

D A V I D A . K O L B

EXPERIENTIAL LEARNING

EXPERIENCE AS THE SOURCE OF
LEARNING AND DEVELOPMENT

S E C O N D E D I T I O N

EXPERIENTIAL LEARNING

Experience as the Source of Learning and Development

Second Edition

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EXPERIENTIAL LEARNING

Experience as the Source of Learning and Development

Second Edition

DAVID A. KOLB

EXPERIENCE BASED LEARNING SYSTEMS, INC.

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Contents

| | |
|-----------------------|------|
| Foreword..... | x |
| About the Author..... | xii |
| Preface..... | xiii |
| Introduction..... | xvi |

Part I Experience and Learning

| | | |
|------------------|--|-----------|
| Chapter 1 | The Foundations of Contemporary Approaches to Experiential Learning..... | 1 |
| | Experiential Learning in Higher Education: | |
| | The Legacy of John Dewey..... | 4 |
| | Experiential Learning in Training and Organization Development: The Contributions of Kurt Lewin..... | 8 |
| | Jean Piaget and the Cognitive-Development Tradition of Experiential Learning..... | 12 |
| | Other Contributions to Experiential Learning Theory..... | 15 |
| | Update and Reflections..... | 19 |
| | Foundational Scholars of Experiential Learning Theory..... | 19 |
| | Liminal Scholars..... | 20 |
| | Contributions to Experiential Learning..... | 23 |
| Chapter 2 | The Process of Experiential Learning..... | 31 |
| | Three Models of the Experiential Learning Process..... | 32 |
| | Characteristics of Experiential Learning..... | 37 |
| | Summary: A Definition of Learning..... | 49 |
| | Update and Reflections..... | 50 |
| | The Learning Cycle and the Learning Spiral..... | 50 |
| | Understanding the Learning Cycle..... | 50 |
| | The Learning Spiral..... | 61 |

Part II The Structure of Learning and Knowledge

| | | |
|------------------|--|------------|
| Chapter 3 | Structural Foundations of the Learning Process | 65 |
| | Process and Structure in Experiential Learning. | 66 |
| | The Prehension Dimension-Apprehension Versus Comprehension | 69 |
| | The Transformation Dimension-Intention and Extension | 77 |
| | Summary | 85 |
| | Update and Reflections | 87 |
| | Experiential Learning and the Brain | 87 |
| | James Zull and the Link between the Learning Cycle and Brain Functioning. | 88 |
| | My Brain Made Me Do It? | 94 |
| | | |
| Chapter 4 | Individuality in Learning and the Concept of Learning Styles | 97 |
| | The Scientific Study of Individuality | 98 |
| | Learning Styles as Possibility-Processing Structures | 100 |
| | Assessing Individual Learning Styles: The Learning Style Inventory | 104 |
| | Evidence for the Structure of Learning | 111 |
| | Characteristics of the Basic Learning Styles | 114 |
| | Summary and Conclusion. | 135 |
| | Update and Reflections | 137 |
| | Individuality, the Self, and Learning Style. | 137 |
| | Western and Eastern Views of the Self | 138 |
| | Experiential Learning and the Self. | 139 |
| | Learning Style | 141 |
| | | |
| Chapter 5 | The Structure of Knowledge | 153 |
| | Apprehension vs. Comprehension—A Dual-Knowledge Theory | 154 |
| | The Dialectics of Apprehension and Comprehension | 159 |
| | The Structure of Social Knowledge: World Hypotheses | 164 |
| | Summary | 173 |
| | Social Knowledge as Living Systems of Inquiry—The Relation between the Structure of Knowledge and Fields of Inquiry and Endeavor. | 175 |
| | Update and Reflections | 186 |
| | The Spiral of Knowledge Creation | 186 |
| | Personal Characteristics and Ways of Knowing | 188 |
| | Knowledge Structures and Disciplinary Learning Spaces. | 190 |
| | The knowledge Structures of <i>Experiential Learning</i> | 192 |

Part III Learning and Development

| | | |
|------------------|--|------------|
| Chapter 6 | The Experiential Learning Theory of Development | 197 |
| | Learning and Development as Transactions between Person and Environment | 198 |
| | Differentiation and Integration in Development | 199 |
| | Unilinear vs. Multilinear Development | 201 |
| | The Experiential Learning Theory of Development | 205 |
| | Consciousness, Learning, and Development | 210 |
| | Adaptation, Consciousness, and Development | 216 |
| | Update and Reflections | 225 |
| | Culture and Context | 226 |
| | Individual Differences and Multilinear Development | 227 |
| | Integration and Advanced Stages of Adult Development | 228 |
| | Implications for Experiential Learning Theory Development Theory | 234 |
| | | |
| Chapter 7 | Learning and Development in Higher Education | 239 |
| | Specialized Development and the Process of Accentuation | 242 |
| | Undergraduate Student Development in a Technological University | 244 |
| | Professional Education and Career Adaptation | 261 |
| | A Comparative Study of Professional Education in Social Work and Engineering | 263 |
| | Managing the Learning Process | 276 |
| | Implications for Higher Education | 283 |
| | Update and Reflections | 287 |
| | Becoming an Experiential Educator | 287 |
| | | |
| Chapter 8 | Lifelong Learning and Integrative Development | 311 |
| | Adaptive Flexibility and Integrative Development | 315 |
| | On Integrity and Integrative Knowledge | 327 |
| | Update and Reflections | 333 |
| | Lifelong Learning and the Learning Way | 333 |
| | | |
| | Bibliography | 355 |
| | Index | 377 |

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.

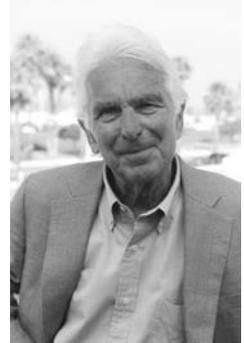
The significance for educators is profound because, among other things, Kolb leads us (again, so gently) away from the traditional concerns of credit hours and calendar time toward competence, working knowledge, and information truly pertinent to jobs, families, and communities.

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 “autopoiesis” 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 experientiable 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 Schrag 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 shown 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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- A**
- A priori* forms, 154, 169
- Absolute, the, 172
- Absolute idealism, 165, 171
- Absolute skepticism, 39
- Abstract, 56, 161, 180, 210, 243, 246, 248–252, 264, 286
- Abstract concepts, 16, 35
- Abstract conceptualization, xxiii, 42, 51, 66, 90–91, 100–2, 104, 108–9, 111, 114, 115, 117, 120, 144–146, 154, 205, 213, 217, 219, 227, 265, 272, 277, 279–281, 292–293, 303, 320, 324
See also Adaptive flexibility
 adaptive flexibility in (ACAF), 318–320, 326–327
- Abstract/concrete dimension, 111, 129, 179, 181, 245, 317
- Abstract reasoning, 13
- Academic credit, 6
- Academic disciplines, 175–182, 240, 244, 253, 257, 286, 307
- Academic performance, 255. *See also* Cumulative grade average
- Academic workload, 256–257
- Accentuation, 146, 208, 214, 242–244, 246–248, 253–254, 261, 267, 315
- Accommodation, 26, 34–35, 37, 40, 42, 146, 204, 206–207, 212, 213, 235, 265
 accommodative knowledge, 68, 166, 272
 accommodative learning, 184, 207, 215, 243, 248
 accommodative learning style, 106–7, 115, 120–121, 124, 126, 178, 179, 246–248, 253, 255–256, 264, 272
 accommodative situations, 317, 319
 acting skills, 134
- Accounting, 179–180, 272
- Achievement/action schemes, 220
- Achievement addiction, 314
- Acquisition, 206, 207, 211, 217, 224, 225, 234, 239
- Acting, 88–89, 301
- Acting skills, 134
- Acting style, 145
- Action, 41, 91, 264, 296, 347
 goal oriented, 33, 218
 mode, 84, 85
 purposeful, 33
- Action/reflection, 51
- Action research, 9, 17, 19, 23, 32–33
- Active experimentation, xxiii, 42, 51, 66, 91–92, 100–1, 102, 104, 111, 113–115, 117, 144–146, 217, 219, 245, 264, 272, 279–281, 285, 292–293, 303, 306
 adaptive flexibility in (AEAF), 318–319, 326–327
(See also Adaptive flexibility)
- Active imagination, 27
- Active learning, 299
- Active listening, 110
- Active mode, 210, 282, 334
- Active orientation, 36
- Active/reflective dimension, 111, 113, 129, 179, 181, 182, 245, 266, 317
- Activism, 41, 42
- Actual experienced enjoyment, 139
- Actualization, 139
- Adaptation, 1, 15, 34, 38, 40–44, 116, 155, 177, 199, 207–8, 210–211, 216–217, 225, 306
 career, 261 *(See also* Career)
 dialectically opposed modes of, 40
 by observation, 115
 proactive, 324
 psychological, 116–117
- Adapter flexibility, 320–321
- Adaptive competencies, 131, 134, 264, 267–268
- Adaptive competency circle, 307
- Adaptive/concrete dimension, 113
- Adaptive flexibility, 176, 186, 316–317, 320–324
 in abstract conceptualization (ACAF), 318–319
 in active experimentation (AEAF), 318–319
 in concrete experimentation (CEAF), 318–319
 in reflective observation (ROAF), 318–319
 total, 318–319
- Adaptive orientation, 98, 123, 126
- Adaptive process, 98, 111, 115–116
- Adaptive Style Inventory (ASI), 147–148, 317–319, 325, 326
 sample scores, 318
- Adjustment, 325
- Administrators, 270, 271
- Adolescence, 36, 207
- Adult development, 14–15, 172, 201, 204–5, 230, 234, 311, 315, 334
 stages of, 229–233
- Adult education, 10, 52, 311
- Adult learners, 3, 6, 11, 113
- Affective, 204, 214, 273, 277, 279, 281, 285
- Affective complexity, 204, 205–6, 212, 217, 220, 223, 264, 277
- Affective judgment, 76

Affirmation, 158
 Agricultural economics, 180
 Agriculture/forestry, 182
 Agronomy, 180
 Ahistorical causation, 173
 Alienation, 257–261. *See also* Anomie
 Alienation cycle, 244
 Alpha waves, 84
 Altmeyer, Robert, 244
 Alumni, 267–268, 271
 Alverno College, 285
 American Society for Training and Development (ASTD), 11
 Amygdala, 89
 Analogic, 170
 Analogs (imagens), 76
 Analytic, 75, 163, 166–170, 175, 177–178, 215, 243, 307
 ability, 72
 detachment, 10
 heuristic, 112
 reasoning, 244
 Analyzing learning style, 58
 Analyzing style, 145, 146
 Anomie, 245, 257–258. *See also* Alienation
 Anterior cingulate, 92
 Anthropology, 180
 Anti-intellectualism, 3, 6
 Antithesis, 70
 Anxiety, 343
 Apollonian typology, 98
 Appearances, 168, 172
 Applied fields, 167, 177, 180
 Applied social sciences, 191
 Appreciation, 156–158, 277, 315
 Apprehension, 23, 56, 66, 69–71, 72, 77, 79, 85, 86, 87, 97, 101, 102, 114, 154–161, 163, 170–173, 177–178, 207, 212–213, 215, 217
 Apprenticeships, 5
 Apriorism, 48, 153–154. *See also* Rationalism
 Aptitude testing approach, 131
 Archetypes, 80–81, 331
 Architecture, 181, 246, 247, 279–280
 Argyris, Chris, 40, 110, 209
 Aristotle, 165
 Art, 181
 Art education, 294–295
 Articulation, 156–157
 Arts, 124, 171, 191, 292–294
 Assimilation, 26, 34–35, 40, 42, 115, 146, 204, 211–214, 246–248
 knowledge, 68, 166, 243
 learning, 246
 situations, 317
 thinking competencies, 134
 Assimilator learning style, 108–111, 115, 124, 149, 178, 179, 207
 Astronomy, 180
 Attention, xxiii, 21, 158, 161, 217, 339
 Attitudes, 98
 Authenticity, 138

Automaticity, 59
 Autooetic consciousness, 92
 Autonomous (ego development), 320, 323
 Autonomous self, 63
 Autonomous self-authoring self, 236
 Autonomous stage of ego development, 232
 Autonomy, 54
 Autopoiesis, 62–63
 Autopoeiticism, 353

B

ba, 187–188, 190, 290
 Back integrative cortex, 90
 Bacteriology, 182
 Balancing style, 145
 Bandura, Albert, 47
 Bartlett, F. C., 76
 Bash, K. W., 82, 85
 Basic (field of inquiry), 172, 174–175
 Basic adaptive processes
 creativity, 44
 decision making, 44
 inquiry/research, 44
 learning, 44
 problem solving, 44
 Bates, W. Jackson, 286
 Becher, Tony, 190, 191
 Behavior, 32, 47, 177, 316
 motor, 102
 perceptual, 102
 Behavioral, xvii, 216, 218, 273, 277, 281, 285
 complexity, 204, 220, 223, 264, 278–279
 Behavioral complexity, 205–6, 212
 Behaviorism, 2, 11, 20, 31, 34, 43, 162
 Being orientation, 232
 Belief, 158, 231, 345
 Benne, Kenneth, 9
 Bennet, Nancy, 127
 Bennis, Warren, 240, 327–328, 333
 Benton, Arthur L., 75
 Bereiter, Carl, 176
 Beta waves, 84
 Bias, xix–xx, 351
 Bieri, J., 82
 Biglan, Anthony, 175–176, 179, 181
 Binet, Alfred, 12
 Biochemistry, 182
 Biology, 247
 Bogen, J. E., 72, 77, 83
 Bohm, David, 161
 Bohr, Niels, 331
 Bok, Derek, 283, 284
 Borzak, L., 286
 Botany, 180, 182
 Boud, David, 57
 Boyatzis, Richard, 87, 236
 Bradford, Leland, 9
 Brain, 83, 88–92
 corpus callosum, 72–73, 86
 interrelated with mind, 94–95
 learning cycle, 88–89

left and right hemispheres of, 16, 86, 87, 221–222
functions of, 72–74, 86
 neocortex, 72
 research, 87–88
 Bridges, Katherine, 200
 Brim, Orville, 311
 Bronfenbrenner, Urie, 46, 289–290
 Broverman, Donald, 83
 Bruner, Jerome, 13, 35, 38, 45, 103, 198, 203–4, 226, 239
 Brunswick, Egon, 46
 Bugg, P., 126–127
 Burt, E. A., 166, 171
 Business, 123, 178, 179. *See also* Management simulation, 19

C

Career(s), 3, 183–185, 208, 261–263, 314
 adaptation, 261–263, 267–273
 choice, 126, 246–248, 254
 development, 4, 183, 253, 261, 284
 paths, 183, 207, 264, 314
 professional, 126
 structure of, 184
 transition, 3, 6, 264
 Carnegie Commission on Higher Education, 179, 246
 Carnegie Tech, 244
 Carrigan, Patricia, 81
 Carter, Jimmy, 313
 Cartesian Theatre, 94
 Case Weatherhead School of Management, 292
 Casual spontaneous reflection, 58
 Causal adjustment (theory of truth), 169, 174
 Causal efficacy, perception by, 71
 Causality, 156
 Causation, a historical, 173
 Center for Group Dynamics, 22
 Centeredness, 2, 215, 333
 Ceramic engineering, 180, 182
 Cerebral cortex, 88–89
 Certainty, 160
 Certo, S., 112
 Change, 173
 Change agents, 10
 Cheers/Jeers continuum, 297
 Chemical engineering, 247–248
 Chemistry, 124, 178, 179, 246, 247
 Chickering, Arthur, 5, 7
 Child Behavior Questionnaire (CBQ), 188
 Child development, 12, 79, 82
 Choices, 100
 Christensen, M., 126, 127
 Circular response, 25, 55
 Civil engineering, 180, 182, 247
 Clark, D. S., 127, 272
 Cleveland Institute of Art (CIA), 292, 293
 Clifford, Clark, 313
 Climate, 274, 276–277, 279
 Clinical psychology, 181, 243
 Co-creation, 25
 Co-emergence/enactivist perspective, 64

Coaching, 304
 Cognition, 31, 62–63
 Cognitive complexity, 321
 Cognitive development, 12, 14, 34–36, 103–4, 112, 172, 198, 199, 201, 203–4
 processes, 12–13
 structural analysis of, 66, 85
 Cognitive domain, 103
 Cognitive style, 98, 103, 142, 243
 Cognitivist, 54
 Cohen, Morris, 65
 Coherence (theory of truth), 172, 173
 Cole, Michael, 46, 103, 198
 Collective unconscious, 80
 College credit, 3
 Columbus College of Art and Design, 294
 Combination, 187
 Commission on Community Interrelations (CCI), 22
 Commitment, 333
 within relativism, 162
 Common sense, 49, 164, 175, 188
 Communication, 159, 198
 Communications, 180
 Communities of practice, 290
 Competence-based education, 17
 Competencies, 4, 7, 264, 271, 273, 308
 adaptive, 131, 134
 Competency circle, 131–132, 134, 267–270, 273
 Comprehension, 23, 56, 66, 69–71, 72, 86, 87, 97, 101, 102, 114, 117, 154–161, 163, 166–170, 178, 207, 213–215, 217, 220, 265, 329
 critical, 158–159, 161, 185
 Computer science, 180
 Concepts, 34, 50, 71, 160
 Conceptualization, 51. *See also* Abstract conceptualization
 Concrete, 74, 162, 173, 242–243, 246, 248–252, 265, 277
 Concrete/abstract dimension, 112, 182
 Concrete experience, xxii, 10, 24, 32, 42, 51, 59, 66, 85, 100, 101, 104–5, 111, 115, 120, 144–146, 154, 204, 217, 219, 227, 264, 272, 277, 279–280, 285, 292–293, 301, 303, 306, 340, 346
 adaptive flexibility in (CEAF), 318–319, 321
 (*See also* Adaptive flexibility)
 sensory cortex, 89–90
 Concrete mode, 210
 Concrete operations, 35, 207
 Concrete stage of development, 229
 Configurational, 71
 Conflict, 10, 40–41, 114, 160, 209–10, 282, 326–327, 330, 333
 Conformist (ego development), 320, 322
 Connected knowing, 227–228
 Connecticut State Interracial Commission, 9, 22–23
 Connotation, 47, 172
 Conrad, K., 285
 Conscientious (ego development), 320, 323
 Conscientization, 22
 Conscious introspection, 340

Consciousness, 16, 20, 38–39, 53, 74, 160, 199, 208, 211, 217–218, 314
 critical, 199
 integrative, 211–212, 215, 221–223, 225
 interpretative, 156, 211, 214–215, 218, 219–222, 225
 receptive mode of, 84
 registrative, 156, 211, 214, 218, 219, 225
 Construct aware, 232, 237
 Constructionalism, 34, 36, 50, 54, 321
 Constructivism, 26, 54–55
 Consulting, 180
 Content, 160, 165, 208, 282
 Context, 149, 226–227, 290
 Contextualism, 99, 165, 170–175, 179, 188–189, 193, 329
 Contextualist/accommodative, 263
 Contingency, 95
 Continuity of self, 139
 Conventional development stage, 237
 Convergence, 146, 206, 211–214, 242, 246–248, 264–265
 decision skills, 134
 knowledge, 68, 166
 learning style, 36, 43, 114–115, 124, 126, 178, 179, 207, 211, 243, 256, 272, 283
 situations, 317, 319
 Convergent learning, 179
 Conversation, 64, 298
 Conversational learning, 29
 Conviction, 155. *See also* Belief
 Cook, Theodore, 62
 Cook-Greuter, Suzanne, 232, 235, 236, 237
 Cooperative Assessment of Experiential Learning (CAEL), 7. *See also* Council for the Advancement of Experiential Learning
 Cooperative education, 5
 Copernicus, 328
 Corballis, Michael, 16
 Corpus callosum, 72–73, 86
 Correlation, canonical, 119
 Correspondence, 167, 173, 174. *See also* Root metaphor
 Cortical homunculus, 94
 Council for the Advancement of Experiential Learning, 7. *See also* Cooperative Assessment of Experiential Learning (CAEL)
 Courage, 330–331
 Coyle, Daniel, 352
 Crary, Marcy, 321, 326, 327
 Creativity, 10, 42–44, 205, 240, 244, 282, 315, 325
 Crick, Francis, 20–21
 Crisis of generativity, 283–284, 314
 Critical consciousness, 16, 342
 Critical idealism, 154
 Critical reflection, 58
 Critical theory, 54
 Criticism, 156–157
 Culture, xxi, 17, 21, 103, 175, 181, 198–199, 203, 210, 226–227, 283, 298, 307
 Culture circles, 22

Cumulative grade average, 244, 255
 Curriculum, 13–14, 282, 283–284
 competence-centered, 15
 design of, 15
 development of, 13
 discovery, 19
 experience-based, 13
 Curvilinear development, 236

D

Darwin, Charles, 312
 Davis, J., 177
 de Groot, Adriaan, 220
 deCharms, Richard, 321
 Deciding style, 145
 Decision making, 44–45, 114, 117, 134
 Deep experiencing, 28
 Default mode network (DMN), 87
 Defensiveness, 205
 Deliberate learning, 338–340
 Deliberate practice, 338, 352–353
 Democracy, 9, 334
 Democritus, 165, 168
 Dennett, Daniel, 94
 Departments, 284
 Descartes, 154, 155
 Development, 45, 197–201, 203–4, 211, 216, 225, 234–236, 311
 cognitive, 16, 199–201
 conventional, 229
 differentiation and integration, 199–201
 dimensions of, 228
 individual, 114
 integrative, 229
 as a lifelong process, 15
 moral, 14
 personal, 42
 post-conventional, 229
 socioemotional, 15–16
 processes of, 12
 specialization stage of, 209, 214
 specialized, 210, 220
 theory, 205–10, 226
 toward a life of purpose and self direction, 17
 unilinear vs. multilinear, 201–5
 Developmental psychology, 46
 Dewey, John, xvii, xviii, xxi, xxii, xxiii, 4–5, 12, 15, 17, 22, 24–25, 33, 44, 46, 47, 48, 53, 54, 55, 57, 59, 99, 153, 159, 161, 170, 171, 197, 293, 296, 353
 DeWitt, Norman, 172
 Dialectic, 10, 16, 17, 24, 33, 40, 42, 50–51, 56–57, 66, 87, 111, 145, 155–157, 159–163, 199, 205, 209, 212, 215, 222–223, 229, 231, 291, 329–330
 Dialogue, 2, 16, 41, 205
Dialoguing ba, 188
 Dictatorship, 9
 Diekmann, Arthur, 84–85
 Differentiation, 199–201, 211–213, 236, 326
 Digital, 170
 Dionysian typology, 98
 Discernment, 139

Disciplinary learning spaces, 190–192
 Discipline(s), 176–177, 179, 203, 241, 253
 Discriminando, 76
 Dispersive inquiry, 165–166, 177
 Dissipative structures, 63–64
 Divergence, 103, 146, 178, 181, 206, 211, 215,
 242–243, 246–248
 knowledge, 67–68, 166
 learning style, 115, 124, 178, 181, 207, 243,
 256, 283
 situations, 317, 319
 valuing skills, 134
 Dogmatism, 39, 162–163
 Doherty, A., 285
 Dominant function, 221
 Double-knowledge theory, 71–72, 76
 Double loop learning, 110
 Dramatic arts, 182
 Driver, M. J., 201–2
 Dual knowledge theory, 23, 87, 154–159
 Dual processing theories, 21
 Dweck, Carol, 96, 342, 343, 348
 Dyson, James, 344

E

Earth science, 247
 Eclecticism, 193, 328
 Ecological validity, 46
 Ecology, 182, 289–290
 Economic history, 181
 Economic progress, 334
 Economics, 124, 177, 179, 181, 246, 247–248, 251,
 253, 255–261
 Edison, Thomas, 344
 Education, xviii–xx, 93, 177–178, 181, 226
 banking concept of, 29, 38, 41, 208, 342
 experience based, 3
 idealist approaches, 37
 learning process, 276–283
 linkage with work, 6–7
 problem-posing, 342
 progressive approach, 5
 traditional, 5, 37
 Educational administration, 180, 182
 Educational intervention, 342–343
 Educational specialization, 123–126, 242–243
 Educational Testing Service, 7
 Educator role, 302–6
 Educator Role Profile, 302, 304–5
 Edwards, Betty, 74, 221
 EEG, 84
 Ego development, 201, 232, 320–322
 stages of, 15, 320, 322–324
 Egocentricism/reflectivism, 36, 53, 66, 85, 312
 Egolessness, 139
 Egyptian God Thoth, 162
 Einstein, Albert, 17, 156, 160, 222
 Electrical engineering, 182, 246, 247
 Eliot, Charles, 240, 283
 Eliot, T. S., xviii
 Elkind, David, 39
 Elms, A., 46
 Emergence, 95
 Emotion, 71, 200, 296, 345
 memory formation, 90
 Emotional intelligence, xvii
 Empirical experience, xxi
 Empirical uniformities, 168
 Empiricism, xviii, xxii, 13, 23–24, 37, 48, 153–154,
 163, 167, 193
 scientific, 167
 Enactive stage, 36, 207
 Endeavor, fields of, 175, 178–179, 190–191
 Engagement, 295–296
 Engels, Friedrich, 199
 Engineering, 128, 179, 181, 244, 246, 248, 263–267
 Engineering alumni, 263, 264, 268, 273, 274
 Engineer(s), 112, 124, 126–128, 130–133, 178, 235,
 268, 269, 272, 320
 English, 124, 178, 179, 244
 Enlightenment, 209
 Entomology, 180
 Entrepreneurs, 149–150
 Environment, 45–47, 55, 84, 198–199, 289, 317
 Episodic memory, 92–93
 Epistemology, 17, 37, 39, 48, 76, 79–81, 99, 154, 165,
 176, 194, 228
 Ericsson, K. Anders, 352
 Erikson, Eric, 15, 218, 283, 314, 320
 Escher, M. C., 86, 224
Esse in anima, 80
Esse in intellectu, 80
Esse in re, 80
 Ethical, 312
 Ethnomethodology, 181
 Evaluator, 304
 Executive jobs, 127–128
Exercising ba, 188
 Exosystem, 290, 295
 Expectation, 39
 Experience, xvii, xix–xxiv, 6, 23, 31, 37, 58, 138–139,
 161, 198, 297, 301, 303, 335, 341, 344, 346
 concrete, 24, 32, 42, 51, 59, 85 (*See also Concrete
 experience*)
 continuity of, 38–39
 environmental, 46–47
 grasping, 51
 here-and-now, 32
 objective, 32, 47
 personal, 32, 46, 80–81
 pure, 24, 59–60
 subjective, 32, 47, 159, 162
 transforming, 51
 Experience/abstraction, 51
 Experience balance, 81
 Experiencing ability, 60
 Experiencing beings, 232
 Experiencing process, 233
 Experiencing self, 138, 140
 Experiencing style, 145
 Experiential, xx
 Experimental psychology, 243

Expert, 304
Expertise, 298
Extension, 45, 66, 77–79, 82, 85, 86, 97, 100–1, 102,
155, 164–166, 177–178, 207, 211–214, 215–217
Extension in life space, 216–217
Extension in time, 216–217
Externalization, 187
Extratensive, 81
Extraversion, 79–81
Extraverted sensing, 120–121
Extroversion, 117, 118–119
Eysenck, Hans, 81

F

Facilitator, 304, 306
Fact, 158, 160, 171, 329–331
Failure, 344–345
Faith development, 230
Fallacy of misplaced concreteness, 149
Fallows, J., 313
Feedback, 33, 215, 217, 218–219, 253, 352
 first-order, 218, 219
 goal-directed, 218
 second-order, 218, 219–220
 third-order, 218, 219
Feeling, 70, 115, 116, 162, 292, 296
Feigl, Herbert, 71
Feldman, David, 203–4, 325
Feldman, Kenneth, 242
Feldman, S., 177, 179, 181
Field dependent, 243
Field-experience education, 286
Field independent, 243
Field projects, 3, 5, 6
Figurative aspect of thought, 66, 85
Figureground contrasts, 215
Finance, 128
Fine-arts, 244
Fixed self, 343–344
Fixed view, 96
Fixity, 316
Flavell, John, 201, 234, 339
Flexibility, 146–151, 326, 347
fMRI, 87
Focal experience, 214
Focusing, 60
Folk psychology, 96
Follett, Mary Parker, xvii, xx, 19, 20, 22, 25, 54, 55, 58
Force, 289
Forced-ranking, 112
Formal operations, 36, 229–231, 232
Formalism, 179
Formism, 99, 165–170, 173–174, 188
Formist/convergent, 264
Formist epistemology, 194
Freedman, Mervin, 176
Freire, Paulo, xvii, xxi, 16, 22, 28–29, 38, 40, 54, 58,
199, 208, 324, 341, 342
French, 182
Freud, Sigmund, 12, 43, 209

Freudian, 81
Front integrative cortex, 90–91
Frost, Robert, 311
Fry, Robert E., 276, 277, 279
Fulfillment, 316
Functional stage in development, 234

G

Galileo, 165, 328
Gaming simulations, 3
Gender, 227–228
Gendlin, E. T., 60, 213, 232
Generativity, 314
Generic adaptive competencies, 131
Genetic epistemology, 12, 37, 153, 226
Geography, 180
Geology, 180
German, 180, 182
Gestalt psychology, 12, 15, 20, 115
Giddens' theory of structuration, 61–62
Gilligan, Carol, 227
Gish, Glen, 319
Gjerde, C., 126, 127, 130
Global village, 2
Gnostic philosophers, 98
Goal-directed behavior, 34–35, 102, 218, 223
Goddard College, 113
Gödel, Kurt, 170
Gödel's theorem, 170, 221
Goethe, 70
Golden Rule, 330
Goldstein, K., 77
Gould, Stephen J., 94, 235
Goulet, Denis, 199
Graham, Martha, 53
Grasping experience, 51
Greek, 240
Greif, E. B., 14
Griggs v. Duke Power decision, 7
Grochow, J., 115
Group dynamics, 8, 9
Growth, 205–6, 282
Gruber, Howard, 325
Gypen, Jan, 112, 272–273, 313

H

Habitus, 191–192
Had-in-experience, 71
Hall, D., 177
Hannaford, Carla, 95
Hard stage in development, 234
Harlow, Harry, 220
Harmonious unity, 171. *See also* Root metaphor
Harvey, O. J., 15, 201
Health care, 307
Hegel, George, 39–40, 165, 172, 329–330
 epistemology, 40
Hegelian dialectic, 155, 162. *See also* Dialectic
Hegelian epistemology, 40
Hemisphere-dominance research, 16, 72–74. *See also*
 Brain

Here-and-now, 10, 32, 156–157, 197
 Hickox, xxv
 Hierarchic integration, 200–2
 Higher education, 4–5, 231, 240, 283–284
 Historical event, 173, 188
 History, 124, 175, 178, 179
 Hobbes, Thomas, 154
 Hodkinson, Harold, 11
 Hofstadter, Douglas, 77–78
 Holism, 31, 43–45, 54, 66, 84, 95, 141–142, 170, 172, 204, 211, 215, 221, 229, 300, 317
 Home economics, 182
 Homonymy, 54
 Homunculus, 94
 Hopkins, Richard, 194
 Horizontal decalage, concept of, 316
 Horticulture, 180
 Hospitality, 298
 Huber, Ludwig, 191
 Hudson, Liam, 115, 124, 242, 276, 285
 Hull, B. F., 37
 Human-services, 264
 Humanities, 171, 173–174, 177–178, 179–180, 181, 190, 195, 205, 245, 246, 247–248, 252, 253, 255–261, 284, 286
 Hume, D., 156
 Humility, 337
 Hunt, David, 15, 201, 276, 298
 Hursh, B., 286
 Hutchins, Robert, 239–240, 284
 Hylic, 98
 Hypothetical-deductive reasoning, 36, 115, 207, 220

I

Ideal self, 232
 Idealism, 154, 174
 Identity, 208, 218, 231, 267, 348
 Ideo-motor theory of action, 21, 339
 Iconic stage, 35, 207
 Iliff, xxv
 Illich, Ivan, 16
 Imagens, 76
 Imaginative ability, 115
 Imagining style, 58, 145, 146
 Imitation, 34, 42, 66, 198–199
 Immediacy of experience, 233
 Immediate empiricism, 59, 96
 Impulsivity, 33, 82–83, 320, 322
 Impulsivity-reflection, 82
 Incremental view, 96
 Incubation, 42
 Indeterminacy, principle of, 170
 Individualism, 53
 Individuality, 53, 97–100, 103–104, 137–138, 201, 203, 208, 209, 221, 227–228
 Induction, 27–28, 115–116, 207, 316
 Industriousness, 313
 Information processing, 201
 Ingenious blend, 297
 Initiating style, 145, 146
 Inquiry, 44–45, 172–173, 178, 279, 283

field of, 98, 173, 175–177, 178, 184, 185, 190–192
 integrative strategies of, 165
 scientific, 44, 169, 205
 Inside-out learning, 298–299
 Institutional context, 284–285
 Integrated learning, 150
 Integrated stage of ego development, 232
 Integrating opposites, 27–28
 Integration, 40, 42–43, 113, 166–167, 173, 177–178, 200–2, 206, 209–10, 217, 225, 228–229, 234, 235, 236, 239, 262, 320, 323, 324
 hierarchic, 200–2, 212–213, 217, 333
 integrative complexity, 205, 212, 225
 integrative development, 147–148, 241, 282–283, 284–285, 311–315, 320–324
 integrative fulfillment, 240, 311
 integrative knowledge, 328–331
 integrative learning, 114, 165, 286–287
 Integrative Development Scale (IDS), 148–149
 Integrity, 116, 175, 202, 215, 217, 218, 240, 313, 327–328, 330–331
 Intellectual development, 201, 227, 241
 Intellectual operation, 33
 Intellectualism, 170. *See also* Rationalism
 Intelligence, 12, 158, 177
 Intelligence tests, 197–198
 Intension, 65, 78
 Intention, 35, 66, 77–79, 82, 86, 97, 100, 114, 177–178, 207, 212–213, 215, 218, 330
 Intentional action, 339
 Intentional Change Theory, 141
 Intentional reflection, 85
 Intentional transformation, 101, 117
 Interaction, 46–47, 208
 Interactionalism, 153–155
 Interdisciplinary programs, 284
 Interest, 157, 353
 Interest-attention-selection, 339
 Internal voice, 231
 Internalization, 187, 301
 Internalized oppression, 345
 Internships, 3, 5, 19
 Intervention, 306
 Intratensive, 81
 Introversion, 79–81, 117, 118–119
 Introversion/extraversion, 114
 Intuition, 76, 115, 116, 117, 160, 162, 204, 223
 Ipsative, 104

J

Jacques, Elliot, 185
 James, William, xvii, xviii, xxi–xxii, xxiii, 20–21, 23–24, 38, 55, 56, 59, 61, 70, 87, 93, 161, 335, 339, 341
 Job demands, 129, 130, 267–271, 273, 307
 Job orientation, 112
 Job role, 127–131
 Journalism, 182
 Judgment, 33, 71, 116, 117, 158
 Jung, Carl, 20, 27–28, 56, 79–82, 85, 97, 98, 116, 194, 209, 221, 225, 314, 316, 332
 Justice, 330–331

K

- Kagan, Jerome, 82, 114, 311
Kant, Immanuel, 154, 160, 168
Kantian *a priori* forms, 169
Kantian dialectic, 155. *See also* Dialectic
Kayes, D. Christopher, xxiv–xxv, 57, 194, 308
Kegan, Robert, 230–231, 235, 297
Kelly, George, 44
Kendall's W statistic, 149
Klemke, E. D., 71
Knowing, 161
 higher forms of, 113
 phenomenal language, 71
 physical language, 71
 tacit, 156–157, 187
 ways of, 188–190
Knowledge, 54, 155, 156–157, 162, 164, 167, 169, 290
 actualized, 71
 conceptual, 71
 conversion, 187–188
 creation of, 77, 153, 156
 by description, 71
 explicit, 187
 forms of, 67–68
 integrative, 328–331
 personal, 48, 159, 160, 163, 187, 188, 198, 203
 Piaget's theory of stages, 13
 proximal, 225
 refined, 49, 164
 social, 48, 49, 123, 135, 159, 163, 164, 170,
 175–177, 185, 187, 198, 203, 204, 225, 239, 242,
 290, 328
 structure of, 17, 155, 164–166, 173–174, 175–178,
 190–192, 242–243, 263, 328
 systems of, 14–15
 tacit, 191–192
Knowledge-about, 70
Knowledge of acquaintance, 70, 71
Kogan, Nathan, 82, 114
Kohlberg, L., 14, 112, 141, 226, 229–230, 234, 320
Kolb, David A., 106, 111, 115, 125, 142, 193–194, 248,
 249, 257, 263, 291, 292, 295, 298, 302, 306, 307, 308,
 319, 320, 327, 334, 335, 338, 340, 346
Kolb Learning Style Inventory (KLSI), 143–151
Kuhn, Thomas, 283, 312

L

- Laboratory method, 9
Laboratory studies, 5
Laboratory training, 9, 10–11, 32–33, 47. *See also*
 T-groups
Lamb, S., 112
Landscape architecture, 279
Langer, Ellen, 350–351
Language, 159, 170, 172, 179, 199
 physical, 71
Latin, 240
Law, 166–167, 181, 261
Lawrence, D. H., 335–336
Laws, 154, 168

- Leaders, 333
Leadership, 9, 307
Leadership styles, 9
Learner, 297, 340–341
Learner-environment interactions, 279–282
Learning, xviii–xx, 14–15, 32, 33, 78, 142, 179, 197,
 210–211, 216–217, 218, 225, 288, 335
 assessment of prior, 17
 characteristics of, 37–49
 cognitive theories of, 17–18, 22, 34–36
 conversational, 29, 298
 definition of, 49–50, 67
 Dewey's model of, 33–34
 dual knowledge concept, 140
 elementary forms of, 100–2, 211–212, 214
 enactive, 36, 334
 flexibility, 146–151
 higher levels of, 100, 102–3, 211
 hypothetico-deductive, 36
 iconic, 35
 individuality in, 97, 103–4 (*See also* Learning
 styles)
 inductive, 35
 and life, 62–64
 neurology of, 88–89
 orientations at work, 113
 Piaget's model of, 34–36
 process of, 14, 37–40, 97, 104, 111–113, 223,
 276–283, 344
 second-order, 102
 self-directed, 14, 48
 stimulus-response theories, 45–46
 structural dimensions of, 66–68
 structure of, 111, 166, 175–178
 subjective, 32
 in terms of outcomes, 37–38
Learning cycle, xvii, xxi, 50–56, 140, 291, 295–296,
 300–2, 352
 in the brain, 88–89
 as constructivist and cognitivist, 54–55
 criticism of, 52–61
 individuality of, 52–53
 oversimplification, 55–56
Learning cycle clock, 307
Learning environment, 4, 10, 254, 261, 272–279
Learning flexibility, 291
Learning Flexibility Index (LFI), 146, 149
Learning heuristics, 220
Learning how to learn, 353–354
Learning identity, 338, 340–345
Learning life, 337
Learning mode, 143, 236
Learning on the job, 273
Learning relationships, 338
Learning self, 343–344
Learning skill, 307–8
Learning Skills Profile (LSP), 307–9, 346
Learning society, 2, 3
Learning space, 187–188, 288–299, 338, 349–350
 disciplinary, 190–192
Learning spiral, 51, 61–64, 226, 301–2

Learning Style Inventory (LSI), xxiv, 56, 104–6, 110–112, 118, 119–120, 126, 141–143, 227, 242–243, 265–266, 291–295, 317, 342, 346, 347
 profile, 106–8
 scores by organizational function, 129
 scores by undergraduate college majors, 123–125
 scores for engineers and social workers, 266
 scores for TECH seniors, 244–246
 scores for various professional groups, 127
 scores of senior medical students' choice of specialty, 130

Learning styles, 56, 58, 100–4, 114–116, 123–124, 135, 141–143, 176, 178, 181–183, 208, 241, 242–243, 244, 246–261, 262, 265, 272–273, 276, 279–282, 292–293, 305–6, 317, 330, 346–347
 flexibility, 307–8
 forces, 136
 types, 143–151
 work abilities, 132–133

Learning territories, 291

Learning time, 349–350

Learning way, 335–337

Left and right hemispheres of the brain, 16, 72–74, 86, 87, 221–222. *See also* Brain

Lehman, H. C., 283

Leibnitz, 154, 167–168

Leonard, George, 352

Lessor, J., 103

Levy, Jerre, 98

Lewin, Kurt, xvi, xvii, xviii, 4, 9, 12, 15, 17, 22–23, 25–26, 44, 47, 55, 173, 216, 289, 296, 315, 326
 social psychology, 8

Lewinian experiential learning model, 32–33

Lewis, R. G., 118, 120

Liberal arts, 240, 286

Libnetz, 154

Library science, 182

Life and learning, 62–64

Life crisis, 216

Life cycle, 286

Life space, 26, 173, 185, 216, 289–290, 317, 326

Life structures, 325–326

Lifelong learning, xix, 5–6, 17, 52, 183, 229, 262, 276, 285, 286, 312, 334–335

Likert scale, 142–143

Limbic system, 88

Linguistic components (logogens), 76

Lippitt, Ronald, 9

Living systems, 188

Locke, John, 53, 154

Locomotion, 296

Loevinger, Jane, 15, 112, 201, 225, 232, 235, 316, 320, 322–323. *See also* Ego development

Logic, 170, 176, 204

Logical positivism, 162–163, 167

Logico-intellectual formation, 80

Logogens, 76

Loomer, Bernard, 192

Lucretius, 165

M

Machine, 165, 168, 188

Macrosystem, 290

Magrite, Rene, 71

Management, 181, 246, 247–248, 264, 292–293, 308

Management education, 294–295

Manager(s), 119, 123, 268–269, 313

Mandala symbol, 331–332

Mann, L., 82

March, James, xix–xx, 335

Margerison, C. J., 118, 120

Margulies, Newton, 276

Marketing, 128, 272

Marrow, Alfred J., 9, 23

Maslow, Abraham
 self-actualization psychology of, 15, 171

Matching Familiar Figures Test, 82. *See also* Kagan

Materialism, 165, 174

Mathematics, 124, 154, 161, 167, 170, 174–176, 178, 179–180, 181, 243, 246, 247–248, 250, 253, 255–261, 343

Maturana, Humberto, 62

Maximum stability, 316

MBA students, 119, 272, 279–280, 292, 294

McBer and Company, 118

McCloskey, H., 257

McCraven, V., 82

McIntyre, Jim, 287

McNemar, W., 112

Mead, M., 165

Meaning, 77–78, 330–331, 333

Mechanical engineering, 180, 182, 247–249, 253, 255–261

Mechanism, 165, 168–170, 172, 174, 179, 188–190, 193

Medical profession, 126, 129

Medicine, 181, 261

Medieval scholasticism, 154

Meditative mindfulness, 350, 351

Memories, 91

Memory
 episodic, 92–93
 formation, 90
 semantic, 92–93
 working, 91

Mental health, 306

Mental imagery, 66

Mentkowski, M., 112, 285, 286

Mesosystem, 290

Messerley, Susan, 82

Meta-self, 141

Metacognition, 92–93, 299, 338–340, 354

Metaphysical, 164, 166, 167, 175, 205

Microbiotics, 180

Microsystem, 290

Midlife, 6, 311, 314, 315, 320, 325–326

Miettinen, Reijo, 52

Mimicry, 91–92

Mind
 interrelated with brain, 94–95

Mind-body problem, 71

Mind-is-brain, 94–95
Mindful experiencing, 338, 350–351
Mindfulness, 60–61, 350–351
Mirror neurons, 91
MIT's Sloan School of Management, xvii
Model building, 169
Modes of adaptation, 236
Molar behavior theory, 71
Monads, 155
Monitoring, 339
Moore, G. E., 71
Moral development, 14, 201, 226, 227, 229–230, 241
Moral way, 337
Morality, 229
Mother Theresa, 236
Motivation for competence, 327
Motor cortex, 91–92
Moyers, Bill, 313
Multilinear development, 201–5, 227–228
Music, 182
Myers, I., 118, 121–122
Myers-Briggs Type Indicator (MBTI), 118–119

N

Nagel, Ernest, 65
Naive type, 98
National Institute for Education, 334
National Society for Internships and Experiential Education (NSIEE), 5
National Training Laboratories (NTL), xvi, 10
Nativist, 153
Natural science, 174–178, 181
Naturalism, 165, 168, 198–199
Nervous system, 88
 parasympathetic, 83–84
 sympathetic, 83–84
Neurophysiology, 71
 research in, 72–73
Neuroplasticity, 96
Neuroscience, 95–96
Newcomb, Theodore, 242
Nietzsche, F., 98
Nihilism, 163. *See also* Utter skepticism
Nirvana, 139
Nishida, Kitaro, 20, 60–61, 187
Nominalism, 79–80
Non-judgment, 350
Normative, 104
Norms, 105, 175, 229, 244, 247–248, 253, 256–259, 262–263, 282, 283
Nouwen, Henri, 298
Nuclear engineering, 180
Nursing, 182

O

Object, 230, 324
Objectivity, 158
Observation, 32–33, 42, 277
Obsolescence, 2
Occupations, 175, 183
Oden, M., 177

Olsen, M., 257
Ontology, 228, 230
Operationalism, 174
Operative aspects, 66, 78, 85. *See also* Piaget
Operative transformation, 50
Organicism, 165, 170–173, 174, 178, 188–190
Organicism/Mechanism Paradigm Inventory (OMPI), 189
Organismic knowledge, 193
Organistic, 179
Organization development, 8–12
Organization effectiveness, 33
Organizational behavior, field of, 8
Organizational climate, 276
Organizational psychology, 287
Origin, 221
Originating ba, 188
Ornstein, Robert E., 85
Outcome assessment, 307–8
Overspecialization, 272

P

Paivio, I., 76
Palmer, J. O., 82
Palmer, Parker, 298, 300
Papaert, S., 199
Paradigm, 267
Parallel learning spirals, 347
Parasympathetic nervous system, 83–84, 86. *See also* Nervous system
Parsonian structural functionalism, 181
Partial skepticism, 39, 162, 185, 196. *See also* Provisionalism
Participative management, 11
Particularization, 204
Peace Corps, xvii
Pedagogy, 334
Peer group, 258–261, 299
Peirce, J., 165
Pepper, Stephen, 17, 39, 49, 71, 164–166, 169, 171–172, 173, 188, 192–193, 195, 235, 328–329
Perceiving, 116, 117, 120
Perception, 31, 66, 71, 116, 204, 213, 256–257, 273, 277
Perceptual complexity, 204, 205–6, 213, 217, 220, 223, 277–278
Perceptual isomorphs, 76
Perceptual-motor task, 83
Perceptual-restructuring task, 83
Performance, 45, 83, 211, 216–217, 225, 255, 261–262, 352
Performance mode, 226
Perkins, M., 71
Perls, Fritz, 15
Perry, William, 14–15, 112, 223, 320
Person variables, 339
Personal characteristics, 188–190
Personal constructs, 233
Personal destiny, 218
Personal development, 3, 241, 334
Personal identity, 231

- Personal knowledge, 48. *See also* Knowledge
 Personal-response flexibility, 317
 Personal responsibility, 163
 Personality theory, 201
 Personality type, 116, 118
 Personnel/labor relations, 128
 Pessoa, Fernando, 141
 Pfaff, W., 313
 Phenomenal language, 71
 Phenomenalism/constructivism, 34, 50, 51, 66, 85, 312
 Phenomenology, xxii, 12, 173, 181, 194
 Philosophy, xxii–xxiii, 39, 70, 94, 181, 189, 246, 283, 284. *See also* James
 Physical education, 182
 Physical sciences, 124, 167, 243
 Physics, 156, 177, 179, 242, 246, 247, 283
 Physiognomic perception, 156, 204
 Physiology, 180, 182
 Piaget, Jean, xvii, xviii, 12, 13, 15, 19, 22, 26, 34, 44, 48, 50, 57, 66, 68, 78–79, 85, 86, 153, 155, 156, 198, 203, 207, 226, 312, 316, 320
 Pigg, K., 127
 Planned change, 13
 Plato, 165, 167
 Play, 34, 42
 Plovnick, Mark, 126, 129, 130, 243, 283
 Pneumatici, 98
 Polanyi, Michael, 17, 156–158, 163, 170, 187
 Political alienation, 244, 257–259
 Political science, 124, 178, 179
 Politics of knowledge, 285
 Positivism, 155, 162–163, 167, 174
 Possibility processing structures, 99–100, 114, 135
 learning styles, 100–1, 208
 Post-conventional development stage, 237
 Post traumatic stress disorder (PTSD), 95
 Power of self-making, 337
 Practice, 352–353
 Pragmatism, 12, 17, 165, 171, 329
 Praxis, 38, 40–41, 58, 199
 Pre-conventional development stage, 237
 Precision, 165
 Preconceptions, 351
 Preferenda, 76
 Prehension, 67, 86, 100, 114
 apprehension process, 69–71
 comprehension process, 69–71
 dimension, 66, 85, 111, 155
 Present-centered awareness, 351
 Presential immediacy, perception by, 71
 Prigogine, Ira, 63
 Primary qualities, 168, 170
 Prior concepts, 341
 Prior knowledge, 297
 Prior learning experience, 3
 Prison reform, 15
 Proaction, 1, 197, 199, 205
 Proactive adaptation, 324
 Problem-based learning (PBL), 308
 Problem-posing education, 342
 Problem solving, 10, 36, 44–45, 114, 115, 167, 198, 212, 264
 process, 33
 style, 106
 Process, 155, 171–172, 174, 243
 Process conception of growth, 232–233
 Process experiencing, 233
 Professional deformation, 183, 265–267, 271
 Professional education, 261–267, 273
 Professional mentality, 126, 261–262, 265–267
 Professional specialization, 312
 Professional training, 283
 Professions, 175, 241, 261
 Progressive Movement of the 1920s, 22
 Provisionalism, 39. *See also* Partial skepticism
 Proximal development, zone of, 26, 199, 211, 225, 301, 350
 Psyche, 80
 Psychiatry, 243
 Psychici, 98
 Psychoanalysis, 15
 Psychological orientation, 116
 Psychological time dimension, 216
 Psychological types, Jung's, 16, 43, 98, 116–117
 extrovert type, 117, 120
 feeling type, 117, 120
 introvert type, 117, 120
 intuition type, 117, 120
 judging type, 117, 120
 perceiving type, 117, 120
 sensing type, 117, 120
 thinking type, 117, 120
 typology of, 117
 Psychology, 48, 124, 178, 179, 181, 243
 Psychotherapy, 232
 Pure experience, 24, 59–60, 89
 Pure sciences, 190
 Purpose, 17–18, 197, 218
- ## Q
- Qualitative humanistic, 177
 Quantitative scientific, 177
- ## R
- Racial integration, 285
 Radical educators
 Freire, Paulo, 16
 Illich, Ivan, 16
 Radical empiricism, xviii, xxii, 23–24, 59, 60–61, 96, 341
 Raia, Anthony P., 276
 Rational, 154
 Rational controlled doing, 24
 Rationalism, 2, 12–13, 154, 155, 168
 Reactive, 1
 Reading, 247
 Real world, 335
 Realism, 80, 165, 166, 174
 Reality, 69, 173
 Reasonable eclecticism, 193–194
 Reasoning, hypothetico-deductive, 36

- Recalled enjoyment, 139
 Recentered thinking, 204
 Receptive mode, 84, 85
 Receptive undergoing, 24
 Reciprocal determination, 47
 Recreate, 50
 Reese, John, 299, 349
 Reese, Tanya, 349
 Refined knowledge, 49. *See also* Knowledge
 Reflecting style, 58, 145
 Reflection, 32, 40–41, 44, 50, 57–58, 82, 91, 154, 177, 180, 210, 242–243, 287, 293, 301, 346
 Reflective, 246
 Reflective/active dimension, 112
 Reflective observation, xxiii, 42, 51, 66, 90, 100, 102, 104–5, 108, 111, 112–113, 115, 117, 144–146, 205, 217, 219, 245, 272, 277, 279–281, 292–293, 303, 306, 320, 324. *See also* Adaptive flexibility
 adaptive flexibility in (ROAF), 318–319, 326–327
 Reform, 58–59
 Reframing, 58
 Relatedness, 53
 Relationships, 231, 307, 321, 347–349
 Relativism, 15, 162, 205–6, 223
 Relativity, special theory of, 159
 Relearning, 39
 Relevance, 330–331
 Religion, 261
 Remembered/thinking self, 138, 141
 Remembering in learning cycle, 88–89, 90
 Representational logic, 36
 Research, 128, 175
 Resistance to extinction, 38
 Retroflection, 57
 Reward, 314
 Right brain, 76, 221–222. *See also* brain; Left and right hemispheres of the brain
 Right hemisphere of the brain, 16, 72–74, 86, 87
 Risk taking, 217, 221
 Roe, Anne, 177, 183, 185
 Rogers, Carl, xvii, xxiii, 21, 28, 60, 139, 223, 232, 341, 349
 humanistic tradition of, 15
 Rogoff, Barbara, 226
 Role innovation, 315
 Role models, 277
 Role plays, 3
 Root metaphor, 99, 164, 165, 167, 168, 171, 173, 188, 329. *See also* World hypotheses
 Rorschach, Hermann, 81–82
 Rowling, J. K., 344–345
 Royce, J., 165, 171
 Rubin, Irv, 287
 Rubin, Irwin, 257, 287
 Rubin, Zick, 114
 Russell, Bertrand, 71
 Russian, 180
- S**
 Sakharov, Andrei, 312
 Sales, 243
- Scaffolding, 27, 301
 Schaar, J., 257
 Scheerer, M., 77
 Schein, Edgar, 262, 267, 315
 Schiller, Fredrich, 98, 209
 Schilpp, Paul A., 160
 Schon, Donald, 40, 57
 Schroder, H., 15, 201, 202
 Science, of the concrete, 242–243
 Science-based professions, 167, 174–175, 177–178, 181, 244, 263, 265, 267
 Scientific method, 44
 Scope, 165
 Scott, William A., 317
 Secondary education, 180, 207–8
 Secondary qualities, 168
 Selection, 240–241, 262, 267
 Selectivism, 173, 329
 Self, 234
 learning, 139–141
 as process, 229
 unitary, 138
 views of, 138–139
 Self-actualization, 15, 28, 232
 Self as content, 208
 Self as process, 208, 210
 Self as undifferentiated, 210
 Self-authoring mind, 230–231, 234
 Self-authorship, 141, 299
 Self complexity, 138
 Self consistency, 138
 Self-criticism, 336–337
 Self-definition, 232
 Self-descriptive format, 104
 Self-determination, 141, 232
 Self-development, 353
 Self-directed, 17, 205, 299, 321, 334
 learning, 11, 14, 276, 285
 Self-identity, 342, 343, 346, 349
 Self integration, 138, 141
 Self-interest, 229
 Self is feeling, 233
 Self-knowing, 92
 Self-making, 62, 353
 Self-programming, 100
 Self-protective, 320, 322
 Self-regulation, process of, 59, 66
 Self report instrument, 118
 Self-talk, 345
 Self-transforming mind, 230, 231, 234
 Self-worth, 28
 Semantic memory, 92–93
 Semantics, 77
 Semiotics, field of, 77
 Sensation(s), 71, 116, 119, 155
 Sense experience, xviii, 160
 Sense making, 307
 Sensing in learning cycle, 88–89
 Sensitivity training, 242–243. *See also* Laboratory training
 Sensory cortex, 89–90

- Sensory modality, 301
 Sensory-motor stage, 34–35, 207
 Sensory-perceptual system, 84
 Sentence Completion Test (SCT), 32, 232
 Sentimental type, 98, 161
 Sentiments, 201, 213, 220
 Separate knowing, 227–228
 Shakespeare, William, 77
 Sharrington, Sir Charles, 160
 Signell, K. A., 103
 Similarity, 167, 188. *See also* Root metaphor
 Simple contingency thinking, 200
 Sims, Ronald, 126–127, 130, 273
 Singer, E. A., 167, 329
 Singer, Jerome, 82
 Situated learning, 290
 Situation, 46–47
 Situation demand, 317
 Skepticism and doubt, 158, 162–163. *See also*
 Provisionalism
 partial, 162–163, 185
 utter, 162–163
 Skinner, B. F., 37, 46
 Social adaptation, 255, 257
 Social control, 16
 Social/emotional, 15, 177, 264
 Social knowledge. *See* Knowledge, social
 Social professions, 126, 173–175, 177–178, 181, 184,
 263, 265, 267
 Social sciences, 124, 171, 174–175, 177–178, 181
 Social work, 181, 262–268, 270–272
 alumni, 273, 275
 Social workers, 112, 130, 132–133, 268, 270, 272, 320
 Socialization, 187, 208–9, 241, 262, 267, 290
 Socio-cognitive mindfulness, 350–351
 Sociology, 124, 177, 179, 181
 Socrates, 165
 Soft stage in development, 234–235
 Solomon, 333
 Space and time, 169, 216
 space/time equations, 156
 space/time location, 166
 Space of variation, 296
 Spanish, 182
 Spatial, 90
 Special education, 180
 Specialization, 130, 206–210, 214, 217, 224, 225,
 228–229, 234, 235, 239, 242–243, 262, 282, 283–284,
 285, 311–312, 315
 Specialized learning, 149
 Speech, 182
 Speed, 156
 Spencer Foundation, 334
 Sperry, Roger, 72, 87
 Spinoza, 154
 Spiral of knowledge creation, 186–188, 192
 Spiral of learning from experience, 187
 Split-brain patients, 72–74
 Spohn, R., 82
 Sponsored experiential learning, 3
 Stabel, C., 103, 115
 Stage models of development, 236
 Stagnation, 314
 States, 99
 Stimulus-response theories, 45–46
 Strait, M., 112
 Strategy variables, 339
 Stream of consciousness, 139
 Street wisdom, 6
 Streufert, S., 201–2
 Striate muscle system, 84
 Structural coupling, 63
 Structuralism, 66, 169, 174, 226
 Structured exercises, 3
 Studio arts, 5
 Su, Ya-hui, 229
 Subject, 324
 Subject object theory, 230–231
 Subjective experience, 10–11, 16, 47
 Substitution, 40
 Success, 345
 Summers, Lawrence, 297
 Super, D. E., 208
 Survival skills, 6
 Symbolic, 35, 67, 70, 207, 214, 269, 273, 277
 Symbolic complexity, 43, 204, 205–6, 212, 214, 217,
 220, 264, 278
 Sympathetic nervous system, 83–84. *See also* Nervous
 system
 Synchronicity, 155
 Syntactics, 77
 Synthesis, 162, 165–166, 170, 173, 174, 213
 Systemizing *ba*, 188
- ## T
- T-groups, xvii, 9, 22, 47, 287. *See also* Laboratory
 training
Tabula rasa, 154
 Tacit meaning, 170
 Task-oriented behaviors, 116, 128
 Task positive network (TPN), 87
 Task variables, 339
 Taylor, F. C., 118, 119
 Teaching, 14, 176, 241
 Teaching methods, 175
 Teaching style, 300–4
 TECH, 244–248, 253, 256, 257, 260, 284
 Technological university, 241, 244
 Technologies, 10, 190–191
 Teleology, 161, 172
 Teller, Edward, 312
 Tension, 289
 Terman, L., 177
 Thamus, a god-king, 162
 Theorizing, 88–89, 90–91
 Theravada Buddhism, 139, 336
 There-and-then, 10
 Thinking, 116, 119–120, 132, 301, 347
 Thinking competencies, 134
 Thinking-oriented, 292, 296
 Thinking style, 145
 Thoht (Egyptian god), 162

Tibetan Buddhist Tantric symbol, 332
Time, 156, 167–168, 216
Time span of discretion, 185
Tolerance for ambiguity, 43, 103
Tool, 173, 175, 198, 199, 216
 of culture, 159, 198, 199, 216
Torbert, William, 28, 218
Torrealba, D., 115
Total adaptive flexibility (TAF), 319, 326–327. *See also*
 Adaptive flexibility
Tracking, 99
Training and development, 11
Trait-based learning style, 301
Traits, 99
Transactionalism, 45–47, 55, 155, 198–199, 203, 324
Transcendence, 162, 163, 222–223, 333
Transformation, 49–50, 66, 68, 85, 97, 111, 114,
 155–156, 159, 166
 extension, 77–79, 82
 intention, 77–79, 82
 systems of, 77–78
Transformational grammar, 159
Transforming experience, 51
Transnationalism, 207
Trust, 162
Truth, 162, 167, 169, 172
Tyler, Leona, 99–100, 131
Type theories, 99

U

Undergraduate college major, 123–126, 240
Undergraduate education, 178, 241
Undergraduate(s), 244–245, 260–261, 285
Unidirectional development, 235–236
Unilinear development, 201–5
Unitary self, 138
Unitive stage, 237
Unity, 232
Utopian societies, 46
Utter skepticism, 163

V

Vaill, Peter, 335
Value(s), 10, 11, 98, 121, 134, 158, 160, 171, 175, 177,
 217, 241, 257, 263, 312, 329–330, 341
Vannoy, J., 103
Varela, Francisco, 62, 96
Variability, 98
Variables, 103
Verbal, 42
Verification, 42, 44
Vicarious observation, 91
Vickers, Geoffrey, 157
Virtue, 330–331
Visual construction, 72

Vocational technology, 180
Vocationalism, 3, 6, 240
Voluntary attention, 339
Von Glasersfeld, E., 329
Vygotsky, Lev, xvii, xxi, 21, 26–27, 54, 187, 198,
 226, 290

W

Watson, J. B., 37
Way of experiencing, 335–336
Way of humility, 337
Way of self-criticism, 336–337
Weathersby, Rita, 6, 113
Weisner, Frank, 128
Werner, Heinz, 156, 203, 225, 316
Wessler, Ruth, 320
White, Robert, 327
Whitehead, A. N., 71, 173, 183
Wholeness, 201
Wilensky, S., 82
Winfrey, Oprah, 337, 341
Wisdom, 162, 240, 330–331
Witkin, H., 103, 114, 243
Wober, M., 103
Wolfe, Donald M., 177, 320, 327, 334
Wolfe, Thomas, 334
Work abilities index, 132–133
 affectively related, 269–270, 274, 275
 behaviorally related, 269–270, 274, 275
 perceptually related, 269–270, 274, 275
 symbolically related, 269–270, 274, 275
Work experience, 273
Work/study programs, 3, 4, 6–7
Working memory, 91
World hypotheses, 17, 49, 164, 166–173, 188, 192–195.
 See also Pepper
World Hypothesis Scale (WHS), 189, 190
Wunderlich, R., 126, 130
Wundt, Wilhelm, 76
Wynne, B. E., 118

Y

Yamazaki, 308
Yeats, William Butler, 78, 315
Yoga, 85

Z

Zajonc, Robert, 76, 157
Zen Koans, 222
Zen meditation, 85
Zoology, 180, 182
Zull, James, 88, 93, 95, 338