

Principles of Adult Learning: A Multi-Paradigmatic Model

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Introduction

Without question, there is an abundance of learning paradigms and theories. Cognitive, behaviorist, and humanist viewpoints compete with cybernetic, semiotic, and postmodern paradigms for a share of the instructional designer's mind. Developmental psychology vies with constructivist theory in guiding the designer's direction. In the long-run, each instructional theory and paradigm offers the designer insight; taken together, however, they offer chaos.

In an effort to guide its design philosophy for product development and custom training projects, and to make some sense of the chaos, The Forum Corporation periodically reexamines its own assumptions about learning and design, and explores the academic research for new insights. New ideas seem to come from the design field and related other fields in a continuous stream. They only offer valuable insights when we examine our own practices against current theory, and seek ways to maximize the impact of what we do and the way we do it.

The application of design theory in the marketplace through the training business increasingly requires clear demonstration of results. Corporations generally want to maximize the return on their training dollar; and more specifically, simply want to understand the impact of that investment. They want to know that they will see the change in performance they require to meet their targeted strategic need.

As a result of these two factors—a need to continuously challenge assumptions, and a need to produce clear results—training companies that want to maintain their competitive edge in an increasingly competitive marketplace must seek their own paradigms for learning and design. They must create a clear image of their assumptions, and clearly and consistently communicate that image to everyone involved in the design process.

Furthermore, these paradigms must enable designers and producers to be both effective and efficient. They need to know that what they produce will have immediate and long-term impact on both the individual's performance and overall capabilities, and the company's business results. They also need to be assured that they can create this training reliably and quickly.

Forum's goal in conducting the research reported here was to create a set of principles to reliably, clearly, and effectively guide our design. We required our own simplified yet robust design paradigm that took what we viewed to be the best synthesis of theory and practical field experience, and organized it in a way that is clear to our customers and our designers alike.

The result is a set of five principles that inform both our design decisions and our macro-design decisions. They reflect our needs and the needs of our customers, and in that sense, take liberties with the pure intent of some of the theories upon which we drew. However, the principles are practical, and they work. They raise the level of our thinking, and the subsequent degree to which we help our customers achieve their goals.

Most of all, these five principles provide us with a language with which to describe both what we want to accomplish and the way in which we try to accomplish it. That language allows us to talk with customers on a common ground. They know why we are making the design decisions we make and giving the advice we give. More importantly, they can challenge those decisions and that advice on a solid conceptual basis if they have alternative viewpoints. It raises the level of dialogue about what can and should be expected from training alone. It also provides a clear rationale for the need to make an investment beyond training in order to achieve results and accomplish the stated goals.

We chose to focus on adult learners in creating these principles for obvious reasons— they are our learners. Adults bring a special set of learning needs to the table. Most significant of these is that they have an extremely strong and active belief system that mediates all of their learning. As adults, we tend to use a backdrop of these existing beliefs to regularly validate what exists in our mental model of the world.

Adults have much more numerous, complex, and intransigent belief systems than small children, so changing any one of these beliefs or systems is not easy. It requires time. It demands awareness. It needs confrontation. It depends upon powerful new experiences, either mental or emotional, to be successful. It must also take place in the broader context of the adult's complex life in which competing demands and powerful consequences for action and inaction are constantly in play.

Adults also demand, even more than children, to feel in control of their own learning and to understand the practical results that they can hope to realize. Adults want to take what they are learning in a training experience and use it the next day (or the next minute, for that matter) on the job. Granted, there are a host of adult learning situations in which learning is "for fun" and such practical application is not an issue. We are not concerned with these situations since, while important, they are less directly related to the results the corporate customer is after.

Our focus in the research was on creating the kind of paradigm that would offer us an opportunity to engage the adult learner sufficiently to change his/her belief system and its corresponding behaviors. This was quite a challenge. It is still a challenge, not only because each situation is unique for the individual, but also because the contingencies in the work environment are unique from corporation to corporation, and are presently in a state of rapid, significant, and, possibly, irreversible change.

The resulting paradigm is designed to reflect the current business world. It is designed to allow us to be fast, flexible, practical, and successful in responding to our customers' training and learning needs. It combines a number of theories without being theoretical. It brings a number of viewpoints together at a macro-design level without limiting the use of other viewpoints at a micro-design level. It is also supported internally within Forum by a rigorous set of processes which allow us to reliably apply it across our full customer-base worldwide.

Background: Theoretical Foundations

Real learning gets to the heart of what it means to be human. Through learning we re-create ourselves. Through learning we become able to do something we never were able to do. Through learning we re-perceive the world and our relationship to it. Through learning we extend our capacity to create, to be part of the generative process of life.

Peter M. Senge, *The Fifth Discipline*, 1990

People engage in a continuous process of experience, reflection, and design of effective action (Dewey, 1933). For example, Jean Piaget (1970) observed infants as they conducted repeated experiments to learn how to do such things as putting their fingers together to grasp objects and bring them to their mouths. Based on experiments like these, people create interpretations, or models, in their minds to help make sense of their worlds. They create physical models (like the relation of their hand to their mouth), social models (knowing who feeds them), and linguistic models (make this sound and others smile)—and then compare all new experiences with these existing models.

Over a lifetime, learners create increasingly structured models. Young children develop an intuitive understanding about language and about their physical and social worlds, which enables them to function effectively in these worlds. As they grow older, they begin to formalize their understanding into rules and models that help them to develop further knowledge and skills (Gardner, 1991; Piaget, 1970). Finally, as adults, they develop the ability to apply their knowledge and skills appropriately in many different types of situations (Bruner, 1990; Knowles, 1978; Knox, 1977).

These models govern the way people see the world and are extremely difficult to change once formed (Argyris, 1982). Understandings gained early in life have a powerful effect on all future interpretations. Perhaps the most startling research finding about learning in the past 15 years is that early intuitive understanding about the world

becomes fixed in the mind by the time children are six or seven years old. This understanding can even over-ride instruction and schooling. For example, honors students in physics, when asked basic science questions outside the classroom, tended to rely on intuitive models learned in childhood, even though they had learned that the theories supporting these models were wrong (Gardner, 1991).

Adults must transform their models in order to learn new ways of thinking and acting that conflict with their existing, ineffective models. Powerful interventions are required. To overcome inertia, learners must have an opportunity to unfreeze their previous learning (Lewin, 1948), to link the learning to critical personal needs (Knox, 1977; Mezirow, 1991), to engage actively in learning (Argyris, 1982; Dewey, 1933), and to learn with others (Senge, 1990).

As the world and its economic conditions change more and more rapidly, the ability to learn and exchange knowledge becomes a critical competitive advantage of nations, of companies, and of individuals. All will need to commit themselves to continuous learning and the pursuit of mastery (deGeus, 1988; Deming, 1986; Senge, 1990).

The multiple origins of the theoretical ideas that underlie the Forum model, only some of which are referred to in the preceding paragraphs, are summarized in Tables 1 and 2. These tables will illustrate the multi-paradigmatic forms upon which the Forum model is constructed.

Based on these ideas about learning and on its own experience, Forum developed five learning principles that contribute to the design of the most highly effective learning experiences. These principles are intended to guide the design of adult learning programs and processes, and to ensure that they are linked to the needs of both learners and their organizations. They describe what it takes to have significant, sustainable learning occur in the workplace.

Principles of Adult Learning: Overview

These five principles summarize Forum's point of view on how learning occurs and on the conditions that facilitate it.

1. Learning is a transformation that takes place over time. Learning is the process by which people change the way they interpret, or make sense of, their experiences. Learning creates new frames of reference that guide future ideas and actions. The learning process occurs in phases over time, moving from preparation to apprenticeship to mastery. In order to reach mastery, it is necessary to engage in learning activities that build awareness, provide practice, and encourage application of new ideas and actions.
2. Learning follows a continuous cycle of action and reflection. People learn by doing and then thinking consciously about what they did. Actions that have been reflected on— that is, examined and assessed—lead to new understandings, which in turn guide future actions.
3. Learning is most effective when it addresses issues that are relevant to the learner. People learn what they need to know in order to respond to conditions in their environment. They are motivated by either a personal desire to acquire new knowledge and skills or by understanding the consequences of not learning. When learning activities are linked to personal or organizational problems, learning is accelerated.
4. Learning is most effective when people learn with others. When people learn together, they share and build on one another's perceptions. As a result, they are able to hear other interpretations and test their own. This increases the likelihood of their creating new interpretations that can guide more effective personal and organizational actions.
5. Learning occurs best in a supportive and challenging environment. When the environment is not threatening to status or security, people are more willing to take risks, to explore new ideas, and to try new actions. It is essential, however, to balance support with a sufficient level of challenge. Unless people are challenged intellectually and emotionally, they typically will rely on existing habits and will not stretch themselves to find new ways of thinking and acting.

Table 1. The original foundations of Forum’s principles of adult learning.

	B. F. Skinner	Albert Bandura & R. H. Walters	Carl Rogers	Abraham Maslow	Kurt Lewin	David McClelland	G. H. Litwin and R.A. Stringer	Jean Piaget	John Dewey
Major Work	<i>Science and Human Behavior</i> , 1953	<i>Social Learning & Personality Development</i> , 1963	<i>On Becoming a Person</i> , 1961	<i>Motivation & Personalism</i> 1954	<i>Resolving Social Conflicts</i> , 1948	<i>Human Motivation</i> , 1973	<i>Motivation & Organizational Climate</i> , 1968	<i>Genetic Epistemology</i> , 1970	<i>How We Think</i> , 1933
Contribution	Showed that the rate of learning increases when the learner receives concrete feedback.	Demonstrated the importance of modeling,” or showing examples of desired behaviors, and the importance of rewarding newly learned behaviors.	Showed that the rate of learning is increased when the learner has a positive self-image and is held in high regard. Described the qualities of a good facilitator (genuine, accepting, etc.).	Reaffirmed the importance of human qualities—such as freedom, choice, and subjective experience—that make people more than objects for scientific inquiry. Identified the human need for self-esteem and self-actualization,	Developed group-dynamics theory. Emphasized understanding all the social forces acting on the learner. Showed how participative decision-making enhances learning and commitment.	Demonstrated that a strong need for achievement motivates people to set goals and solve problems with greater creativity and energy. Showed that measurable change is more likely when people believe that change is possible and desirable.	Showed that organizational climate (created through managers actions) can motivate people to be more productive,	Described learners as continually, actively trying to make sense of the world. Learners use their existing rules and categories to understand their experiences and change those rules and categories to accommodate new experiences	Pioneered the field of experiential learning.- Identified reflective thinking as the goal of education.
Effect on Forum’s Principles of Adult Learning	1, 2, 4	2, 3, 4	4, 5	3, 5	3, 4	1, 3, 5	2, 4, 5	1, 2, 3	2, 3

Principles of adult learning

1. Learning is a transformation that takes place over time.
2. Learning follows a continuous cycle of action and reflection.
3. Learning is most effective when it addresses issues that are relevant to the learner.
4. Learning is most effective when people learn with others.
5. Learning occurs best in a supportive and challenging environment.

Table 2: New contributions to Forum’s principles of adult learning.

	Malcolm Knowles	Ian B. Knox	David Kolb	Jack Mezirow	Jerome Bruner	Howard Gardner	Peter Song.	Chris Argyris	Mary Field Belenky et al.	W. E. Doming
Major Work	<i>The Adult Learner</i> , 1978	<i>Adult Development and Learning</i> , 1977	<i>Experiential Learning</i> , 1984	<i>Trans formative Dimensions of Adult Learning</i> , 1991	<i>Acts of Meaning</i> , 1990	<i>Frames of Mind</i> , 1983	<i>The Fifth Discipline</i> , 1990	<i>Reasoning, Learning, and Action</i> , 1982	<i>Women’s Ways of Knowing</i> , 1986	<i>Out of the Crisis</i> , 1986
Contribution	Popularized self-directed learning,” which emphasizes the learner’s needs and goals. Emphasized the creation of a receptive learning climate and the use of the learner’s previous experience,	Showed how adults are constantly learning in response to role changes and other new situations, and how they use new information to make sense of their previous experiences,	Stressed the need to understand different learning styles and use a variety of techniques to both accommodate and challenge the learner, Emphasized experiential learning,	Focused on becoming aware of how assumptions constrain the way people perceive the world, and on learning how to change those assumptions so they can act more effectively.	Showed that humans seek to create systems of meaning and that learning involves changing meaning systems.	Showed that there are different kinds of intelligence personal, bodily-: kinesthetic, linguistic, musical, logical-mathematical, and spatial.	Showed the importance of building” learning organizations” one’s by using five disciplines: personal mastery, mental models, shared vision, team learning, effectively, and systems thinking.	Demonstrated how “double-loop” learning, or uncovering” operating assumptions” (theories in action), is critical to learning and acting	Studied how women learn: highlighted the importance of respecting the learner’s viewpoint, collaborating with others to develop ideas, and building on adults’ life experiences	Emphasized the need to drive fear out of the workplace so people are free to learn, cooperate, and be productive. Stressed continuous learning and improvement.
Effect on Forum’s Principles of Adult Learning	2, 3, 5	2, 3, 5	2, 5	2, 5	1, 2, 3	2, 5	1, 2, 3, 4, 5	2,3, 4, 5	1, 2, 3, 4, 5	3, 5

Principles of adult learning

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Principle 1: Learning Is a Transformation That Takes Place Over Time

Learning is a process by which each individual creates his or her own understanding of the world and how to interact with it. People form models in their minds that help them make sense of their experiences. For example, in a hierarchical organization, people create models of how employees at different job levels should behave. These models define which behaviors are considered appropriate for each level.

These mental models and belief systems underlie the assumptions that guide thought and action. Learning is the process of identifying and questioning existing models and then testing new assumptions for use as guides to more effective action. For example, a manager may have a mental model that workers are incapable of leadership in the organization. This leads him or her to assume that workers should not be included in decision making. This model must be identified and questioned before a new assumption—that workers are capable of leadership—can take effect. The new assumption opens a realm of action that was previously unavailable.

Changing mental models, beliefs, and assumptions is a very difficult task. Given this difficulty, learning takes time.

This is an important point for understanding how to design and deliver effective learning experiences. Often training designs underestimate the extent to which learners cling to

their existing ways of thinking. Training may also fail to provide the high-impact experiences that are necessary to unfreeze existing views. In addition, training curricula often do not accurately assess the time required to learn new ways of thinking and acting.

The Forum Learning Model conveys the learning process as a journey toward mastery; the journey is depicted as an arrow. This model mirrors the one that describes the process of organizational transformation (Forum's Align-Improve-Measure Model). Both models depict the transformation as occurring over a series of three phases. Both also describe the types of activities that take place in these phases.

Each of the learning phases and the types of learning activities will be explained in detail on the following pages.

Learning new ideas, beliefs, or skills generally does not occur as the result of a single experience. Learning evolves. In order to learn, one begins by examining new experiences in light of one's existing knowledge. Then, one creates new models of understanding. Over time and with practice, new knowledge and skills become second nature, and the learner is able to call upon them naturally in all appropriate situations. This "learning by heart" is central to mastery. The process of attaining mastery occurs in three phases, described briefly below and in more detail on the following pages.

Phase 1: Preparation. In the preparation phase, learners become aware of their existing assumptions, encounter new ideas, and practice and apply new behaviors. This is the initial phase of the journey toward mastery. In this phase, the emphasis is on creating awareness of existing assumptions and on introducing new patterns of behavior. For example, a traditional management training program focuses on the preparation phase. It allows participants to examine the gap between what they currently are doing and what they could be doing. It also allows participants to practice and apply new behaviors in a protected setting.

Phase 2: Apprenticeship. To become fluent with new knowledge or skills, learners must use them in a variety of work situations, under different conditions, and under the watchful eye of a master or coach. Apprenticeship provides a protected setting in which to do this. During apprenticeship, the emphasis is on practicing new learning in real work situations. Much of the learning that takes place during apprenticeship results from learners reflecting on their actions and creating improved guides for future actions. For example, a junior partner in a law firm works with a senior partner who provides continual coaching and feedback on how to apply new learning to the practice of law.

Phase 3: Mastery. Mastery is the aim of the learning process. To achieve mastery, learners must pass through the initial phases of preparation and apprenticeship and be willing to take on the responsibilities of leading, teaching, continually improving, and innovating. The emphasis in this phase is on the application of knowledge and skills.

Masters intentionally challenge assumptions about what works and push themselves to new levels of performance. Yet they always return to basics. Think of a master pianist or a professional athlete; to maintain a high level of performance, each requires continuing instruction, daily practice, and surrender to what is "learned by heart." Through teaching, masters further refine their own knowledge.

The Preparation Phase

Mastery requires the creation of a firm foundation on which to build and develop new skills. Traditionally, training courses in business are designed as ends in themselves rather than as preparation for continuous learning. They run the risk of having an effect in the class-room, but not providing long-term benefit. Training programs designed as part of the preparation phase should include activities that are linked with what is to follow in the apprenticeship phase.

All three types of learning activities—awareness, practice, and application—are used in the preparation phase, but the emphasis is on awareness.

- Learners must become acutely aware of their current ideas and behaviors in order to accept new ones. For example, immersion exercises can put learners in situations in which they confront their habitual behaviors.
- The use of new ideas and behaviors must be practiced in a supportive yet challenging way, so that they can be internalized. For example, role-plays can provide learners an opportunity to practice new behaviors.
- New ideas and behaviors must begin to be applied, so that they can be transferred to the job and eventually mastered. For example, action planning can direct learners to apply new concepts and skills to work issues.

All three types of learning activities should engage learners in a continuous cycle of action and reflection. This gives them time to experience the new ideas or behaviors and the opportunity to assimilate them. For example, reading and discussing case studies allows learners to analyze situations and propose solutions. The group debriefing allows learners to reflect on their own solutions as well as the methods they used to arrive at them. (This is what Chris Argyris and Donald Schön (1978) refer to as "single- and double-loop learning.")

In the preparation phase, it is important to prepare both the learner and the learner's work environment. One way this can be done is to include intact work groups in the training; this will foster a better learning environment back on the job. Another way is to engage the learner's manager in the training by having him or her identify expected learning outcomes, provide feedback on performance, or take related training. A third way to link learning to work is to use feedback from customers and colleagues.

At the end of the preparation phase, learners will be aware of key ideas and skills. They will have had an opportunity to practice using these ideas and skills in a protected setting. They also will have had a limited opportunity to apply the new learning, either through action planning or through resolving an actual work issue with other work-group members or by themselves.

The Apprenticeship Phase

In the shops of traditional artisans and craftsmen, "learning at the master's knee" was the norm. Apprenticeship—following the moves of the master—has been widely practiced in some settings for centuries and continues to be practiced today. The current challenge is to bring the effectiveness of the apprentice system into the modern organization; this requires managers to become effective mentors and coaches, capable of giving feedback and guiding improvement.

Most training programs address the introductory needs of new learners, and most consulting interventions focus on the needs of senior people who are working toward mastery. There is a shortage of training programs that address the on-the-job learning needs of the apprenticeship phase.

All three types of learning activities—awareness, practice, and application—are used in the apprenticeship phase, but the emphasis is on practice.

- Learners need to be aware of the critical ideas and skills that will help them get their work done. They must be aware of the vision of their organization and their work group. This requires communication with the managers who coach them. Learners should also receive ongoing feedback, guidance, and encouragement from their coaches and work associates so that they can develop shared learning and monitor their own progress.
- Practice is the main activity of the apprenticeship phase. Through repetition, the learner assimilates new ideas and behaviors until they become a part of his or her repertoire. For example, basketball star Larry Bird

practiced free throws for hours every day since boyhood in his long apprenticeship toward the mastery of his sport.

- Apprenticeship also provides an opportunity to take the fundamental ideas and skills introduced in the preparation phase and apply them on the job. Apprentices are capable of resolving real work issues by applying and refining their abilities. Apprentices should be provided opportunities to take on and lead their own projects and be coached when needed.

At the end of the apprenticeship phase, learners will have increased their awareness of key ideas and skills. They will have had an extended period of time practicing the new ideas and skills with coaching and feedback from both mentors and work associates. They will begin the ongoing process of continually applying the new learning on the job and begin to lead their own projects and monitor their own progress.

The Mastery Phase

What do world-class pianists, Wimbledon tennis champions, and Nobel Prize economists have in common? They appreciate that mastery is an endless journey toward perfection. Mastery can lead to a state of harmonious, effortless knowing and doing. It can result in a sense of flow—a natural, pleasant rhythm that accompanies action (Csikszentmihalyi, 1990).

Success in business requires dedication to mastery. Too often in the training field, for instance, "taking a course" is confused with mastering a set of skills. When the desired outcomes are not achieved within the 3- or 5-day program, there is disappointment and, typically, the course or the instructor is blamed. In truth, the fault usually lies in the design's inability to address mastery as the aim of an ongoing process. Training programs need to provide learning activities that will prepare and develop learners to achieve mastery.

George Leonard (1991) said, "Man is a learning animal ... In this light, the mastery of skills that are not genetically programmed is the most characteristically human of all activities." Leonard offered five keys to reaching mastery: (1) instruction, (2) continual practice, (3) discipline, (4) creating and sticking to a clear vision, and (5) striving for new insights. Training programs designed to address the needs of learners in the mastery phase must take these into account.

All three types of learning activities—awareness, practice, and application—are used in the mastery phase, but the emphasis is on application.

- In mastery, learners continue to become aware of their assumptions and remain open to new learning. They are mindful of what they do and do not know. They receive continual instruction and feedback from mentors and associates. They work with new learners so that their fundamental assumptions are always tested. For example, senior-level professors often teach freshman courses to get new perspectives on their thinking.
- Learners continue to practice their basic skills, like concert pianists who practice scales. It is this continual practice, and the surrender to the need for it, that enables the learner to achieve mastery.
- In mastery, learners apply their knowledge by sharing it with others through performing, writing, and teaching. They encourage and develop shared learning. They take responsibility for continual improvement and innovation. They exhibit leadership and share their excitement with others.

Unlike the preparation and apprenticeship phases, the mastery phase has no end. Masters remain open to new learning. They surrender to the need for continual practice and discipline. They seek out teachers and accept their guidance. When temporarily frustrated, masters know what causes the frustration and believe the obstacles can be overcome. In fact, obstacles often become the challenges that keep the flow going. Masters continually create new ways of thinking and acting that advance their fields.

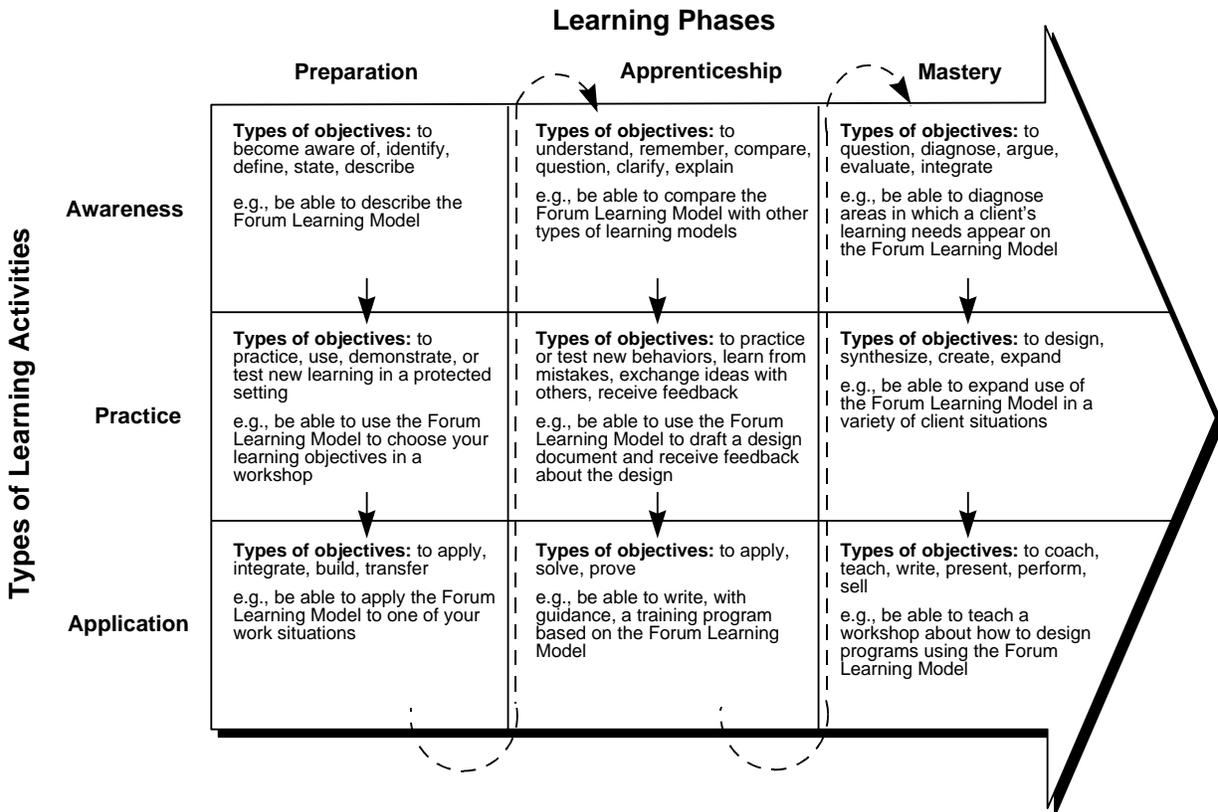


Figure 1. Instructional Objectives Matrix (for each cell of the Forum Learning Model)

Learning Activities

Learning is an active transformation of existing beliefs and behaviors. As learning evolves, the learner progresses through phases of preparation, apprenticeship, and mastery. In each phase, different types of learning activities are emphasized. In the preparation phase, emphasis is placed on awareness, on gaining an understanding of what is known and what needs to be learned. During the apprenticeship phase, effort is spent on practicing new concepts in protected settings. Finally, in the mastery phase, the emphasis is on applying new beliefs and behaviors to work situations.

To understand how the learning activities progress throughout all three phases of learning, refer to the Instructional Objectives Matrix (see Figure 1). The matrix employs the example of learning the Forum Learning Model. It shows how, in the preparation phase, learners will engage in awareness-building activities that enable them to describe the model. Later, in the mastery phase, when learners have completed many types of activities, they will be able to use their knowledge of the model to create programs and teach others about it.

Awareness. The first fundamental requirement of learning is for learners to understand how they currently make sense of what they observe and how they act in the world. Once they understand the models and assumptions they use to guide their actions, they can examine the usefulness of those models and assumptions and choose to test new ways of thinking and acting. To transform learners' firmly held mental models requires powerful awareness-building activities that can unfreeze existing ways of thinking and acting. The purpose of awareness-building activities is to help learners understand what they currently know and what they need to learn. Building awareness is necessary in all three phases of learning.

Practice. Practice involves using new knowledge and skills in an environment that allows for experimentation, coaching, making mistakes, and a free exchange of ideas. New ideas and behaviors must be practiced to make them part of the learner's repertoire. This involves using the new ideas and behaviors and reflecting on that use, building

them into routine ways of thinking and acting. Practice allows learners to take risks and develop new ways of solving problems. Practice is necessary in all three phases of learning.

Application. Learners need to apply the new knowledge and skills in real work situations to accelerate and transfer learning. This speeds learners' comprehension and skill building, and enables them to move toward mastery. Applying new knowledge and skills enables learners to gain confidence using them. Application is necessary in all three phases of learning.

Principle 2: Learning Follows a Continuous Cycle of Action and Reflection

Much of the recent research on learning confirms what Socrates and John Dewey knew and practiced: that learning must consist of action—mental or physical or both—followed by an opportunity to reflect on the action and its outcome. Forum calls this cycle of action and reflection active learning.

Forum holds that active learning can begin with either action or reflection:

- The process can start with action that is then reflected on and summarized as new knowledge. For example, immersion exercises that force managers to act in situations that simulate managerial dilemmas can give the managers an opportunity to reflect on more effective ways of solving problems.
- Active learning can also begin with reflection. Learners can test the validity of new ideas by seeing their effectiveness in practice. Effective ideas are used as guides to further action. For example, reflecting on customer-focused quality ideas can lead to improved management actions.

The purposes of experiential activities are to give learners opportunities to:

- Become powerfully aware of their existing interpretations and habitual ways of behaving.
- Design and practice new, more effective actions.

Course designers must know which of these two purposes they intend to achieve when using experiential learning activities.

The purposes of reflection are to give learners opportunities to:

- Consciously examine their actions and their existing interpretations.
- Create new models and theories that can guide effective future actions.

Action

Learners require dramatic, active experiences to transform long-held ideas and in-grained habits. Without relevant, high-impact experiences, learners are less likely to reconsider existing patterns and to consider new ones.

In short, action must be:

- Direct and personal enough to change firmly held habits and beliefs.
- Concrete enough to allow the practice of specific new behaviors.
- flexible enough to fit the style, experience, and needs of individual learners.

Learning exercises that start with action place learners in circumstances that force them to stretch—to try on new behaviors and see things from new perspectives. Examples include:

- Role-plays. Role-plays provide an opportunity for learners to try on new behaviors in realistic situations and improve them through reflection and practice.

- Simulations and "real plays." In a simulation or a "real play," participants play themselves as they try to solve problems in a fictitious environment. They then have an opportunity to debrief and reflect on their actions. In the Leadership program, there is an example of a computerized business simulation; "Site/Central" is an example of a Forum "real play."
- Survival exercises. Learners pretend to be stuck in dangerous situations with limited supplies of resources. Similar to role-plays and simulations, survival exercises start with action and then provide time for participants to reflect on behaviors and outcomes.

Reflection

Reflection allows learners to examine experiences and make meaning of them. John Dewey (1933) described reflection as "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends." The important point is that reflection ties new experiences to existing frames of reference and prepares the learner to interpret future experiences.

The main principles of reflection are that:

- Reflection is the process of uncovering the underlying assumptions that direct behavior.
- Reflection enables learners to constantly adjust their performance to meet new conditions.
- Reflection must occur soon after an activity in order for learners to gain maximum value.

Reflective thinking can be either divergent or convergent. Often it is both. Divergent thinking about the action allows for a free flow of new ideas. Convergent thinking provides learners an opportunity to summarize their thinking and choose a new course of action.

Examples of learning exercises that start with reflection include:

- Feedback. Forum's feedback technology focuses learners on the effectiveness of their job-related behaviors. It gives them an assessment of the importance of those behaviors in the context of the job. Other types of assessment activities that support reflection include talking in small groups, writing journals, conducting interviews or focus groups, and making site visits.
- Brainstorming. Brainstorming allows a free flow of ideas about a given topic. It also facilitates the process of divergent thinking. One way that Forum programs facilitate brainstorming is by including diverge/converge exercises and recording participants' responses on flipcharts.
- "New perspectives" exercises. These exercises allow participants to view their situations from new vantage points. For example, the participants can imagine that they are living in another time or country in order to create a new perspective on their situation. Or, they can employ certain language techniques (such as the use of metaphors or action verbs) to describe their situations in new ways. This lets learners reframe their existing ideas.

Principle 3: Learning Is Most Effective When It Addresses Relevant Issues

When people are pursuing their own goals, they are motivated to learn. Individuals in organizations also need to align themselves with organizational goals and learn what they need to know in order to implement those goals. For example, if the organization has the goal of having each business unit become self-sufficient, its business managers will need to learn aspects of finance and marketing.

When ideas and behaviors known to lead to high performance are identified and learners are able to practice using them, the learners are more likely to apply the new ways on the job (Litwin, 1978). Training goals typically are related to improving performance in response to either: (1) a change in corporate strategy, or (2) a need to enhance skills.

During all three phases in the Forum Learning Model—preparation, apprenticeship, and mastery—links to work requirements motivate the learner, increase learning effectiveness, and ensure that the learning is transferred and sustained over time.

Preparation. All programs need to specify how they connect to the organization’s overall strategy and vision. Program objectives should be described in relation to the organization’s business goals. Intact work groups, including managers, should be encouraged to participate together in training programs. Specific, clear action plans must be developed during training to guide transfer of learning to the job and sustain learning over time.

Apprenticeship. Programs in this phase of the Forum Learning Model often combine on-the-job training with classroom work. Learners resolve actual work issues. Where possible, apprenticeships should be conducted on the work site and involve different levels of the organization. They need to include hands-on tasks, coaching, and feedback. Training can also be provided to improve the way teams learn and work together.

Mastery. In the mastery phase, learners are responsible for designing their own learning programs. When working with learners in the mastery phase, it is important to aid them in identifying their learning needs and appropriate strategies for addressing them. Activities such as receiving feedback from associates can help learners identify areas for improvement.

Principle 4: Learning Is Most Effective When People Learn with Others

When learners have an opportunity to exchange ideas and interact with others, they are able to question their own existing interpretations and become open to new ways of thinking and doing. Reading books or instructional materials is one way of learning from others; using interactive media that enable learners to practice and apply new concepts is another. Dialogue, however, provides the most effective means of exchanging and developing new concepts.

It is important to learn with others in all three phases of learning. In the preparation phase, learners need to be exposed to other people’s ideas. Colleagues and instructors pre-sent new ideas and behaviors and provide feedback. Practicing new ideas and behaviors with others improves the learners’ understanding of the new material. They then are able to apply the new learning more rapidly.

In the apprenticeship phase, learners need coaches and colleagues in order to apply the new learning and get feedback. They also need to be able to work in groups of people who can provide feedback and timely advice. Working with others enables learners to engage in inquiry that can stimulate further thinking, which helps refine and improve practice. This is the way most people learn "on the job."

Mastery requires learners to act as genuine colleagues and fellow travelers with others on the same journey. To improve continually, it is essential that learners receive ongoing instruction, feedback, and coaching from others. Masters must be open to continual reflection on their actions. In the mastery phase, learners take on the role of teacher and continue to develop their ideas as they transfer them to others.

Learning with others is the principle that underlies team and organizational learning. These processes are crucial to building organizations that are responsive and competitive in business today. They are defined briefly below.

Team Learning. When learners have an opportunity to experiment and reflect in teams, they elevate their ability to learn together. Team learning requires an environment in which people feel free to reveal their assumptions. A facilitator can help create this environment by modeling how to accept others’ interpretations without immediate rebuttal (Senge, 1990). Team learning helps to initiate organizational learning. But, for organizational learning to continue, learning also must be systematically exchanged across teams.

Organizational Learning. This is the process of continually creating common models of understanding so that organizations can produce their intended results. Organizational learning requires that individuals learn, but it also requires structured organizational processes for developing and transferring shared learning.

Principle 5: Learning Occurs Best in a Supportive and Challenging Environment

In the process of learning, people need to change their existing beliefs and behaviors. This is difficult because the mind has a strong tendency to cling to what it finds familiar and to defend itself against what threatens to disturb its equilibrium (Argyris & Shtin, 1978; Bohm & Peat, 1987; Bruner, 1990).

When the need for learning is triggered by major organizational changes, there are additional elements of uncertainty. In high-stress environments, people encounter enormous demands to learn. Under these conditions, they often question their ability to learn.

Research has found that both the efficiency and effectiveness of learning are greatly improved when learners believe they can, will, or should change (McClelland, 1973). This is facilitated by a learning environment that acts as a lab for experimenting with new ideas. People learn by reflecting on the outcomes of their experiments—those that meet their expectations (what they consider "successes") as well as those that don't (what they consider "failures") (Minsky, 1986). A supportive environment provides opportunities for learners to reflect on those outcomes and to receive feedback from coaches (Schon, 1986; Senge, 1990). Course designers, facilitators, managers, and sponsoring organizations are all responsible for creating supportive and challenging environments.

Supportive. The environment must be nonjudgmental. Learners need to be rewarded for examining their thinking and their work (Lirwin, 1978). They must be free to take risks, to assume unfamiliar roles, and to take untried positions on issues. A supportive environment enables learners to admit to not knowing and to making mistakes, and encourages them to try what they have not mastered. It is helpful if, in the preparation phase, the learning environment is different from the everyday work environment. This lets learners step back from the routine and see old problems and issues from new perspectives.

Challenging. Learners also need an environment that forces them to reevaluate their current thoughts and actions. Learners are invested in their existing interpretations and tend to refine what they already know, rather than learn new ideas and behaviors. They can become inflexible and resist creating new interpretations (Minsky, 1986). Learners adopt new ideas and behaviors only when they are fully convinced that their old ways are no longer appropriate. Powerful experiences and adequate opportunity to reflect on those experiences enable people to think and act in new ways. Experiences that provide emotional, intellectual, and action components have the greatest effect on challenging existing beliefs and behaviors.

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