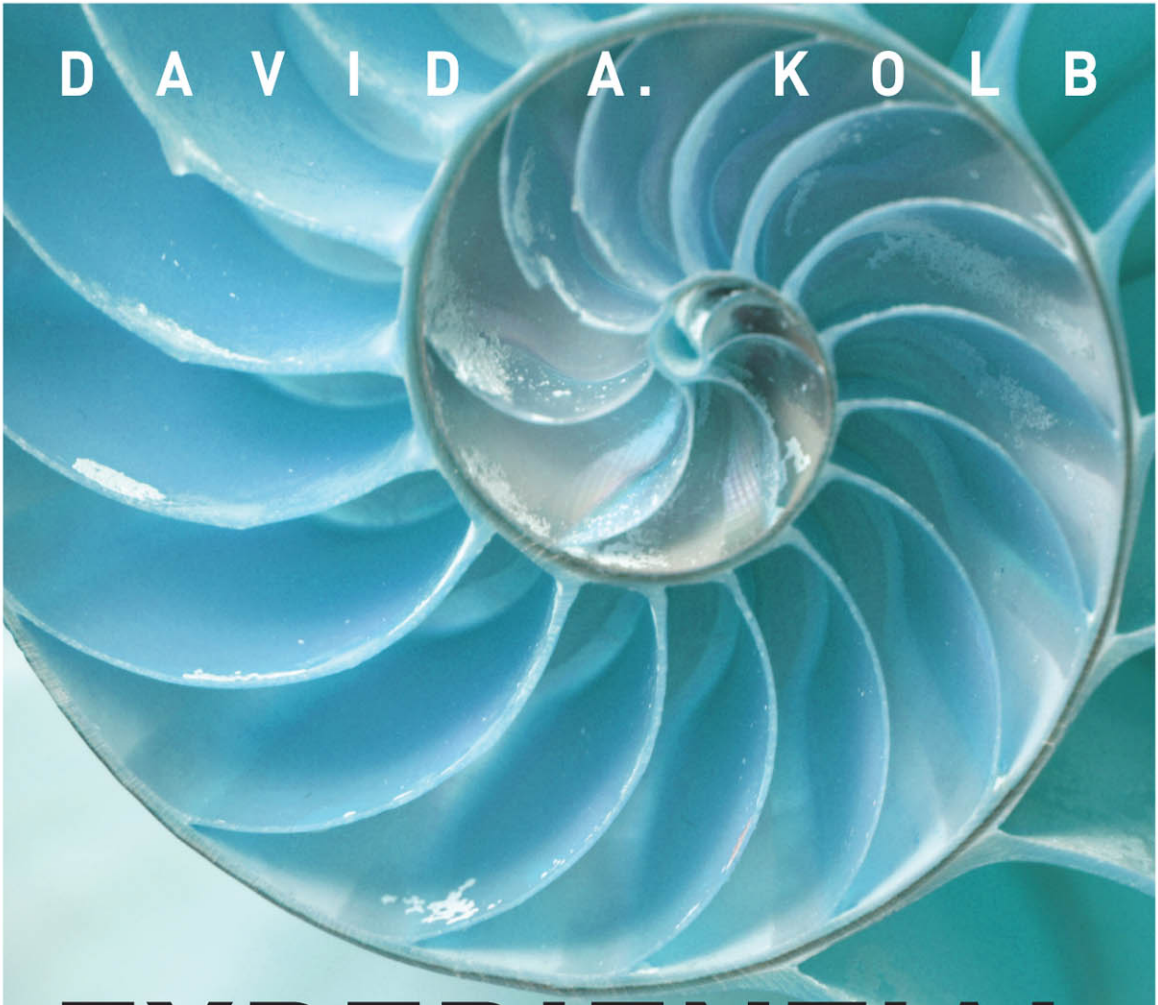

DAVID A. KOLB

EXPERIENTIAL LEARNING

EXPERIENCE AS THE SOURCE OF LEARNING AND DEVELOPMENT

SECOND EDITION

EXPERIENTIAL LEARNING

Experience as the Source of Learning and Development

Second Edition

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Experience as the Source of Learning and Development

Second Edition

DAVID A. KOLB

EXPERIENCE BASED LEARNING SYSTEMS, INC.

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For Alice

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Foreword

Foreword to the First Edition

This is a very special and important book. I say that at the outset because the book is written with such grace and gentleness, with such clarity and directness, that you will know that David Kolb has written an excellent treatise on learning theory, certainly for educators and quite possibly for Educated Persons, whatever that means. But as you read on—as *I* read on, I had to catch my breath every once in a while, wondering if the velocity of my excitement would ever cease.

Kolb has written a wonderful book, one I've been waiting for—without quite realizing it—for a long time. It's a book (I'm only guessing here) that he took a very, *very* long time to write, since it is crafted so carefully and is so deeply nuanced that you are certain that it's been filtered and re-set and redrafted many times, like a precious stone, turned and polished into a lapidary's gem.

Why this excitement? Well, the hyper-ventilation I alluded to above is based on Kolb's achievement in providing the missing link between theory and practice, between the abstract generalization and the concrete instance, between the affective and cognitive domains. By this BIG achievement he demonstrates conclusively—and is the first to do so—that learning is a social process based on carefully cultivated experience which challenges every precept and concept of what nowadays passes for "teaching." And with this major achievement he knowingly shifts the ecology of learning away from the exclusivity of the classroom (and its companion, the Lecture) to the workplace, the family, the carpool, the community, or wherever we gather to work or play or love.

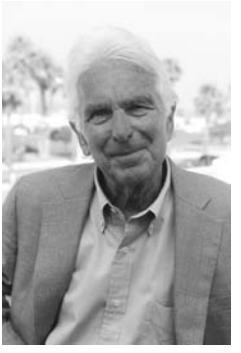
The significance for educators is profound because, among other things, Kolb leads us (again, so gently) away from the traditional concerns of credit hours and calendar time toward competence, working knowledge, and information truly pertinent to jobs, families, and communities.

The book is no "piece of cake." Despite its graceful aesthetic and illuminating diagrams, from mandalas to tight-lipped 2 × 2 tables that management professors love to show on the overhead screen, the author takes us on a fascinating but densely written journey in and around some of the most seminal thinkers who laid the foundations of "experience-based learning"—great minds such as Dewey, Lewin, and Piaget. Nor does he neglect other auxiliary players like Maslow, Rogers, and Erikson. Aside from creating a framework that removes whatever residual guilt those of us have felt or feel when using experience-based learning within the formal classroom boundaries, Kolb provides

a thick texture of understanding by building his framework on the wonderful armatures of that trinity: Dewey, Lewin and Piaget.

As I say, this is an important book, one the field has been waiting for, worth every ounce of energy it takes to read. But, because of its revolutionary undertones, read it at your own risk. For each reader must take the risk of creating a life of his or her own. When you think about it, you are the thread that holds the events of your life together. That's what Kolb gets us to understand.

Warren Bennis, 1925–2014



In fond remembrance of Warren,
my mentor and friend.

About the Author

David Kolb is the Chairman of Experience Based Learning Systems (EBLS), an organization that he founded in 1980 to advance research and practice on experiential learning. EBLS conducts basic research on Experiential Learning Theory and has developed many experiential exercises and self-assessment instruments including the latest Kolb Learning Style Inventory 4.0. The EBLS program of research on experiential learning is ongoing in collaboration with an international network of researchers, practitioners and learning partners.

He received his BA in psychology, philosophy, and religion at Knox College and his Ph.D. in Social Psychology from Harvard University. He was a professor of organizational behavior and management at the MIT Sloan School of Management and at the Weatherhead School of Management, Case Western Reserve University, where he is currently Emeritus Professor of Organizational Behavior.

He is best known for his research on experiential learning and learning styles described in this book, *Experiential Learning: Experience as the Source of Learning and Development*. Other books include *Conversational Learning: An Experiential Approach to Knowledge Creation, Innovation in Professional Education: Steps on a Journey from Teaching to Learning*, and *Organizational Behavior: An Experiential Approach*. In addition, he has authored many journal articles and book chapters on experiential learning. David Kolb has received several research recognition awards and four honorary degrees recognizing his contributions to experiential learning in higher education.

For more information about his work, go to www.learningfromexperience.com.

Preface

To the Revised Edition

This revised edition of *Experiential Learning* is the most comprehensive and up to date statement of experiential learning theory (ELT), a work that marks the centerpiece of my 50-year academic career. My involvement with experiential learning has been one of the most stimulating and rewarding associations of my adult life. As I described in the 1st edition, I didn't create experiential learning theory, but discovered it in the works of prominent twentieth-century scholars who gave experience a central role in their theories of human learning and development—notably John Dewey, Kurt Lewin, Jean Piaget, Lev Vygotsky, William James, Carl Jung, Paulo Freire, Carl Rogers, and Mary Parker Follett. The rewards of this long involvement have been multifaceted, ranging from the discovery of an intellectual perspective on human learning and development that is at once pragmatic and humanistic, to techniques of experience-based education that have added vitality to my teaching and to a perspective on adult development that has influenced my own personal growth and development as well as others.

I have been sustained and inspired in my work by a growing network of thousands of colleagues in over 30 academic disciplines from all over the world who share my excitement about experiential learning. Each year I have the pleasure of reviewing 300–400 research articles that have cited *Experiential Learning* and other ELT-related research papers for inclusion in the Experiential Learning Theory Bibliography (Kolb and Kolb, 2014). The scope of this work is broad and innovative, making immeasurable contributions to experiential learning theory research and practice. More personally, it is a source of endless inspiration for my own work. Even deeper satisfaction has come from supervising well over a hundred theses and Ph.D. dissertations at MIT and Case Western Reserve University and consulting with many other similar scholars at institutions around the world. I am filled with gratitude and admiration for the multiyear commitment they have made to advancing experiential learning theory. Engaging in the "nitty gritty" of ELT research as part of the dissertation process has given us the opportunity to explore theoretical, methodological, and practical issues in great depth and has produced lifelong friendships as well. Some of these scholars have carried research work on experiential learning forward into their own distinguished careers.

The Plan for This Revised Edition

I have chosen to keep the text of the first edition intact and add research updates and reflections at the end of each chapter. In this way the original text and theoretical statement of *Experiential Learning* is preserved and differentiated from the contemporary

additions. The Update and Reflections (U&R) sections of the chapters include developments in experiential learning theory research and theory since the publication of the first edition of *Experiential Learning* as well as my reflections on critical reviews of experiential learning theory and on theoretical issues raised by other research since the 1984 book.

Part I, "Experience and Learning," begins in Chapter 1 with a review of the history of experiential learning as it emerged in the works of Dewey, Lewin, and Piaget. It includes an analysis of the contemporary applications of experiential learning theory in education, organization development, management development, and adult development. The Chapter 1 Update and Reflections adds other foundational scholars of experiential learning and their particular contributions to experiential learning theory. The communalities among these scholars in their theories, methods, and careers are examined.

Chapter 2 compares the learning models of Dewey, Lewin, and Piaget and identifies the common themes that characterize the experiential learning process. The Chapter 2 Update and Reflections examines the process aspects of experiential learning with particular focus on the learning cycle. It explores the connections between learning and life in the concept of "autopoesis" developed by Maturana and Varela. Parallels between this spiral of life and the spiral of learning from experience are examined. Misunderstandings and critiques of the learning cycle and its application are also examined.

Part II, "The Structure of Learning and Knowledge," begins in Chapter 3 with a structured model of the learning process depicting two basic dimensions—a prehension or "grasping" dimension and a transformation dimension. Philosophical, physiological, and psychological evidence for this model are reviewed. The Chapter 3 Update and Reflections examines recent research on the brain and its links with the learning cycle, with particular emphasis on the work of James Zull.

Chapter 4 focuses on individuality in learning with the development of a typology of learning styles based on the structural model of learning presented in Chapter 3. Assessment of individual learning styles with the Learning Style Inventory is described. Data are presented relating individual learning styles to personality type, educational specialization, professional career, current job, and adaptive competencies. In the Chapter 4 Update and Reflections, the latest Kolb Learning Style Inventory 4.0 with nine learning styles and the assessment of learning flexibility will be examined in the context of the concept of conceptions of the self and individuality.

Chapter 5 presents a typology of social knowledge structures—formism, contextualism, mechanism, and organicism—and relates these knowledge structures to academic fields of study and career paths. The Chapter 5 Update and Reflections examines research on the spiral of knowledge creation with particular emphasis on tacit knowledge. The latest research on Pepper's world hypotheses is examined with its implications for disciplinary learning spaces.

Part III, "Learning and Development," begins in Chapter 6 with a statement of the experiential learning theory of development wherein adult development is portrayed in three stages—acquisition, specialization, and integration. The chapter describes how conscious experience changes through these developmental stages via higher levels of learning. The Chapter 6 Update and Reflections examines the latest research on adult development and its implication for ELT development theory.

Chapter 7 documents specialization as the major developmental process in higher education. It describes the knowledge structures of different fields of study and the consequences of matches and mismatches between student learning styles. Relationships between professional education and later career adaptation are also examined. The section called "managing the learning process" describes applications of experiential learning theory to teaching and administration. The Chapter 7 Update and Reflections describes our latest research on learning spaces and educator roles involved in teaching around the learning cycle and the assessment and development of learning skills.

Chapter 8 describes the challenges of integrative development in adulthood by examining the life structures of integrated and adaptively flexible individuals. Integrity is posed as the pinnacle of development, conceived as the highest form of learning. The Chapter 8 Update and Reflections focuses on lifelong learning and the learning way; describing how learners can use practices of deliberate experiential learning to respond to a changing world where lifelong learning is the norm.

David A. Kolb
Kaunakakai, Hawaii

Introduction

To the Second Edition

Pleasure is the state of being
Brought about by what you
Learn.
Learning is the process of
Entering into the experience of this
Kind of pleasure.
No pleasure, no learning.
No learning, no pleasure.

—Wang Ken, Song of Joy

Revisiting *Experiential Learning* after 30 years to prepare this second edition is a great pleasure for me. The book has been the centerpiece of my career as a scholar. Try as I might to escape it, inquiry about experiential learning has continued to inspire and fascinate, always drawing me back to explore new questions and ideas. Heidegger said that any thinker has but one central thought in life, one essential intuition, and I guess experiential learning is mine.

I still remember vividly the experience that gave rise to my intuition about the power of experience in learning. It was in the summer of 1966 at a two week T-group at the National Training Laboratory in Bethel, Maine. Early in the morning that began the second week, I was standing on the porch of the old Victorian house where we held our meetings. The sun was rising through the trees bringing its warmth to the morning chill. Its light bathed the woods in a golden glow that seemed to emanate from everything it struck. The surreal vividness of the scene was matched by the intensity of my emotions as I marveled at the closeness I felt to my group members who only a week before had been total strangers. We had shared our life stories with one another, but more powerfully had experienced one another deeply in the here-and-now. I had experienced a transformation in myself and witnessed transformation in others flowing from the contact. I was so eager to begin our next week together. The scene before me became blurred and sparkled like crystal as my eyes teared up in the sun. Fully experiencing such intense emotion was not typical for me, and it highlighted my sense that there was magic in the sensitivity training model of group dynamics that Kurt Lewin and his associates had created (see Chapter 1, p. 10).

I resolved to learn more and thus began a lifetime of inquiry into experiential learning. That fall my colleagues and I began experimenting with T-groups in our introductory course on Organizational Behavior at MIT's Sloan School of Management. Later we used them in our Peace Corps training programs. In both cases, these efforts met with mixed results in spite of our persistent attempts. While some students and trainees "got it" and were as profoundly influenced by their experience as I was, for many it was more about "emotional intelligence" than they were ready for. The lack of structure and deviation from the traditional classroom learning process they were accustomed to was too confusing for them to get much from the unstructured groups.

These difficulties spurred us to reflect more deeply in a search for a way to extract the "active experiential learning ingredient" that made these groups so powerful, and harness it to produce a more effective learning process. What we extracted was the experiential learning cycle based on Lewin's laboratory method. T-groups were typically introduced by saying, "We are going to share *experiences* together, *reflect* and share their meaning for us and together *think* about the implications for or group. From this understanding we can *act* to create the kind of group we want." We ask ourselves if this learning cycle might be a way to structure learning experiences.

For me this marked the beginning of my research based on the works of those who I have come to call the Foundational Scholars of Experiential Learning—William James, Kurt Lewin, John Dewey, Jean Piaget, Lev Vygotsky, Carl Jung, Carl Rogers, Paulo Freire, and Mary Parker Follett. I chose the word "experiential" to describe a particular perspective on the learning process that originated in the work of these scholars of experiential learning (see Chapter 1 Update and Reflections). Some have suggested that the term experiential learning is redundant since learning itself is generally conceived to be the result of experience as opposed to genetics, biological development, or instinct (e.g., Fenwick, 2003). However, the behaviorist approaches to the study of learning that dominated psychology in the first half of the twentieth century reduced objective experience to reinforcements and denied any role for subjective conscious experience in learning. The foundational scholars all stood at the margins of this dominant tradition placing subjective, conscious, and intentional experiencing at the center of the learning process.

In *Experiential Learning,* I developed Experiential Learning Theory (ELT) to integrate the common themes in their work into a systematic framework that can address twenty-first century problems of learning and education. My intention was to describe a theoretical perspective on the individual learning process that applied in all situations and arenas of life. Experiential learning theory was developed following Lewin's plan for the creation of scientific knowledge by conceptualizing phenomena through formal, explicit, testable theory. In his approach, "before a system can be fully useful the concepts in it have to be defined in a way that (1) permits the treatment of both the qualitative and quantitative aspects of phenomena in a single system, (2) adequately represents the conditional-genetic (or causal) attributes of phenomena, (3) facilitates the measurement

(or operational definition) of these attributes, and (4) allows both generalization to universal laws and concrete treatment of the individual case" (Cartwright, 1951, p. ix).

Having studied experiential learning for nearly 50 years, my views have evolved and deepened but not changed substantially. In many ways I have moved forward by moving backward, studying more deeply the works of the foundational scholars, recalling the line of T. S. Eliot at the beginning of Chapter 2, "We shall not cease from exploration. And the end of all our exploring. Will be to arrive where we started. And know the place for the first time." In revisiting *Experiential Learning* for this second edition, I cannot say that I know it definitively, but I can see that countless cycles through the learning spiral have deepened and expanded my views about learning and development.

What Is Experiential Learning?

The most important of these spirals of learning was a continuing inquiry into the nature of experience and the process of learning from it. The research literature on experiential learning contains much confusion and debate about its meaning. My inquiry took me back to William James' (1912) creation of the philosophy of radical empiricism in a search for an epistemological perspective that would help explain the ELT meaning of experiential learning and clarify the differences with other uses of the term. If I were to rewrite *Experiential Learning* today, I would promote James to equal status with Dewey, Lewin, and Piaget in the book. My further study of his work (James, 1912; Taylor and Wozniak, 1996) after its publication revealed in radical empiricism an epistemological foundation for experiential learning theory and a detailed analysis of the role of experience in learning. His description of the learning cycle (see Chapter 1 Update and Reflections, page 24) may well have been the first.

Experiential Learning as an Educational Technique or Type of Learning

A common usage of the term "experiential learning" defines it as a particular form of learning from life experience; often contrasted it with lecture and classroom learning. Keeton and Tate (1978) offered this definition, "Learning in which the learner is directly in touch with the realities being studied. It is contrasted with the learner who only reads about, hears about, talks about, or writes about these realities but never comes into contact with them as part of the learning process." In this view of experiential learning, the emphasis is often on direct sense experience and in-context action as the primary source of learning, often down-playing a role for thinking, analysis, and academic knowledge. Many educational institutions offer experiential education programs such as internships, field projects, and classroom experiential learning exercises to add a direct experience component to their traditional academic studies. Here it is thought of as an educational technique like service learning, problem-based learning, action learning, or team

learning. Lifelong learning is often conceived as a process of learning from direct life experiences that is controlled by the individual.

Buchmann and Schwille (1983) argue against education based on this type of experiential learning and further propose that the purpose of formal education is to overcome the biases inherent in the process of learning from ongoing life experience. They cite numerous sources of error in judgments based on experience such as Tversky and Kahneman's (1973) availability heuristic where the availability of objects and events in memory such as those experienced firsthand tend to be overused. Similarly vivid experiences tend to be weighted more highly than objective data. One's experience is necessarily influenced by their political and social context and thus is biased in judging social and political issues from other perspectives in the social order. They argue that reading is in some ways superior to reflection on personal experience because it broadens possibilities and perspectives. Secondhand knowledge is more generalizable and can go beyond what is known from experience. They conclude, "The measure of education is the degree to which it allows all people to access the objective contents of thought, to theoretical systems, problems and ideas with a range of implications not yet known" (1973, p. 46).

In a series of experiments examining performance after repeated decision making with outcome feedback called action-based or experiential learning, Eisenstein and Hutchinson (2006) conclude that "managers and consumers should increase their use of objective analyses and decrease reliance on experience or intuition" (2006, p. 256). Their studies showed that learning from experience was dependent on learning goals. "Some goals direct attention toward information that results in learning that transfers across situations, but other goals result in learning that is distorted by the characteristics of the stimuli that were considered most goal relevant. Contrary to popular wisdom, we found that reliance on this type of experiential learning is likely to be a risky proposition because it can be either accurate and efficient or errorful and biased" (2006, p. 257).

Brehmer (1980) cites studies showing that experienced experts are often no better than novices at making clinical judgments; for example, a study that compared clinical psychologists' and secretaries' ability to diagnose brain damage showed no difference between these two groups. He also describes studies that show that people have a number of biases that prevent them from using the information that experience provides. He concludes that experience does not necessarily lead to better judgment and decisions "because it stems from an untenable conception of the nature of experience, a conception that assumes that truth is manifest and does not have to be inferred . . . if we do not learn from experience, this is largely because experience often gives us little information to learn from" (1980, pp. 239–240).

In *The Ambiguities of Experience* the great organizational theorist James March contrasts his definition of experiential knowledge, "lessons extracted from the ordinary course of life and work," with academic knowledge "generated by systematic observation and analysis by expert and transmitted by authorities" (2010, p. 9). He attributes the

problems and pitfalls of learning from experience to the incomprehensible nature of experience. "Experience is rooted in a complicated causal system that can be described adequately by a description that is too complex for the human mind" (2010, p. 47). "As a result, the lessons derived from experiential learning are rife with unjustified conclusions, superstitious associations, misleading correlations, tautological generalizations, and systematic biases" (2010, p. 107).

When experiential learning is defined as a naturalistic ongoing process of direct learning from life experiences contrasted with the systematic learning of formal science and education, the picture that emerges is that experiential learning is haphazard, unreliable, and misleading, and it must be corrected by academic knowledge. The characterization of experiential learning conjures images of the ordinary persons blindly groping their way through daily experiences while academic knowledge is created by extraordinary persons who are presumably immune to the biases of learning from ordinary experience. For all humans, experience does not yield reliable knowledge easily. The experiential learning biases described above apply in the scientific laboratory as well as on the street. Scientists also learn from experience and are equally challenged by the difficulties of overcoming the biases involved. What the above cost/benefit analyses of experiential and academic knowledge fail to consider are the biases and limitations of generalized academic knowledge. Judgments and decisions based on "objective" knowledge can also be incorrect and unreliable because of unjustified assumptions in the analysis of data, professional tunnel vision that reinforces an availability heuristic in judgment, and many of the other problems cited above that are associated with learning in the course of ordinary life. Further, the context-free nature of generalized knowledge which is often considered its strength can become a liability in practice through the misapplication of generalized knowledge to a specific context. The first chapter of Mary Parker Follett's *Creative Experience* offers an excellent analysis of the limitations of the expert's generalized knowledge and the process through it is applied: "The social process is not, first, scientific investigation, then some method of persuading the people to abandon their own experience and thought, and lastly an acclaiming populace. The social process is a process of cooperating experience. But for this every one of us must acquire the scientific attitude of mind. This will not make us professional experts; it will enable us to work with professional experts and to find our place in a society which needs the experience of all, to build up a society which shall embody the experience of all" (1924, p. 30).

Experiential Learning in ELT

The above definition of experiential learning as in-context experiencing and action is not the meaning of experiential learning as defined in ELT. My intention in using the term "experiential" was to describe a theoretical perspective on the individual learning process that applied in all situations and arenas of life, a holistic process of learning that can aid in overcoming the difficulties of learning from experience enumerated above.

The aim of ELT is to create, through a synthesis of the works of the foundational scholars, a theory that helps explain how experience is transformed into learning and reliable knowledge. Truth is not manifest in experience; it must be inferred by a process of learning that questions preconceptions of direct experience, tempers the vividness and emotion of experience with critical reflection, and extracts the correct lessons from the consequences of action.

Dewey, himself, struggled with the incomprehensibility of experience to the point that, in preparing a new introduction to his master philosophical work *Experience and Nature* (1988/1925), he considered changing the title. In his 1951 draft for a new introduction, he wrote, "Were I to write (or rewrite) *Experience and Nature* today I would entitle the book *Culture and Nature* and the treatment of specific subject-matters would be correspondingly modified. I would abandon the term 'experience' because of my growing realization that the historical obstacles which prevented understanding of my use of 'experience' are, for all practical purposes, insurmountable. I would substitute the term 'culture' because with its meanings as now firmly established it can fully and freely carry my philosophy of experience." In this respect, he may have been influenced by the work of Vygotsky who emphasized the powerful influence of cultural artifacts and tools such as language on experience.

Dewey came to the realization that most experience is culturally mediated by many previous trips around the learning cycle:

> Experience is already overlaid and saturated with the products of the reflection of past generations and by-gone ages. It is filled with interpretations, classifications, due to sophisticated thought, which have become incorporated into what seems to be fresh naïve empirical material. It would take more wisdom than is possessed by the wisest historical scholar to track all off these absorbed borrowings to their original sources. [Dewey, 1925, p. 40]

He called this "empirical experience" which was conservative, tradition bound, and prone to conformity and dogmatism. He emphasized that this traditional flow of experience must be interrupted to initiate reflection and learning. While he argued that it was necessary to reflect on experience in order to draw out the meaning in it and to use that meaning as a guide in future experiences, he observed that the reflective process seemed to be initiated only when we are "stuck" with a problem or difficulty or "struck" by the strangeness of something outside of our usual experience (Dewey, 1933). Paulo Freire made a similar point arguing that an intense direct experience, such as a majestic sunrise, which he called "espanto" or shock, was necessary for deep learning.

In this formulation, Dewey echoes his collaborator William James, whose radical empiricism was foundational for the later development of the philosophy of pragmatism. James proposed radical empiricism as a new philosophy of reality and mind, which resolved

the conflicts between nineteenth-century rationalism and empiricism as expressed in the philosophies of idealism and materialism. Speaking of "tangles" created by philosophical and psychological inquiry in his time, he succinctly describes the central principles of both philosophies: "It seems to me that if radical empiricism be good for anything, it ought, with its pragmatic method and principle of pure experience, be able to avoid such tangles, or at least simplify them somewhat. The pragmatic method starts from the postulate that there is no difference of truth that doesn't make a difference of fact somewhere; and it seeks to determine the meaning of all differences of opinion by making the discussion as soon as possible hinge on some practical or particular issue. The principle of pure experience is also a methodological postulate. . . . Everything real must be experiencable somewhere, and every kind of thing experienced must be somewhere real" (1943, pp. 159–160).

For James, everything begins and ends in the continuous flux and flow of experience. In short, experience is all there is—"we start with the supposition that there is only one primal stuff or material in the world, a stuff of which everything is composed . . . we call that stuff 'pure experience'" (1943, p. 4). In this formulation, the duality between the mind (thought) and physical world (thing) is resolved since both are experienced but with different characteristics. Thought is the concrete here-and-now experience "redoubled" in reflection—"If it be the self-same piece of pure experience taken twice over that serves now as thought and now as thing . . . how comes it that its attributes should differ so fundamentally in the two takings? As thing, the experience is extended; as thought, it occupies no space or place. As thing, it is red, hard, and heavy; but who ever heard of a red, hard, or heavy thought" (1943, pp. 27–28).

James was influenced in this view by Husserl's phenomenological view of experience which Calvin Scrhag in *Experience and Being* says, "conveys the unity of insight and action, perception and conception, knowledge and valuation, theory and practice. Experience has to do with seeing into a situation and acting within it. It includes in its range perceptual acts and the anticipation of concepts. It involves both the knowledge and evaluation of objects, events, and situations. Thus experience in its primitive presence lies beyond any conflict between theory and practice, subject and object, intellect and will" (cited in Hopkins, 1993, p. 53). Dewey set forth the postulate of immediate empiricism to describe radical empiricism. He argued that the significance of the principle is that of a philosophical method of analysis, "If you wish to find out what subjective, objective, physical, mental, cosmic, psychic, cause, substance, purpose, activity, evil, being, quantity—any philosophical term, in short—means go to experience and see what it is experienced *as*" (1905, p. 399).

The implication of the philosophy of radical empiricism for experiential learning theory and the experiential learning cycle is that it is not only the Concrete Experience mode of learning that is experiential, all modes of the learning cycle (see Figure 2.5, p. 51) are included in experience. Both modes of grasping experience—Concrete Experience (CE)

and Abstract Conceptualization (AC)—and both modes of transforming experience—Reflective Observation (RO) and Active Experimentation (AE)—are part of the experiential learning process. Many use the term experiential learning to refer to exercises and games used to involve students in the learning process. However, a classroom lecture may be an abstract experience, but it is also a concrete one, when, for example, a learner admires and imitates the lecturer. Likewise a learner may work hard to create an abstract model in order to make sense of an internship experience or experiential exercise. From the learner's perspective, solitary reflection can be an intensely emotional concrete experience, and the action of programming a computer can be a highly abstract experience.

Returning to my vivid sunrise experience in Bethel, Maine, for Dewey I was struck, for Freire it was a shock, for James it was a pure experience. It was, of course, not totally a pure experience, being surrounded by many thoughts. I had read about Lewin's laboratory method and Rogers, emphasis on experiencing in the change process. But the experience had the effect of focusing my attention and drawing me more deeply into a commitment to explore it more deeply. As Dewey said, I was provoked by it into critical reflection, a reflection that led to an idea (the learning cycle) which we tried out in action, the consequences of which provided new stuckness (e.g., student and Peace Corps volunteer resistance) and other trips around the learning cycle. All of these were experiences—the concrete "pure experience," the critical reflection, thinking about ideas, and the process of implementing actions. The critics of learning from direct experience cited above describe how the vividness of a personal experience can cause it to have undue weight in decisions and judgments. Whether it was undue or not, I certainly gave it a lot of weight. It captured my interest and attention and thus created a continuity of selected experiences that continues to this day, following James interest–attention–selection cycle.

James in *The Principles of Psychology* describes how attention plays its focus "like a spotlight" across the field of consciousness in a way that is sometimes involuntary, as when the shock of pure experience "captures" our attention, but is often voluntary. James defines the voluntary process as a spiral of interest–attention–selection that creates a continuous ongoing flow of experience summarized in the pithy statement: "My experience is what I agree to attend to" (1890, p. 403). He defines interest as an "intelligible perspective" that directs attention and ultimately selection of some experiences over others. Selection feeds back to refine and integrate a person's intelligible perspective serving as "the very keel on which our mental ship is built" (James cited in Leary, 1992, p. 157).

Experiential Learning Theory Research Today

The most gratifying and motivating result of experiential learning theory for me has been in the way it has stimulated and focused a scholarly research conversation about experiential learning. Experience Based Learning Systems was created in 1980 to facilitate experiential learning theory research and communication among researchers and practitioners of experiential learning through its website www.learningfromexperience.com.

Since its first statement in 1971 (Kolb, 1971; Kolb, Rubin, and McIntyre, 1971), there have been many studies using experiential learning theory to advance the theory and practice of experiential learning. Since experiential learning theory is a holistic theory of learning that identifies learning style differences among different academic specialties, it is not surprising to see that experiential learning theory research is highly interdisciplinary, addressing learning and educational issues in many fields. An analysis of the 1,004 entries in the 1999 bibliography (Kolb, Boyatzis, and Mainemelis, 2001) shows 207 studies in management, 430 in education, 104 in information science, 101 in psychology, 72 in medicine, 63 in nursing, 22 in accounting, and 5 in law. About 55 percent of this research has appeared in refereed journal articles, 20 percent appeared in doctoral dissertations, 10 percent appeared in books and book chapters, and 15 percent appeared in conference proceedings, research reports, and others.

Since 2000 experiential learning theory research in these fields around the world has more than quadrupled. A 2013 review of management education research (Arbaugh, Dearmond, and Rau) showed that 27 percent of the top cited articles in management education journals were about experiential learning and learning styles. Research in engineering, computer science, and health care has increased substantially. The current experiential learning theory bibliographies include nearly 4,000 entries from 1971–2014. Kolb and Kolb (2013) have summarized selected studies of the experiential learning method and the Learning Style Inventory (LSI) applied in 30 different professions and academic disciplines. The studies cover a broad range of applications using experiential learning theory and the Learning Style Inventory. Some studies have used the LSI and the experiential learning cycle to understand and manage differences between students and faculty learning styles. Some educators have used an experimental design to compare the effectiveness of an experiential learning method with a more traditional course format, whereas others have developed and implemented instructional methods using the experiential learning model as a framework.

Included are research studies from every region of the world with many contributions coming from the United States, Canada, Brazil, the United Kingdom, China, India, Australia, Japan, Norway, Finland, Sweden, the Netherlands, and Thailand. These studies support the cross-cultural validity of experiential learning theory and the Kolb Learning Style Inventory (KLSI) and also support practical applicability across cultures. The KLSI has been translated into many languages including English, Spanish, French, Portuguese, Arabic, Russian, Dutch, German, Swedish, Chinese, Romanian, Persian, Thai, and Japanese. The value of the holistic ELT framework for understanding cultural differences has been show in a number of studies on cross-cultural management (Kayes, Kayes, and Yamazaki, 2005; Kayes, Kayes, and Yamazaki, 2006; Yamazaki, and Kayes, 2004; Yamazaki and Kayes, 2007).

There have been two comprehensive reviews of the experiential learning theory literature, one qualitative and one quantitative. In 1991, Hickox extensively reviewed the

theoretical origins of experiential learning theory and qualitatively analyzed 81 studies that focused on the application of the experiential learning theory model as well as on the application of the concept of learning style in accounting and business education, helping professions, medical professions, post-secondary education, and teacher education. She concluded that, overall, 61.7 percent of the studies supported experiential learning theory, 16.1 percent showed mixed support, and 22.2 percent did not support experiential learning theory. In 1994, Iliff conducted a meta-analysis of 101 quantitative LSI studies culled from 275 dissertations and 624 articles that were qualitative, theoretical, and quantitative studies of ELT and the KLSI (LSI, Kolb, 1971, 1985, 1999a, 2005). Using Hickox's evaluation format, he found that 49 studies showed strong support for the LSI, 40 showed mixed support, and 12 studies showed no support. About half of the 101 studies reported sufficient data on the LSI scales to compute effect sizes via meta-analysis. Most studies reported correlations that fell in the .2 to .5 range for the LSI scales. In conclusion, Iliff suggested that the magnitude of these statistics is not sufficient to meet standards of predictive validity, while noting that the LSI was not intended to be a predictive psychological test like IQ, GRE, or GMAT. The LSI was originally developed as a self-assessment exercise and a means for construct validation of experiential learning theory.

Judged by the standards of construct validity, experiential learning theory has been widely accepted as a useful framework for learning-centered educational innovation, including instructional design, curriculum development, and life-long learning. Academic field and job classification studies viewed as a whole also show a pattern of results consistent with the experiential learning theory structure of knowledge theory. Most of the debate and critique in the ELT/LSI literature has centered on the psychometric properties of the LSI. Results from this research have been of great value in revising the LSI in 1985, 1999, 2005, and most recently in 2011. The Kolb Learning Style Inventory 4.0 (Kolb and Kolb, 2011; see Chapter 4 Update and Reflections). Recent critique (see Chapter 2 Update and Reflections) has been more focused on the theory than the instrument examining the intellectual origins and underlying assumptions of experiential learning theory from what might be called a critical theory perspective where the theory is seen as individualistic, cognitivist, and technological (e.g., Vince, 1997; Holman, 1997; Hopkins, 1993). Kayes (2002) has reviewed these and other critics of experiential learning theory and offered his own critique of the critics. He suggests that critics have overlooked the role of Vygotsky's social constructivist learning theory in the experiential learning theory of development and the role of personal knowledge and social knowledge in experiential learning. He proposes an extension of experiential learning theory based on Lacan's post-structuralist analysis that elaborates the fracture between personal and social knowledge and the role that language plays in shaping experience.

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