Department of Philosophy at Columbia University, where he remained until his retirement in 1929.

Though known to many in education as the "father of progressivism," it was as a philosopher and psychologist that Dewey first gained widespread recognition. At Chicago and Columbia, and even following his retirement, however, he was deeply involved in a variety of social, educational, and political undertakings, becoming in many ways as much a social activist as a philosopher. While still in Chicago, alongside his innovative work with the Laboratory School at the University of Chicago, he was also active in a number of social causes. Perhaps most notable among these was his work with Jane Addams in conducting the affairs of Hull House. Hull House was a settlement house for those, including immigrants, dislocated by the rapid social, industrial, and technological changes of the era.

Following his move to New York, Dewey became a founder member and the first President of the American Association of University Professors in 1915. In addition, he was a charter member of the Teachers Union (TU) in New York City and later the New York Teachers Guild. Dewey was also active in the "outlawry of war" movement after the World War I. He held office in a number of civic organizations such as the American Civil Liberties Union, and he helped found the New School for Social Research. During the 1920s he lectured in countries around the world including China, Japan, Mexico, Russia, and Turkey. In 1937 he traveled to Mexico City while serving as the chairman of the commission of inquiry into the charges brought against Leon Trotsky.

To know of these varied practical involvements by Dewey aids in understanding a fundamental feature of his thought in philosophy, psychology, and education, namely, the interplay of thought and action, of experience and reflection, of science and philosophy, of education and psychology. It also explains why Dewey's thought has come to be seen today as contributing to a serious critique of contemporary psychological theory in education. In educational terms these aspects of his approach were exemplified in the Laboratory School at Chicago. The teachers in the Laboratory School were charged with the continuous search for more effective ways of teaching. Here ideas and theories from psychology and philosophy were put into action to assess their effectiveness and reliability in improving schooling. Following observation and further reflection, refinements could be made and educational reform placed on a more scientific footing. This interplay between the scientific method and human cognition as Dewey perceived it is the central focus of his book, *How We Think*. In this book he is concerned with coming to understand the complete act of thought and he envisions the book as a sort of guide to understanding how we come to know. By contrast with the educational psychology of his time, Dewey strongly believed that individuals come to understand the world they encounter in a unique way. As Joe Kincheloe notes in *Rethinking Intelligence*, Dewey realized that only in relation to "lived context can individuals aspire to cognitive growth because higher thinking always references some lived context." As a basic philosophical stance, he believed that to remove context was to remove relevance. School, therefore, must be of relevance to the child's present day life, and school activities should connect to the everyday needs and actions of the students. For school to disconnect prior experience and daily life from the classroom, he believed, was to render school in many ways useless. His characterization of how we think also reveals how Dewey placed great faith in the capacity of human beings to think and reason.

Of all his practical involvements, however, Dewey's interest in and association with the progressive education movement is the one that most impacted his work as an educational theorist. Although he was never an official spokesman for the movement, and on occasion felt compelled to point out the errors of its ways—most notably in the publication of *Experience and Education* in 1937—he was often associated in the public's mind with many of the movement's weaknesses and excesses. Interestingly, in the judgment of historians he is generally held in high esteem.

Indeed, the ideas and ideals of Dewey have been claimed by traditionalists and progressives alike, a testament, no doubt, to his insight into the educational, psychological process. This being so, it may be helpful to introduce Dewey's thoughts on education by way of an organizational framework that identifies a number of the key concepts that may be said to characterize progressive educational theorizing in general. In doing so it will assist in highlighting the distinguishing features his educational thought while drawing on his philosophical ideas to elaborate where necessary.

ORGANIZING PRINCIPLES OF PROGRESSIVE EDUCATION

In his book, *Issues and Alternatives in Educational Philosophy*, George R. Knight has identified the following six principles that can be used to characterize progressive educational thought: (1) The process of education finds its genesis and purpose in the child; (2) pupils are active rather than passive; (3) the teacher's role is that of advisor, guide, and fellow traveler rather than that of authoritarian classroom director; (4) the school is a microcosm of the larger society; (5) classroom activity should focus on problem solving rather than on artificial methods of teaching subject matter; (6) the social atmosphere of the school should be cooperative and democratic.

The process of education finds its genesis and purpose in the child. Although Dewey would never approve of efficiency models in education either in his own time or today, he did express the need for a social vision in schooling. Above all, he believed most clearly in the centering of the curriculum around the child. Where proponents of social efficiency like Philbrick said school was about the imposition of tasks whether or not the child liked it, Dewey argued that tasks without a known purpose reduce one's desire to complete that task successfully, and to fight a child's nature is counterproductive. He says, in *The School and Society*, that one should "begin with the child's ideas, impulses, and interests" and use those to direct the child's education.

For Dewey, the starting point in learning and in teaching is a problem felt by the child, as distinct from a need or desire felt by the teacher or the community to pass on information about a topic considered important to any particular body of knowledge. Knowledge, he wrote, was of no educational value in itself but only insofar as the child could benefit from interacting with it. This, of course, is in stark contrast to the view of educational psychologists such as Thorndike who believed knowledge transfer from one experience to another was not possible. As Dewey colorfully put it, the fact that we do not feed beefsteak to infants does not mean it has no nutritional value. It simply has none for infants who are not ready to consume it. Similarly with knowledge and the psychology of the student: in and of itself information is of no educational value until the child is ready to benefit from interacting with it. At the same time, he was keen to emphasize that responding to problems of inquiry encountered by the child could be the very means of bringing him or her into contact with important bodies of knowledge. Rejecting what he considered the faulty either/or dichotomy between child and subject matter, in *Experience and Education.* Dewey argues that a continuum could be constructed from the incomplete and unorganized experience of the child to the highly organized and abstract knowledge of the adult world represented by the teacher and housed in the academic disciplines. The teacher's job was to introduce this knowledge to the child in accordance with his or her interests and level of prior experience or knowledge—just as a child's diet is gradually strengthened as it grows and is capable of digesting more adult foods. This would be done through the "progressive organization of subject matter." Hence Dewey emphasizes on method.

Pupils are active rather than passive. Central to method in Dewey's view is the recognition that children are naturally active rather than passive. Writing of the nature of method in *My Pedagogic Creed*, according to Ronald F. Reed and Tony W. Johnson, Dewey said, "the active side precedes

the passive in the development of the child-nature . . . the neglect of this principle is the cause of a large part of the waste of time in school work. The child is thrown into a passive, receptive, or absorbing attitude. The conditions are such that he is not permitted to follow the law of his nature; the result is friction and waste." The admonitions of Rousseau notwithstanding, when Dewey began his work in education, the 3 Rs and the classical liberal arts subjects dominated the curriculum, and both schooling in general and teaching in particular were highly regimented and authoritarian. Teachers were believed to possess knowledge and it was their job to ensure the child received that knowledge. As populations exploded in cities across the United States and schools were overwhelmed with new students, authoritarian and socially efficient schooling assumed its role as problem solver. In Dewey's opinion, however, this approach ran counter to the learning process and the psychology of the child. Dewey searched for a new, alternative approach. He sought a curriculum that would put the primary focus on the child's needs, and the natural dispositions, and ways of learning of the child rather than on predetermined sets of information that were disconnected from the everyday life of the child. Understanding that the educational psychology of his day was in support of the authoritative, behaviorist approach to school, he spoke out in opposition pointing out that such an approach did not encourage what he called "cognitive inventiveness" but rather worked to shut down the mind of the child.

Drawing on how he envisions a young child's learning taking place naturally in the home—the natural psychology of the child—Dewey suggests that just as participation in household tasks becomes an occasion of learning in the home so also in the school setting can activities lead to learning. In the school, moreover, it could be done more systematically. In *The School and Society* Dewey points out that, once again, the starting point for learning would be the activities of the child: "The child is already intensely active, and the question of education is the question of taking hold of his activities, of giving them direction. Through direction, through organized use, they tend toward valuable results." It then becomes the role of the teacher to guide such activities toward valuable ends.

The teacher's role is that of advisor, guide, and fellow traveler rather than that of authoritarian classroom director. For Dewey, the teacher is a facilitator rather than an instructor. He or she must start with the child's impulse and, as described in the excerpt above, guide the child through its own discovery and learning. Here he is careful to point out that engaging in mindless or merely indulgent activity by the child does not lead to worthwhile learning. He says that we must not "simply humor" a child's interest. Rather, when confronted with "the world of hard conditions," that interest or impulse must accommodate itself, "and there again come in the factors of discipline and knowledge." With organization of equipment and materials the teacher can be a true guide and fellow traveler toward knowledge. This Dewey explains with reference to an example drawn from the Laboratory School where the teacher led children to explore and discover based on a lesson centered on the cooking of eggs. When one boy asked to follow a recipe the teacher responded by saying that doing so would not enable them to "understand the reasons for what they were doing." Instead the class reviewed the constituents of the egg, how eggs compared to vegetables and meat, and then experimented with cooking the egg in different water temperatures. The point being, for a child simply follow directions—drop the egg in boiling water and take it out after three minutes—"is not educative." To "recognize his own impulse" and come to understanding, is indeed educative.

While the teacher may be a guide, and must be responsive to the progressive organization of subject matter, the teacher must also be a follower: a follower of the child and, importantly, a follower of how the interests and concerns of the child are related to how he or she learns to become an independent learner and knower. For Dewey, this process followed a logically discernible course and was considered so important for the teacher that he presented the idea in a form specially written for teachers in *How We Think*. It is an aspect of Dewey's educational

psychology that is closely linked to his general philosophy of pragmatism, and to its epistemology in particular. It also has implications for both the methodological and for the curricular aspects of education.

As was said earlier, in *How We Think* Dewey explains the process in which we come to know with reference to what he termed the complete act of thought (CAT). It is a psychological process that reflects the influence of scientific method and Dewey's view that living precedes knowing. That is to say, we do not live in order to know but rather know in order to live. This understanding again points up the importance of school activities being relevant to the child's present life for if new information does not relate to it, the child's mind perceives it as being of no use. The complete act of thought is set out by him as a five-stage process. In stage one a person encounters a problem in living that appears as an obstacle to be dealt with if progress is to be made. In the second stage, one moves beyond initial bafflement, identifies the particular obstacle or problem to be dealt with, and engages in an initial reflection upon the problem. Steps are taken to ascertain the circumstance in which the problem arose, its likely causes, and how it should be dealt with. In the third stage, there is reflection on the most likely answer or solution to the problem during which time the individual ponders a possible range of solutions and frames some tentative hypotheses. This leads to a fourth stage in which a hypothesis is chosen—following more prolonged and systematic reflection on the likely consequences of a given action. Stage five consists of putting to the test the chosen hypothesis in order to see if it holds up by solving the problem that has been encountered. If the hypothesis holds up—if it works—it is deemed to be true, or as Dewey preferred to put it in *How We Think*, the hypothesis is treated as "a warranted assertion." If it does not work, it is not deemed to be true and another hypothesis must be chosen.

Classroom activity should focus on problem solving rather than on artificial methods of teaching subject matter. If the complete act of thought represents the way we think and come to know, it is important that teaching and learning in the classroom should follow a similar sequence and begin with problems encountered by the child. Drawing from Kilpatrick, Dewey developed the idea that problem solving was an integral part of a child-centered curriculum. Such an approach works with the natural psychology of the child. It develops social skills, cooperation, and discovery, and problems can be generated by the students to ensure relevance and purpose. It is for this reason that, for Dewey, teaching and learning should follow from the interests of the child and not be forced upon him or her. But even when knowledge is arrived upon in this way, he was careful to emphasize that knowledge or truth is not to be seen as fixed and permanent. He used the term warranted assertion to signify that something may be considered knowledge in so far as it works to solve a particular problem. But in different circumstances the same "knowledge" or "truth" may not be borne out. In keeping with this, and in opposition to the trend of educational psychology of the time, Dewey spoke not of education or learning as a preparation for life—as in something down the road—because he believed that children had lives to live in the here and now. Given that he recognized the unfixed nature of "knowledge," the fixed nature of the school curriculum presented a second reason for not viewing education as a preparation for life. It follows that Dewey believed that learning how to learn was the more fundamental educational acquisition.

The school is a microcosm of the larger society; the social atmosphere of the school should be cooperative and democratic. "What nutrition and reproduction are to physiological life," Dewey wrote in *Democracy and Education*, "education is to social life." Up to this point the methodological aspects of Dewey's thought and their philosophical underpinnings have been dealt with. But for Dewey education and schooling were inextricably interwoven with the immediate community and the broader society. Education is the lifeblood of society, its source of sustenance and continuance; society, including its values, institutions, and practices, are to be the shapers of the young and hence of their education and learning. In advanced societies there are attendant

dangers in the latter. In particular, there is "the standing danger that the material of formal instruction will be merely the subject matter of the schools, isolated from the subject matter of life-experience. The permanent social interests are likely to be lost from view." In *Rethinking Intelligence*, Kincheloe notes that Dewey maintained the educational psychology of his day was "antithetical to preparation for life in a democratic society." He goes on to stress that Dewey was "especially critical of those psychologists and educators who argued that many students . . . were incapable of working with their minds." Dewey believed that IQ testing, along with noninterpretive psychology in general, ran counter to the ideals of a democratic society. He saw its implementation as a means of maintaining the status quo.

Just as importantly for Dewey, as Perkinson points out in *Since Socrates*, "the emerging democratic society required more than simply taking the traditional education previously given to the few and extending it to the many. . . . A democratic social order stood in need of a new kind of education, a democratic education." It was such an education that Dewey envisioned for the Laboratory School in Chicago, one where children learned from living and working with and for one another in daily tasks. In this way they learned not only subject matter but also what it meant to share and to come together to form community.

FIFTY YEARS LATER

In contemporary discussion, John Dewey could most obviously be associated with educational psychologists in the constructivist camp and even with critical pedagogy. As constructivists believe in the ongoing assimilation of new information into one's being, Dewey makes clear, in *My Pedagogic Creed*, that he too believed that education was "a continuing reconstruction of experience." The constructivist psychology teaches that the process of learning is an internal process unique to the individual. This belief runs counter to the behaviorist belief that persisted in schools of Dewey's time and persists in schools today. Just as he recognized that viewing knowledge as existing outside the individual and applicable outside of context is folly, constructivists today resist the notion that testing knowledge void of context is somehow relevant. He assumed each child came with understandings and knowledge based on their lived experiences. These experiences, "the child's own social activities," as Dewey put it according to Diane Ravitch in her book *Left Back*, should be understood as the basis for how the child will receive and assimilate new information. In keeping with this belief in the individual construction of understanding and knowledge, and in the efficacy of "hands-on" discovery learning, Dewey promoted projects and experiments over a preset curriculum.

Critical pedagogy also draws on Dewey's educational psychology. Dewey believed, for example, as do those in critical pedagogy, that relevance to the child's life is of vital importance. He said in *My Pedagogic Creed* that school "must represent present life." In addition, the belief that knowledge is not unchanging is common to both Dewey and critical pedagogy. Just as critical pedagogy speaks of the inseparability of the knower and the known, of how knowledge is not existent in space but only exists as a part of one's psyche, he sees knowledge as always changing and only valid in relation to the individual and how it relates to his or her life experience. Furthermore, as does the critical pedagogue, Dewey believes that school is responsible for producing socially aware, democratic citizens. In *The School and Society*, he makes clear that school needs to provide a socially guided experience that prepares individuals for changing times and so should be "an active community . . . an embryonic society, instead of a place set apart in which to learn lessons."

In the same way that Dewey rejected the notion that some students were unable to work their minds and recognized the use of tracking as a tool to suppress the economically deprived and otherwise marginalized citizens, critical pedagogy also rejects blind adherence to so-called

scientific truth. In moving beyond the positivistic belief that meeting certain criteria (especially when decontextualized and overlooking social and economic factors) is a valid form of assessment, critical pedagogy recognizes that social, political, and economic contexts, one's life experience, and an infinite number of other factors that influence our unique perspective, cannot be overlooked. Dewey's educational psychology took account of the impact such factors have on the child's mind and predisposition to learning. When Dewey spoke of the need to develop social intelligence, it was the need to account for this variety of contexts and conditions that he was emphasizing. These are contexts and conditions largely overlooked in the standardized testing movement heralded by the behaviorist psychology of Thorndike and others.

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CHAPTER 7

Erik Erikson

JAMES MOONEY

INTRODUCTION

Erik Erikson was one of the most influential minds of the twentieth century. Philosophically rooted in the psychoanalytic theories of Sigmund Freud, who he knew and with whom he worked, Erikson's work in the field of psychology, particularly the areas of identity development, psychohistory, and psychosocial development, were groundbreaking and continue to have relevance in the study of human psychological development. This chapter will give a biographical account of Erikson's life, as well as describe the important intellectual contributions he made to his field and to educational psychology.

BIOGRAPHICAL INFORMATION

Erik Erikson was born in Frankfurt, Germany on June 15, 1902. He was raised as Erik Homburger, having been given his stepfather's surname. Erikson completed school at the age of 18 and spent a year traveling throughout Europe, reading, writing, and sketching. He briefly attended two art schools, the Badische Landeskunstschule in Karlruhe and the Kunst-Akademie in Munich. His artistic works included huge woodcuts that were displayed in an exhibition in Munich's Glaspalast (Coles, 1970).

After two years in Munich, Erikson moved to Florence, where he befriended an American writer (and later child psychoanalyst) named Peter Blos. In 1927, Blos opened a school in Vienna for the children of Dorothy Burlingame and other Americans living in Vienna. He invited Erikson to join him at the school as an art and history teacher. This move would first usher Erikson into the fields of education and psychology. Mrs. Burlingame was very close friends with Anna Freud, child analyst and daughter of Sigmund Freud, and it was through this association that Erikson began to work with Sigmund and Anna Freud in the field of psychoanalysis (Coles, 1970).

From 1927 to 1933, Erikson lived in Vienna, teaching art at his friend Peter Blos's school, working with Anna Freud and himself being analyzed by her, and studying clinical psychoanalysis with August Aichhorn, Edward Bibring, Helene Deutsche, Heinz Hartmann, and Ernest Kris at

the Vienna Psychoanalytic Society. He also studied the Montessori philosophy of education and graduated from the Lehrerinnenverein, the Montessori teachers' association (Coles, 1970).

Blos and Erikson's school in Vienna balanced a traditional teacher-centered model with a more progressive form of education that could later be described in the field of educational psychology as Constructivism. The students were given a greater degree of freedom to determine what and how they wanted to learn. Hands-on activities and projects were encouraged, and the students selected what aspects of history, geography, mythology, and the arts that they were to learn, and how to explore these concepts and demonstrate their mastery of the material (Coles, 1970).

Upon the completion of his studies at the Vienna Psychoanalytical Society in 1933, Erikson was granted the title of full member of the Society. He and his wife, concerned about the rising political turmoil in Germany, Russia, and Italy, decided to leave Vienna and eventually settled in Cambridge, Massachusetts. Despite the fact that Erikson was not a doctor and had no degree, his uncommon and much sought-after training as an adult and child psychoanalyst landed him positions at the Harvard Medical School and Massachusetts General Hospital. His studies at Harvard included a study on the role of play in human development and self-expression (Coles, 1970).

In 1936 Erikson left Harvard to become an instructor and shortly thereafter an assistant professor in the Yale Medical School. There, he continued his analysis of troubled children. In 1939, Erikson moved his family once again—this time to California, where he resumed analyzing children and taught at the University of California at Berkeley. His research and work in California, including his study of the Yurok Indians, culminated in the 1950 publication of *Childhood and Society*, one of his most important and well-known works. It was also during this time that Erik Homberger became an American citizen and officially changed his name to Erik Erikson (Coles, 1970).

Erikson resigned from Berkeley on June 1, 1950, and returned to Massachusetts to work at the Austen Riggs Center in Stockbridge. It was here that Erikson developed his theories of adult ego and identity development. Erikson also became interested in the relationship between the studies of history and psychology, and in 1958 he published another major work, *Young Man Luther*. In this book, Erikson studied the childhood of the fifteenth-century Christian Reformer and how his upbringing effected his adulthood (Coles, 1970).

Erikson's other major works include *Dimensions of a New Identity*, *Life History and the Historical Moment*, *Toys and Reasons*, *Identity and the Life Cycle*, *The Life Cycle Completed*, *Vital Involvement in Old Age* (with Joan M. Erikson and Helen Q. Kivnick), and *A Way of Looking at Things: Selected Papers from 1930 to 1980* (edited by Stephen Schlein). Erikson died in 1994.

ERIKSON'S CONTRIBUTIONS TO THE FIELD OF PSYCHOANALYSIS AND HIS INFLUENCE ON EDUCATIONAL PSYCHOLOGY

Issues of Identity

Erik Erikson contributed significantly to the field of psychoanalysis and was considered one of the great intellectuals of his time. He unwittingly brought the terms "identity" and "identity crisis" into common use. Because of the enormous impact that education has on each child's life, educators must be aware of the ongoing struggle that children face to develop a strong and positive sense of "identity." Erikson described "identity" as something that is developed in a person from the time of the person's birth, and that reaches its "crisis" point during adolescence. Identity provides a connection between one's past and one's future. The "identity crisis" of adolescence is crucial for a complete identity development because it is during that time that the individual establishes not only a personal identity (or self-knowledge), but also determines the individual's place within culture and society (Evans, 1967).

It is important to note that in the context of the concept of "identity crisis," Erikson described the word "crisis" not as an impending disaster, but rather as a critical developmental turning point. It is during an "identity crisis" that an individual's development can and must turn in one direction or another, to determine who that person is to become. Educators must recognize that being violent and angry or depressed and withdrawn during an "identity crisis" is not necessarily a sign that an adolescent is mentally or emotionally disturbed; rather, these behaviors may be a normal part of the developmental process (Erikson, 1968, pp. 16–17).

Psychohistory

Erikson also broke new ground in the field of psychohistory with his analyses of the lives of political and spiritual leaders Martin Luther and Mahatma Gandhi. "The main object of psycho-historical investigations," said Erikson, "is to try to relate the particular identity-needs of a given leader to the 'typical' identity needs of his historical times" (Evans, 1967, p. 66). In other words, Erikson's psycho-historical works, in combining the fields of history and psychology, examined how the childhood and young adulthood experiences of Luther and Gandhi and their own senses of identity matched the overall identities of the groups of people they led in their respective times and places.

During his investigations in psychohistory, Erikson developed the notion of "moratorium." He noticed that many men who later in life would become great historical figures took a kind of break from life during their adolescent or young adult years. Erikson described the moratorium as delay, a gap between the end of identification as a child and the beginning of identification as an adult. Erikson himself took a moratorium of sorts starting at the age of 18, wandering Europe as an itinerant artist.

In today's society, the college years are meant to serve as the bridge between childhood and adulthood. However, for many college-age people, the pressures and demands of traditional schooling fail to provide a break or "moratorium" that allows for positive identity development. Perhaps that is why so many young adults during this time drop out of school, enter therapy, or commit suicide. In relation to Erikson's work, depending upon each person's individual needs, a one or two year "moratorium" between high school and college may be a healthy and beneficial step for ensuring later success and happiness.

Erikson's work in the area of psychohistory makes clear that educators must recognize that the identity-needs of any individual child are greatly influenced by the social and historical context in which the child is living. Erikson (1968) pointed out that for today's children, technology is playing a greater and greater role in their lives. All children must negotiate positive relationships with the technology surrounding them, because part of a sense of competence that is so crucial to positive identity formation is technological competence.

Also it is critical for educators to acknowledge and understand how race or culture impacts a child's sense of identity within the larger society. Erikson (1968)wrote, "Where he finds out immediately, however, that the color of his skin or the background of his parents rather than his wish and will to learn are the factors that decide his worth as a pupil or apprentice, the human propensity for feeling unworthy may be fatefully aggravated as a determinant of character development" (p. 124).

Psychosocial Identity Theory

Perhaps the most notable and well known of Erikson's contributions to the field of psychoanalysis is his adaptation and expansion of Freud's five psychosexual stages of human development into his eight psychosocial stages of human development. Erikson differed from Freud in that he looked at human development from a broader cultural and societal viewpoint, and he proposed that human development does not end with physical maturation, that is, at the end of puberty.

Rather, adults also develop and go through stages, with each stage having its own crisis that must be resolved.

The crisis Erikson identified in each stage is a conflict between the development of a positive characteristic and its opposing negative characteristic, such as trust versus mistrust. While the more positive trait is certainly desirable, Erikson warned that a balance must be struck. While autonomy is certainly preferable to shame and doubt, children must learn about their own limitations, and they must develop a realistic understanding of the world and their place in it. The successful negotiation of each stage leads to the acquisition of what Erikson calls a virtue or strength, such as hope or willpower (Evans, 1967).

Erikson's stages are epigenetic in nature, meaning that each stage builds upon the previous. For example, a child must develop trust in the first stage in order to be successful in becoming self-willed in the second. Identity formation begins during the first stage, builds and climaxes in the "identity crisis" of adolescence, and continues throughout adulthood. Erikson noted that not only are the stages sequential, but hierarchical as well. He also noted that the ages associated with the stages are rough estimates and that the stages of each individual will vary in duration and intensity (Evans, 1967, pp. 21–22).

Table 7.1 shows the eight stages of human development as defined by Erikson. The quotes were taken from an interview with Erik Erikson while he was a professor at Harvard (Evans, 1967).

In 1997, 3 years after Erik Erikson's death, Erikson's wife Joan Erikson published an extended version of his book *The Life Cycle Completed*. Joan Erikson proposed a ninth stage that occurs when people reach their 80s and 90s. While she did not offer one particular crisis or set of conflicting characteristics for this ninth stage, she did address each of the conflicts of each of the first eight stages and the related characteristics and how each of these are relevant and recurring in the ninth stage.

Particularly relevant to the field of educational psychology are Erikson's theories regarding the latent, or school-age, stage of psychosocial development. It is during this stage that teachers and school take on a central role in a child's life and the child's development of a sense of identity. Depending upon the child's success in navigating the crisis of this stage, the child can enter adolescence with a strong sense of competence, or feelings of ineffectualness and inferiority that can plague the child for the rest of the child's life. In order for a child to achieve a sense of competence, he or she must learn to be industrious. It is a strong psychological urge of children in the school-age stage to develop a sense of industry, of being able to create and to carry a project through to a successful conclusion (Erikson, 1968).

Erikson (1968) examined two models of American education, traditional and constructivist, and explored the advantages and pitfalls of each. A more traditional model of education offers students a needed structure, a sense of direction, and a purpose; however, Erikson noted "an unnecessary and costly self-restraint" can arise from this form of education and can inhibit a child's natural desire to learn, as well as the child's own creativity, imagination, and playfulness (Erikson, 1968, p. 126). A more unstructured approach to education, on the other hand, can cause children to lack basic skills and knowledge necessary for successful participation in society, and can create uncertainty and a lack of confidence in children's learning experiences (Erikson, 1968).

SELECTED MAJOR WORKS

Childhood and Society (1950)

Erikson's first book, *Childhood and Society* is also one of his most well known and highly respected. It is divided into four parts: Part One describes and illustrates his case study

Table 7.1
Erikson's Eight Stages of Human Development

Stage	Ages	Virtue/Strength to be Acquired	In Erikson's Words
Sensory-Oral Stage: Basic trust vs. Basic mistrust	0–1 year	Hope	"A certain ratio of trust and mistrust in our basic social attitude is the critical factor. When we enter a situation, we must be able to differentiate how much we can trust and how much we must mistrust" (Evans, 1967, p. 15).
Muscular-Anal Stage: Autonomy vs. Shame and doubt	2–3 years	Willpower	"Just when a child has learned to trust his mother and to trust the world, he must become self-willed and must take chances with his trust in order to see what he . . . can will" (Evans, 1967, p. 19).
Locomotor-Genital Stage: Initiative vs. Guilt	3–6 years	Purpose	"It is during this period that it becomes incumbent upon the child to repress or redirect many fantasies which developed earlier in life. He begins to learn that he must work for things . . ." (Evans, 1967, p. 25).
Latency Stage: Industry vs. Inferiority	7–12 years or so	Competence	"Every culture at this stage offers training. . . . [T]he word "industry" . . . means industriousness, being busy with something, learning to complete something, doing a job" (Evans, 1967, pp. 27–28).
Adolescent Stage: Identity vs. Role diffusion	adolescence, 12–18 years or so	Fidelity	"We have almost an instinct for fidelity—meaning that when you reach a certain age you can and must learn to be faithful to some ideological view" (Evans, 1967, p. 30).
Young Adulthood Stage: Intimacy vs. Isolation	20–30 years or so	Love	"Intimacy is really the ability to fuse your identity with somebody else's without fear that you're going to lose something yourself" (Evans, 1967, p. 48).
Adulthood Stage: Generativity vs. Stagnation	30–50 years or so	Care	"At this stage one begins to take one's place in society, and to help in the development and perfection of whatever it produces" (Evans, 1967, p. 50).
Old Age and Maturity Stage: Ego integrity vs. Despair	50s and beyond	Wisdom	"Only in old age can true wisdom develop . . . some wisdom must mature, if only in the sense that the old person comes to appreciate and to represent something of the 'wisdom of the ages' or plain folk 'wit' " (Evans, 1967, p. 54).

methodology; Part Two describes his work done with the Sioux and Yurok Indian tribes; Part Three describes his theories on ego development and introduces his eight stages of human development; and Part Four describes how a person's sense of identity evolves during youth.

Young Man Luther (1958)

The first of Erikson's two psycho-historical books, *Young Man Luther* examined the youth of Protestant Reformer Martin Luther. This book broke new ground by fully engaging the methodologies of psychoanalysis and historical biography.

Identity: Youth and Crisis (1968)

Identity: Youth and Crisis is a collection of essays that Erikson wrote in the 1950s and 1960s. Essay (chapter) titles include "The Life Cycle: Epigenesis of Identity," "Identity Confusion in Life History and Case History," and "Race and the Wider Identity." In this book, Erikson addressed the connections between psychosocial development and education.

Gandhi's Truth (1969)

Erik Erikson won a Pulitzer Prize and a National Book Award for his work on *Gandhi's Truth*, a psycho-historical look at the life and struggles of Mahatma Gandhi. It is "an account of a search for 'the historical presence of Mahatma Gandhi and for the meaning of what he called Truth'; a search by a Western man for the enduring side of a great Indian leader's character; [and] a search by a psychoanalyst for a particular person's ethical spirit" (Coles, 1970, p. 293).

CONCLUSION

Erik Erikson's long life was filled with rigorous scholarly research. He spent his life reading, writing, teaching, and examining the psychological development of human beings. Not least among Erikson's achievements was the development of his epigenetic stages of human psychosocial development. Erikson's theories on identity-formation and psychosocial development, as well as his work in the field of psychohistory, offer insights for educators and students of educational psychology. Through attempting to understand the natural psychological development of human beings as outlined in Erikson's theories, practitioners can develop philosophies and strategies to meet the needs of their students and aid in helping them develop competence and positive senses of identity.

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CHAPTER 8

Howard Gardner

JOE L. KINCHELOE AND TODD FELTMAN

Howard Gardner has been a key figure in educational psychology over the last three decades. Gardner was born on July 11, 1943, in Scranton, Pennsylvania, to Jewish parents who escaped Nuremberg in 1938. Gardener's parents wanted him to attend high school at Phillips Academy in Andover, Massachusetts, but Gardner chose the Wyoming Seminary, a preparatory school in Kingston, Pennsylvania. After a successful stint at Wyoming, Gardner was admitted to Harvard University prepared to study history and eventually go into law. As fate would have it, Gardner worked at Harvard with well-known psychologists Erik Erikson and Jerome Bruner. In 1965, Gardner graduated *summa cum laude* and the next year began work in the university's doctoral program in psychology.

While pursuing his doctoral work Gardner became involved with the Project Zero research team on art education—an affiliation that continues into the twenty-first century. Project Zero gave Gardner an opportunity to expand his interest in cognitive, developmental, and neuropsychology. After completing his doctorate Gardner continued to work at Harvard. Currently, he is the Hobbs Professor of Cognition and Education at the Harvard Graduate School in Education and an adjunct professor of neurology at the Boston University School of Medicine. He now codirects Project Zero.

Gardner's theory of multiple intelligences (MI)—made popular by his 1983 book *Frames of Mind*—has exerted a profound influence on cognitive studies, educational practice, and the field of educational psychology in general. Rejecting the notion of a single manifestation of intelligence long promoted by psychometrians, Gardner maintained that people possessed MI. In *Frames of Mind,* he posited seven different intelligences—in the 1990s he added an eighth one. The following is a delineation of Gardner's eight intelligences:

- Linguistic intelligence involves a facility with the use of spoken and written language. Individuals who possess this particular intelligence, Gardner argues, are able to learn foreign language(s) more easily. Such individuals use language as a way to enhance their memory of information. In this linguistic context Gardner maintains that writers, poets, lawyers, and public speakers as those people who possess linguistic intelligence. This particular intelligence, of course, is prized in the classroom environment.

- Logical-mathematical intelligence deals with the ability to analyze problems using logic, perform operations in mathematics and science. According to Gardner, people with this particular intelligence possess the capacity to reason using deduction, think sequentially and linearly, and discern patterns in data. Engineers, architects, scientists, and mathematicians, Gardner posits, tend to possess this mode of intelligence—a form of cognition, like linguistic intelligence, that is highly valued in the traditional classroom.
- Musical intelligence involves the ability to perform, write, and appreciate music. According to Gardner one who possesses musical intelligence is able to identify and create musical pitches, tones, and rhythms. Obviously, musicians and composers would generally be the people who possess this type of intelligence.
- Bodily kinesthetic intelligence involves the capacity to use the body to perform physical feats that often involve solving problems. In this context individuals are able to coordinate mind with bodily movement. Gardner sees great athletes, artists, and artisans as individuals often endowed with bodily kinesthetic intelligence.
- Visual-spatial intelligence, according to Gardner, involves the ability to fashion a mental representation of the spatial realm and to employ that construct to execute valuable endeavors. Gardner contends that artists, architects, engineers, and surgeons typically possess high levels of visual-spatial intelligence. Gardner's construction of this intelligence involves the capacity to discern the visual world in an "accurate" manner, to interpret such perceptions according to one's experience in the world, and to reconstruct various dimensions of such perceptions far away from the original object of perception.
- Interpersonal intelligence—one of Gardner's two personal intelligences—involves the ability to understand and act in response to the motives of other people. Individuals who possess this intelligence, Gardner believes, are able to work successfully with diverse people. Educators need a highly developed interpersonal intelligence, as well as do businesspeople, counselors, and leaders in religion and politics.
- Intrapersonal intelligence—Gardner's second personal intelligence—is focused on self-knowledge and self-understanding. An individual with great intrapersonal intelligence is aware of and constantly monitors how one's emotions affect his or her well-being and his or her relations with the world. According to Gardner intrapersonal intelligence is a central dimension in the effort to regulate one's life.
- Naturalistic intelligence is the ability of individuals to situate themselves in the natural environment. Such "situating," Gardner argues, involves the ability to recognize and classify the flora and fauna of a region, to recognize a species. The central manifestation of naturalist intelligence from Gardner's perspective involves this ability to categorize and classify. Individuals who possess naturalist intelligence often move into the fields of biology, ornithology, and agriculture. Also, Gardner adds, those who hunt and cook often exhibit this form of intelligence.

In addition to these eight intelligences, Gardner and his colleagues have proposed two other possible intelligences. These include spiritual intelligence and existential intelligence. In the last half of the first decade of the twenty-first century Gardner feels that spiritual and existential intelligence should not be added to the list because innate complexities of these domains. Of course, many would argue that all of the intelligences fall into the same complex matrix. Numerous educational psychologists and scholars from other fields believe that Gardner made a critical categorical error in his original research when he decided to call these domains "intelligences" and not another, less historically inscribed term.

Ever confident, Gardner boldly asserts that all these eight intelligences are essential for living a fulfilling life. Therefore, in MI theory it is important, especially in the elementary school years, that teachers teach to all these intelligences. Gardner insists that his theory of teaching with the application of various intelligences is connected to the child-centered learning philosophy of John Dewey. In this context he maintains that everyone is capable of seeing the world through the lens of the eight intelligences. Via his cognitive research Gardner reports that he empirically proved that students have different types of minds and as a result they learn, remember, act, and comprehend in diverse ways. Thus, the Deweyan connection emerges, as Gardner pushes schools to move away from exclusive reliance on linguistic and logical intelligences. There is no

question that this linguistic-logical combination is important for mastering the agenda of school, he contends, but educators have gone too far in ignoring the other intelligences.

As teachers de-emphasize the other six intelligences, Gardner argues that we relegate numerous students to the domain of "low ability." A multiple-intelligence grounded curriculum, he promises, would preclude such relegation and help all students succeed. Thus, Gardner's educational psychology insists that educational leaders should examine the eight MI and make sure they are implemented in the general curriculum and the everyday life of the classroom. Students could benefit from an awareness of the intelligences they possess, how they operate in their learning, and how such an awareness might inform career choices.

When many of us concerned with the postformal issues of cultivating the intellect while concurrently working for social, educational, and economic justice first read Gardner's theory of MI in 1983, we were profoundly impressed by the challenge he issued to traditional educational psychology, psychometrics in particular. We believed that Gardner stood with us in our efforts to develop psychological and educational approaches that facilitated the inclusion of students from marginalized groups whose talents and capabilities had been mismeasured by traditional psychological instruments. Gardner's theory appeared to assume a wider spectrum of human abilities that were for various reasons excluded from the domain of educational psychology and the definition of intelligence. We taught MI theory to our students in hopes of exposing and overcoming some of the ways particular students were hurt by these exclusionary disciplinary practices. As Gardner has continued to develop his theory over the last twenty years, those of us associated with postformalism and critical pedagogy grew increasingly uncomfortable with many of his assertions and many of the dimensions he excluded from his work. Simply put, we did not believe that MI theory was succeeding at what it claimed as its cardinal goal: helping students from diverse backgrounds and cognitive orientations succeed in school.

Gardner's *Frames of Mind* was enthusiastically received by sectors of a public intuitively unhappy with psychometrics' technocratic and rationalistic perspective on human ability. Within the narrow boundaries of the American culture of scholarship, Gardner became a celebrity. Teachers emerging from a humanistic culture of caring and helping were particularly taken with the young (forty is young in the world of academia!) scholar, many traveling all over the country to hear him speak. Multiple intelligences, such teachers maintained, provided them with a theoretical grounding to justify a pedagogy sensitive to individual differences and committed to equity. Though Gardner consistently denied the political dimension of MI, liberal teachers and teacher educators viewed it as a force to democratize intelligence. Living in a Eurocentric world, many interpreted Gardner to be arguing that cognitive gifts are more equally dispersed throughout diverse cultural populations than mainstream psychology believed. They took MI as a challenge to an inequitable system.

Frames of Mind struck all the right chords:

- Learning is culturally situated.
- Different communities value different forms of intelligence.
- Cognitive development is complex, not simply a linear cause–effect process.
- Creativity is an important dimension of intelligence.
- Psychometrics does not measure all aspects of human ability.
- Teaching grounded on psychometrically inspired standardized testing is often deemed irrelevant and trivial by students.

Numerous teachers, students, parents, everyday citizens, and some educational psychologists deemed these ideas important. And, we agree, they are—especially in light of the positivist

reductionism and standardization of the twenty-first-century educational standards movement, No Child Left Behind, and its cousins proliferating throughout numerous Western and Western-influenced societies. As with most popular theories, the time was right for Gardner's unveiling of MI theory. Multiple intelligences resonated with numerous progressive impulses that had yet to retreat in the face of the right-wing educational onslaught coalescing in the early 1980s.

Initially, most of the critiques of MI emerged from more conservative analysts, who argued that theory shifted educational priorities away from development of logic in the process producing a trivialized, touchy-feely mode of education. In *Multiple Intelligences Reconsidered* (2004) Joe Kincheloe and a group of well-respected critical researchers provided a progressive/postformal critique of the theory, maintaining that despite all its democratic promise Gardner's theory has not met the expectations of its devotees. The reasons for this failure are multidimensional and complex but often involve many of the basic postformal concerns with educational psychology in general. One aspect of its failure comes from Gardner's inability to grasp the social, cultural, and political forces that helped shape the initial reception of MI. Even when he has addressed what he describes as a "dis-ease" in American society, Gardner fails to historicize the concept in a way that provides him a broader perspective on the fascinating relationship between American sociocultural, political, and epistemological dynamics of the last two decades and MI theory.

Postformalists argue that Gardner is entangled in this sociocultural, political, and epistemological web whether he wants to be or not. Not so, he maintains, contending that his is a psychological and pedagogical position—not a social, cultural, political, or epistemological one. In what critical analysts view as naïve, decontextualized, and psychologized modus operandi, Gardner asserts that the psychological and pedagogical domains are separate from all these other denominators. Grounded in cultural psychological ways of seeing and social theoretical lenses, postformalists maintain that such an assertion constitutes a profound analytical error on Gardner's part. The epistemology (ways of knowing) traditionally employed by Gardner's psychometric predecessors and contemporaries is the epistemology of MI. As Richard Cary puts it in his chapter on visual-spatial intelligence in *Multiple Intelligences Reconsidered*: "Although MI theory is more appealing and democratic at first glance, it remains a stepchild of positivism's exclusively quantitative methodologies and of grand narrative psychology." Indeed, there is less difference between Gardner and the psychological/educational psychological establishment than we first believed. As in so many similar domains, Gardner has been unwilling to criticize the power wielders, the gatekeepers of the psychological castle.

In her important chapter in *Multiple Intelligences Reconsidered*, Kathleen Berry extends this point:

> [Gardner's] works, as scholarly and beguilingly penned as they are, have seduced the field of education into yet another Western logo-centric, psychological categorization. Under the guise of educational/school reform, his theory of MI has spawned a host of other supportive theories, practices, disciples, and critics. . . . Once labeled, however, whether in the singular or the plural, intelligence acts as an economic, social, political, and cultural passport for some and for others, a cage. . . .

Obviously, many scholars within the postformal universe are especially concerned with the democratic and justice-related dimensions portended in Gardner's early articulation of MI. Taking our cue from the concerns of many people of color, the poor, colonized individuals, and proponents of feminist theory, we raise questions about the tacit assumptions of MI and its implications for both education and the social domain. In the spirit of postformalism we raise questions about knowledge production and power in the psychological domain in general and in MI. Postformalism is especially interested in modes of cognition that recognize the complicity of various academic discourses, psychology in particular, in the justification and maintenance of an inequitable status

quo and an ecological and cosmological alienation from the planet and universe in which we reside. As Marla Morris puts it in her chapter in *Multiple Intelligences Reconsidered*:

> If we are to talk about a naturalistic intelligence, we need to understand that intelligence does not mean anything goes, just because a scientist works with or in nature. Further, one need not be a farmer or a biologist to develop a naturalistic intelligence. On this point, I think Gardner is too literal. I argue that an ecological sensibility springs from a sensitive, ethical, and holistic understanding of the complexities of human situatedness in the ecosphere.

Gardner seems either unable or unwilling to trace the relationship of MI to these issues.

Indeed, what postformalists and any other cognitive theorists designate as intelligence and aptitude produces specific consequences. The important difference between postformalism and Gardner's educational psychology involves postformalists' admission to such ramifications and their subsequent efforts to shape them as democratically, inclusively, and self-consciously as possible. Gardner, concurrently, dismisses the existence of such political and moral consequences and clings to the claim of scientific neutrality.

Despite all of these concerns we still believe there is value in Gardner's work. Postformalists call on their colleagues to seek the kinetic potential of Gardner's ideas in the sociopsychological and educational domain. In this context we seek to retain the original democratic optimism of Gardner's theories, confront him and his many sympathizers with powerful paradigmatic insights refined over the last 25 years, and move the conversation about MI forward with a vision of a complex, rigorous, and transformative pedagogy. In particular postformalists want to engage Gardner in a conversation about power, cognition, schooling, and the future of educational psychology. We hope he will work with us in a synergistic, mutually respectful conversation.

Power is omnipresent in both its oppressive and productive forms. In its oppressive articulation postformalists trace its effects in educational psychology. In a world where information produced for schools and media-constructed knowledge for public consumption are misleading, ideologically refracted, edited for right-wing political effect, and often outright lies, the notion of learning to become a scholar takes on profound political meanings—whether we like it or not. Do we merely "adjust" students to the misrepresentations of dominant power or do we help them develop a "power literacy" that moves them to become courageous democratic citizens? While the stakes were already high, dominant power wielders have upped the ideological ante in the twenty-first century.

In raising these concerns we are not arguing that Gardner has supported this type of ideological management. We are contending that Gardner has fallen prey to false dichotomies in his work separating the political from the psychological and educational. Indeed, he has been unwilling to address the relationships connecting dominant power, psychological theory, and teaching and learning. In this era of U.S. empire building and the effects of transnational capital and the knowledges they produce, such political decontextualization can be dangerous. This fragmentation has exerted a profound influence on the character and value of Gardner's work. Like other educational psychological theories Gardner's MI fail (or refuse) to consider such dynamics in the course of their development and application.

The power concerns emphasized here played little role in Gardner's previously mentioned educational experiences in developmental and neuropsychology at Harvard.

Such an educational and research background protected Gardner from the emerging concerns with the relationship between psychological knowledge production and power. In writing about motivation and learning in *Frames of Mind*, for example, he addresses the development of a general, universal theory of motivation. Such theorizing takes place outside the consideration of motivation's contextual, cultural, and power-related specificity. A student, for example, from

a poor home in the southern Appalachian mountains in the United States whose parents and extended family possess little formal education will be situated very differently in relation to educational motivation than an upper-middle-class child of parents with advanced degrees. The poor child will find it harder to discern the relationship between educational efforts expended and concrete rewards attained than will the upper-middle-class child. Such perceptions will lead to different levels of performance shaped by relationship to dominant power in its everyday, lived world manifestations. Such motivational and performance levels have little to do with innate intelligence whether of a linguistic, visual-spatial, or mathematical variety. Gardner has not made these types of discernments in his MI theorizing.

Thus, power theory has not been important to Gardner's work. Sociopolitical reflection is not an activity commonly found in the history of developmental and neuropsychology. Indeed, such concerns have been consistently excluded as part of a larger positivistic discomfort with the ethical and ideological. Such political dynamics reveal themselves in Gardner's *Intelligence Reframed* (1999), as he writes of Western civilization as a story of progress toward both democracy and respect for the individual. Democracy has been achieved in the United States and the civilized West, Gardner assumes, as he cautiously avoids confronting democratic failures in these domains outside the tragedy of the Third Reich. He explores business involvement with education in *The Disciplined Mind* (1999) but expresses little concern with corporate power's capacity to shape the ideological purposes of schools.

Although Gardner writes about MI producing "masters of change," it seems to postformalists that he describes such individuals as mere technicians to be fed into the new corporate order of the globalized economy. They are not empowered scholars who understand the larger historical and social forces shaping the macro-structures that interact with the complexities of the quest for democracy and the production of self. There is no mention here, for example, of the

- impact of 500 years of European colonialism;
- continuing anticolonial movements of the post-1945 world;
- Western neoliberal/neoconservative efforts to "reclaim" cultural, political, and intellectual supremacy over the last 25 years;
- education for the new American Empire being promoted by George W. Bush and his corporate and political cronies around the world.

Such macro-forces exert profound influences on how we view the roles of Western psychology and education or where we stand or are placed in relation to them. MI and its masters of change stand outside history. They are passive observers of the great issues of our time.

Studying Gardner's work, we perceive no indication that he has ever imagined a critique of his work in light of the issues of power. In *Frames of Mind* he asserted that he could envisage two types of modifications of MI: he could be convinced to drop one or two of the intelligences or he could be persuaded to add some new ones. In this power vacuum Gardner is not unlike many other upper-middle-class North Americans and Western Europeans in that he cannot imagine how dominant-power inscribed psychologies and educational practices can harm individuals—especially those marginalized in some way by the dynamics of, say, race, class, colonialism, or gender. Gardner's naïve acceptance of the benefits of school for all came across clearly in *Frames of Mind*:

> . . . the overall impact of a schooled society (as against one without formal education) is rarely a matter of dispute. It seems evident to nearly all observers that attendance at school for more than a few years produces an individual—and, eventually a collectivity—who differs in important (if not always easy to articulate) ways from members of a society that lacks formal schooling (1983, p. 356).

Gardner would be well served to familiarize himself with literature that documents the way school often serves to convince many individuals from marginalized backgrounds that they are unintelligent and incompetent. The most important curricular lesson many of these students learn is that they are not "academic material." The individuals we are talking about here are young people who are profoundly talented but because of their relationship to the values and symbol systems of schooling are evaluated as incapable of dealing with the higher cognitive processes of academia. Was it not some of these individuals that MI theory was supposed to help? Weren't we supposed to see valuable talents in individuals that were overlooked by a monolithic mode of defining intelligence?

In conclusion, MI is a child of a Cartesian psychology that fails to recognize its own genealogy. Gardner uses the intelligences to pass along the proven verities, the perennial truths of Western music, art, history, literature, language, math, and science. The notion of constructing a meta-analysis of the ways cultural familiarity occludes our ability to see the plethora of assumptions driving work in these domains does not trouble Gardner's psychic equilibrium. If Gardner were interested in performing a cultural meta-analysis of his theories, he would begin to see them as technologies of power that reproduce Western and typically male ways of making meaning. Gardner seems oblivious to the epistemological, cultural, and political coordinates of his work. We don't understand why he doesn't sense that the classification systems and cognitive frameworks of MI routinely exclude "the knowledge and values of women, nonwhite races, non-Christians, and local and premodern ways of knowing. How can a man so erudite who proclaims a progressive ideological stance miss these omissions?

In the descriptions of what counts as intelligence and curricular knowledge in Gardner's eight domains resides a battle over cultural politics. Whose science, literature, music, history, art, ad infinitum gains the imprimatur of the labels classical and canonical? When patterns of racial, cultural, gender, and class exclusion consistently reveal themselves in Gardner's work, why would nonwhite and non-European individuals and groups not be suspicious of it? Again, Gardner's reading of expressions of such concerns is inexplicable. In *Intelligence Reframed*, for example, he states that MI has been disparaged "as racist and elite . . . because it uses the word intelligence and because I, as its original proponent, happen to be affiliated with Harvard University . . ." (1999, p. 149). We can assure Gardner that if he were a professor at Brooklyn College's School of Education who developed the "theory of multiple talents" and had exerted comparable levels of influence on the fields of psychology and education, postformalists would still criticize his exclusionary scholarship. Gardner the progressive is trapped on a terrain littered with cultural political and epistemological landmines. His work with all of its possibilities and limitations serves as an excellent example to educational psychologists of the need for a postformal critique of the discipline.

CHAPTER 9

Carol Gilligan

KATHRYN PEGLER

> From Erik Erikson, I learned that you cannot take a life out of history, that life-history and history, psychology and politics, are deeply entwined. Listening to women, I heard a difference and discovered that bringing in women's lives changes both psychology and history. It literally changes the voice: how the human story is told, and also who tells it.
>
> —Gilligan, 1993, p. xi

Gaining this postformal perspective from Erik Erikson was like the planting of a seed inside of Carol Gilligan leading her to a gradual awakening on the journey to a powerful discovery. For centuries, a critical part of the population was missing from theories of moral and intellectual development. Until Gilligan published her findings in an article that led to the publication of her book, *In a Different Voice: Psychological Theory and Women's Development* (1982), women's voices had not been present in human or moral development theories. This revolutionary and controversial book demonstrated how the inclusion of women's voices challenges the existing theories of psychological development that are based solely on the studies of boys and men. In addition, Gilligan's postformal ideas challenge the notion that there is only one single and absolute path to moral or philosophical truth. Gilligan's theory has had a tremendous impact on a multiplicity of fields including psychology, education, gender studies, and law.

Matters of moral significance have been an intricate part of Gilligan's life since childhood. She was born in New York City on November 28, 1936, and grew up during the Holocaust. Her parents' examples influenced her greatly as they were involved with aiding refugees from Europe. William Friedman, Gilligan's father, was a child of Hungarian immigrants. He became a lawyer, and during the Holocaust, he accepted other lawyers into his firm who were escaping Hitler. Mabel Caminez Friedman, Gilligan's mother, was the daughter of German and Ukrainian immigrants who helped refugees by getting them settled in New York. In addition, Gilligan was a student at the Walden School in New York City. Walden was a progressive school widely known for calling attention to and discussing issues of moral relevance.

As an English Literature student at Swarthmore College in the 1950s, Gilligan was at ease participating in the small coed classes where they studied the human experience as they read the works of many celebrated male and female writers. Later on as a student attending Harvard

and studying psychology, she did not feel that same comfort. Something was amiss. At Harvard, the focus of study was on male psychologists researching mainly male subjects in the long-established and unquestioned patriarchal practice. Gilligan could not yet identify the discord; however, she felt there was a discrepancy in the way professors spoke. These discussions lacked the intricacy and the aliveness of the authentic human experience that she learned through her study of Euripides, Shakespeare, George Eliot, and Virginia Woolf.

During the sixties and early seventies, Gilligan was a social activist involved in issues of moral importance. As a lecturer at the University of Chicago, she refused to present grades because they were being used as basis for the Vietnam draft. Gilligan also took part in sit-ins and became involved in the civil rights movement, the antinuclear movement, and the women's strike for peace. In addition, she went knocking on doors in order to get people to register to vote.

Initially Gilligan had no plans of entering the field of psychology. As the mother of three small sons and a member of a modern dance group, she taught part-time to make money in order to have some help in the house. At this time, she had the opportunity to teach with Erik Erikson at Harvard in his course on the human life cycle. She then taught with Lawrence Kohlberg in his course on moral and political choice (Wylie and Simon, 2003). Gilligan was drawn to Erikson and Kohlberg, as they had similar interests concerning the connection of psychology and political choice and philosophy and literature. Furthermore, like Gilligan, both men were dedicated to the civil rights and antiwar movements. Gilligan worked closely with Kohlberg and even coauthored the article "The Adolescent as a Philosopher: The Discovery of the Self in a Postconventional World" (1971) with him. However, during this time, Gilligan began to feel uneasy using Kohlberg's criteria to judge moral development because of the way women were categorized. Under Kohlberg's model, the average female scores were a full stage lower than the male average scores, implying that women were less morally developed than men. Concurrently, while teaching Kohlberg's course, Gilligan also became fascinated in how people respond to real-life situations of conflict and choice. She was interested in people's real-life moral struggles where people had the power to choose and have to live with the consequences of their decisions. It was the height of the Vietnam War, and male students were faced with the draft. Gilligan wanted to know how these young men would act when they had to make a choice about serving in a war that many believed was neither justifiable nor moral; hence, she began a study related to their choices. However, in 1973, President Nixon ended the draft, and that ended Gilligan's study. During this time, the Supreme Court had ruled that state antiabortion legislation was not legal in the case of *Roe v. Wade*. Realizing that *Roe v. Wade* would give "women the decisive voice in a real moment of choice with real consequences for their personal lives and for society" (Goldberg, 2000, p. 702), Gilligan shifted her study to women making this moral decision.

While sitting in her kitchen reviewing the transcripts of pregnant women considering abortion, Gilligan made a dramatic discovery. She recognized the emergence of a different pattern. There were differences between the public abortion debates over right to life or right to choice and the women's unease about acting responsibly in relationships because for many women their problems concerning abortion involved issues relating to relationships. For example, Gilligan noted that the women felt apprehensive, "If I bring my voice into my relationships, will I become a bad, selfish woman, and will I end my relationships" (Goldberg, 2000, p. 702)? Listening to these women, Gilligan heard a perception of self that differed from the theories of Freud, Piaget, Erikson, and Kohlberg. Moreover, she became conscious that the theories used to judge emotional health and typical experiences were embedded almost exclusively in studies of white male behavior. Subsequently, these theories were then applied to women. Gilligan shared this discovery with her friend Dora. Dora found this to be intriguing and suggested that Gilligan write about it (Wylie and Simon, 2003). Consequently, Gilligan wrote an essay published in the *Harvard Educational Review* in 1977 titled "In a Different Voice: Women's Conceptions of

Self and of Morality." That article was the genesis of her book *In a Different Voice* (Gilligan, 1982).

In this book Gilligan presents a theory of moral development that maintains that women are more likely to think and speak in a way that is different from men when faced with ethical dilemmas. Gilligan draws a distinction between a feminine ethic of *care* and a masculine ethic of *justice*. Under an ethic of justice, men judge themselves guilty if they do something wrong. Accordingly, men tend to think in terms of rules, individual rights, and fair play. All of these goals can be pursued without personal ties to others; therefore, justice is impersonal. Under an ethic of care, women, who allow others to feel pain, hold themselves responsible for not doing something to prevent or allay the hurt. Hence, women are more inclined to think in terms of sensitivity to others, loyalty, responsibility, peacemaking, and self-sacrifice. Thus an ethic of care comes from connection, and necessitates interpersonal involvement. In addition, Gilligan believes that these differences of moral perspectives are the result of contrasting images of self. These identities are shaped during early childhood and adolescence by the primary people who provide physical and emotional care. Gilligan observes that both sexes have the capacity to develop either perspective. Hence, there are women who view moral dilemmas in terms of justice, and there are men who make moral decisions based on an ethic of care. Gilligan views it as two separate and noncompeting ways of thinking about moral problems.

Gilligan describes her stages of moral development, and like Kohlberg, Gilligan's theory has three major divisions of moral maturity: preconventional, conventional, and postconventional. A major difference is that Gilligan's stages happen due to changes in the sense of self whereas Kohlberg's stages occur due to changes in cognitive capacity. In the first stage of preconventional morality, there is a selfish orientation to individual survival. Women lack a sense of connectedness. They are unable to see beyond their own self-interest as they look out for themselves. In the second stage of conventional morality, goodness is self-sacrifice, and morality is selfless. Women define their moral worth on the basis of their ability to care about others. They search for solutions where no one will get hurt, but realize they often face the hopeless task of choosing the injured party, that injured party is usually themselves. They feel a responsibility to give others what they need or want, especially when these others are considered defenseless or dependent. Finally, in the third stage, postconventional morality reflects the responsibility for consequences of choice. At the heart of moral decision making is the exercise of choice and the willingness to take responsibility for that choice. Women in this stage realize that there are no easy answers, and so they make an effort to take control of their lives by admitting the seriousness of the choice and consider the whole range of their conflicting responsibilities. Gilligan (1993) explains, there is a shift "from goodness to truth when the morality of action is assessed not on the basis of its appearance in the eyes of others, but in terms of the realities of its intention and consequence" (p. 83). Therefore, unlike conventional goodness, this view of truth requires that a woman extend nonviolence and care to herself as well as others.

For Gilligan, the different voice indicates a paradigm shift because it exposes a disconnection at the core of a patriarchal racist social order that is so deep and so critical. This disconnection obscures the experiences, thoughts, and feelings of

> all people who are considered to be lesser, less developed, less human, and we all know who these people are women, people of colour, gays and lesbians, the poor and the disabled. It [is] everyone who [is] "different" and the only way you [can] be different within a hierarchical scheme [is], you [can] be higher or you [can] be lower, and all the people who [have] been lower turn out—surprise, surprise—to be the people who did not create the scheme. (Gilligan, 1998)

In a Different Voice has been both innovative and influential. The book strikes emotional chords in both women and men. Its impact has been compared to Betty Friedan's *The Feminine Mystique*

(1963). Furthermore, Gilligan's *In a Different Voice* (1982) has enjoyed a worldwide audience. The book has been translated into seventeen different languages and has sold more than 750,000 copies, an amazing accomplishment for an academic book. Gilligan first realized that her book was going to make a statement when she picked up the retyped manuscript and the woman who typed it had given it to her cousin to read, and the cousin wanted to meet her. But initially, the book received a lukewarm response, so it was published in paperback fairly quickly at a low price allowing access early on to a wide audience. Unfamiliar people began talking to Gilligan about her book. One woman working in a local shop asked Gilligan if she was the woman who wrote that book and proceeded to tell her that she had explained her marriage. A *Globe* reporter said that Gilligan had described his divorce. After reading the book, many women felt heard and able to speak in a new way. The book also justified for men a voice that had been associated with what were seen as "women's weaknesses," but which Gilligan had acknowledged as human strengths (Wylie and Simon, 2003).

Just as many people connected with and praised Gilligan's book, others have strongly criticized it. Some people fear Gilligan's efforts to establish a different but equal voice merely reinforces the cultural stereotype that men act on reason while women respond to feeling. In addition, some social scientists attack the lean research used to support and validate her theory. They cite the small specialized sample in her abortion study, the fact that she used anecdotal evidence instead of providing empirical support, and that her data has not been published or peer-reviewed. However, Gilligan states that the "different voice I describe is identified not by gender but by theme" (Wylie and Simon, 2003, para. 13). Gilligan also claims that her data has been published in peer-reviewed journals, and that Freud, Piaget, and Erikson's theories were not rejected based on interpretive style of research (Vincent, 2000).

For the past 25 years, Gilligan has continued to engage in research in the areas of psychological theory and education including studies on women's, girls', and boys' developmental experiences. In addition, Gilligan has coauthored and edited a series of books on gender and development as well as initiating numerous programs and projects for advancing the healthful development of boys and girls. In 2002, following 35 years at Harvard, Gilligan moved back to New York to become a professor at New York University. She is associated with the law school, the graduate school of arts and sciences, and the school of education. Furthermore, that same year, Gilligan published her first book authored alone since *In a Different Voice* (1982).

In her book *The Birth of Pleasure*, Gilligan (2002) explains how the emotional truths and the ability to say what we see and say what we know is hidden in the interests of maintaining the long history of patriarchal order. For Gilligan, feminism is the movement to end the long-standing contradiction between democracy and patriarchy. This contradiction runs as deep and is as harmful as the contradiction between democracy and slavery. Patriarchy is not a battle between the sexes, but an arrangement that constrains both men and women. Patriarchy actually means a rule of fathers where men are separated from women, from other men, and from children; hence, Gilligan asserts that this system presents a hierarchy in the midst of our most intimate relationships between lovers and between parents and children. Furthermore, Gilligan stresses that the restrictions of patriarchy are passed on from generation to generation, and compromise our psychological development from early childhood, crippling love, making pleasure perilous, "and enforcing taboos against truth-telling" (Wylie and Simon, 2003).

Gilligan's *Birth of Pleasure* (2002) received hostile criticism for representing a type of feminism that lays all of society's ills at the feet of patriarchy. Her critics believe this is unnecessary because the patriarchal society has ended. Responding to her critics, Gilligan asks, if patriarchy has ended, then who is running the Fortune 500 companies and congress? She also observes that patriarchy is wreaking havoc citing Enron and WorldCom as examples as well as the scandal in the Catholic Church, the FBI, and the CIA (Wylie and Simon). However, Gilligan (2001) also believes that "the transformation from patriarchy toward a fuller realization of democracy will be one of

the most important historical events of the next 50 years" (para. 3). She observes that there are already signs, for example, there are more women in the U.S. Congress than 20 years ago, women are marrying other women and having children, and gay men are marrying other men and adopting children. The educational system, Gilligan reasons, will be at the center of this "historic transformation," especially gender studies programs because these programs provide the knowledge that can foster human freedom and possibilities.

Carol Gilligan and her life work embody the essence of a postformal thinker. As Joe Kincheloe and Shirley Steinberg (1999) explain, postformal thinkers are metacognitively aware and understand the way that power affects their own lives and the lives of others; therefore, they apply postformal analysis to the deep structures in order to expose insidious assumptions. As Carol Gilligan's groundbreaking research clearly demonstrates, when postformal analysis is applied to education and psychology, the implications are boundless. Gilligan's research has had major repercussions, and it has inspired a wealth of research and scholarship not only in education and psychology but also in ethics and law. Her work has led to a wide range of educational and cultural projects designed to encourage girls' voices and build on their psychological strengths. Primary and secondary schools across America have developed girl-friendly curriculums and teaching methods in order to resist the principles of femininity that were psychologically and intellectually damaging to girls for reasons that required them to be nice, to be silent, and to suppress vital part of themselves. Furthermore, her work motivated colleges to incorporate women's studies programs, women's campus centers, and sexual harassment policies as well as speech codes of conduct. Many popular psychology books such as Naomi Wolf's *The Beauty Myth* (1991), Mary Pipher's *Reviving Ophelia* (1994), and John Gray's *Men Are from Mars, Women Are from Venus* (1998) resulted from Gilligan's studies. It also was the impetus for the 1991 American Association of University Women's report "Shortchanging Girls, Shortchanging America." Moreover, Gilligan's research was one of the driving forces behind the 1994 Gender Equity Act in Education (Wylie and Simon, 2003).

In addition, postformal theorists use feminist theory in order to unify logic and emotion, unlike formalists who insist upon a separation of logic and emotion. Postformal thinkers recognize that emotions develop into "powerful thinking mechanisms that, when combined with logic, create a cognitive process that extends our ability to make sense of the universe" (Kincheloe and Steinberg, 1999, p. 76). This idea is at the heart of Gilligan's research, and accurately describes Gilligan's theory of moral development. Finally, postformal scholars know that history is not complete and democracy cannot survive without the inclusion of all voices, specifically the voices of people who have been outside the mainstream of the conversation. Carol Gilligan actively opens the conversation to "different voices" because she knows that the inclusion of all voices is an act of social justice that adds to the richness and depth of the story and promotes creativity and understanding for all because the world looks and sounds very different after suddenly seeing and hearing something that you've never seen or heard before.

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CHAPTER 10

Emma Goldman

DANIEL RHODES

EMMA GOLDMAN

Emma Goldman is probably one of the most controversial figures in United States history and an obscure but important contributor to the field of education and educational psychology. She was instrumental in developing and promoting what was called the Modern School in the United States, a somewhat obscure but very progressive and groundbreaking philosophical educational system. The Modern School had its roots and development in Spain and was founded by the educator Francisco Ferrer y Guardia, but it was Emma Goldman and her connection to Anarchism and political activism, not to mention her own personal background, that lead her to support and promote the ideas of the Modern School in this country.

Emma Goldman herself was a product of a very suppressive and oppressive background. Born in Russia in 1869 where she and her family struggled with poverty for most of her tenure in that country her parents shipped her off to the United States to live with her half-sister when Goldman was twenty. This move to the Untied States foisted on Goldman by her parents was mainly a result of the ongoing conflicts between Emma and her father, but it was also these conflicts that eventually led to her philosophical beliefs and eventual support of the ideas put forth with the Modern School movement, which were very libratory. Her home life in Russia was emotionally cold and aloof at best, with at times her father being extremely abusive, both physically and mentally. Goldman was very rebellious and defiant which lead her father to often beat her and rage at her with the intent of getting her to obey his authority. Her family attempted to marry her off at the age of 15, which she refused, and the conflicts between her and her father grew until the family finally decided to send her to the United States in 1889 at the age of 20.

Being a Jewish immigrant in the United States in the late nineteenth century Goldman had few employment opportunities afforded to her so she mainly toiled in sweatshops and as a seamstress. While she was working in these factories she started recognizing the abuses inflicted onto the working class and those in poverty around her by the owners of the factories and others in power, which she considered to be the capitalist class. Goldman herself struggled with the jobs where she worked, having to labor long hours in hot tortuous conditions. These were formative years for Emma Goldman, being in her twenties during the late nineteenth century, where she started