

What Motivates Adults to Learn



Psychology cannot try to explain everything with a single construct, such as association, instinct, or gestalt. A variety of constructs has to be used.

—Kurt Lewin

As a concept, motivation is a bit of a beast. A powerfully influential and wide-ranging area of study in psychology, motivation at its core deals with *why people behave as they do*. But in terms of mutual understanding and tightly controlled boundaries of application, motivation roams the field of psychology with almost reckless abandon. There are over twenty internationally recognized theories of motivation with many opposing points of view, differing experimental approaches, and continuing disagreement over proper terminology and problems of definition (Madsen, 1974).

This state of affairs is not simply the result of idiosyncratic debate among scholarly egos but is more realistically due to the

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complexity of human behavior and a lack of concrete measures of motivation. There are no ways to x-ray the thoughts of a species that is rational and irrational at the same time. In the fields of instruction and learning this has led to some difficult problems—whom to believe, which theories to apply, and how to make sense out of this wealth of confusing possibilities. In general, instructors and trainers can find very few guidelines that suggest how to cohesively and consistently apply the most useful and practical elements from this extensive array of motivational information (Wlodkowski, 1981).

Although the available knowledge does not fit into any single theory of motivation, there are a significant number of well-researched instructional strategies that can be applied to learning situations according to motivational principles. One way to presently resolve this dilemma is to utilize general motivation factors that can incorporate useful strategies from a variety of motivational theories. For example, most motivational theories have something to contribute to the understanding of how human attitudes are formed and operate. Anyone who instructs knows the importance of learner attitudes as they influence motivation for learning. By using the major factor of attitude, the instructor can consider strategies from numerous theories of motivation to more positively influence the learner in the learning task. With this approach, motivational strategies from classical conditioning, operant conditioning, gestalt psychology, consistency theory, rational-emotive theory, and social influence theory are all possible means to enhance learner motivation because each of these theories has a set of principles and related research that deal with attitude change.

There appear to be at least six major factors that are supported by numerous theories of psychology and their related research as having a substantial impact on learner motivation—attitude, need, stimulation, affect, competence, and reinforcement. The following sections of this chapter will consider how each of these motivational factors is a powerful influence on adult behavior and learning as well as how these major factors can be combined when designing motivational strategies for instruction.

How Attitudes Influence Behavior

In general, an *attitude* is a combination of concepts, information, and emotions that results in a predisposition to respond

favorably or unfavorably toward particular people, groups, ideas, events, or objects (Johnson, 1980). For example, an accountant is required to take an in-service training course by her company. A colleague who has already taken the training tells her that the instructor is authoritarian and arrogant. The accountant finds herself a little anxious as she anticipates the new training. At her first training session, the instructor, in a matter-of-fact manner, discusses the course and its requirements. The accountant judges the instructor's neutral style to be cold and hostile. She now fears the instructor and resents the mandatory training. This accountant has combined information and emotions into a predisposition to respond unfavorably to a person and an event. If the accountant's colleague had told her the instructor was helpful and caring, it is less likely that the same outcome would have occurred.

Attitudes are powerful influences on human behavior and learning because they help people to make sense of their world and give cues as to what behavior will be most helpful in dealing with that world. If someone is going to be hostile toward us, it is in our best interest to be careful of that person. Attitudes help us to feel safe around things that are initially unknown to us. Attitudes also help us to anticipate and cope with recurrent events. They give us guidelines and allow us to make our reactions more automatic. This makes life simpler and frees us to cope with the more unique and stressful elements of daily living. In psychology this is called the "least effort" principle: Whenever possible, apply past solutions to present problems or, whenever possible, apply past reactions to present experiences. Not only does this help us to cope but this also helps us to be consistent in our behavior, which is a vital need for all human beings.

Attitudes are learned. They are acquired through processes such as experience, direct instruction, identification, and role behavior (teacher-student, parent-child, employer-employee, and so forth). Because they are learned, they can also be modified and changed. New experiences constantly affect our attitudes, making them shift, intensify, weaken, or reverse. They are in a dynamic process with people, the media, and life in general constantly impinging on them. Attitudes can be personally helpful as in the

case of positive self-esteem, or they can be personally harmful as in the case of intense fear of failure. Attitudes are with us all the time and they constantly influence our behavior and learning.

New learning is usually risky business; the outcome is seldom a certainty. For adults, this risk may be even higher because the new learning may be required for a job, a promotion, or some important personal goal. Attitudes are very active in unpredictable situations because of the security they provide for the person. An instructor of adults can be quite assured that their attitudes will be an active influence on their motivation to learn from the moment the instruction begins. Adult learners will immediately make judgments about the instructor, the particular subject, the learning situation, and their personal expectancy for success. However, beyond knowing that learner attitudes are a constant influence, it is difficult to make broad, sweeping generalizations about the attitudes of adults with respect to learning in general. Kidd's cautionary statement (1973, p.117) is well worth noting: "As in so many areas, it seems that chronological age, compared with other factors, is of little utility in understanding or predicting attitudes."

There is evidence that adults of lower socioeconomic status more often hold negative beliefs and perceptions toward education than adults from the middle and upper ranges of socioeconomic status (Darkenwald and Larson, 1980). However, this generalization must be qualified by another generalization—a group of adults similar in age and socioeconomic status is far more heterogeneous than a group of children of similar age and socioeconomic status (Smith, 1982). As a person becomes older, the more time that person has to accumulate different life experiences. And since attitudes are learned and changed through experience, one can readily see the necessity for an open and flexible approach on the part of an instructor of adults.

How Needs Promote Desire

A *need* is a condition experienced by the individual as an internal force that leads the person to move in the direction of a goal. The achievement of the goal is capable of releasing or ending

the feeling of the need and its related tension. Thirst (a need) leads to a search for water (a goal). When enough water has been drunk, the need or tension of thirst is ended. Needs exist in the tissues and memory of human beings (Deci, 1980). They can be physiological, such as hunger, or learned, such as the need for achievement.

All people live with an unending sense of need. Which need a person is currently experiencing will depend on the individual's history of learning, the current situation, and the last need that was fulfilled. Some needs seem more dominant and continuous (for rest and safety), while others are less predictable (for understanding and orderliness). No single theorist in psychology has created a list of needs that are acceptable to most other psychologists. Yet no psychologist would deny the powerful influence of needs on human behavior. People actually can feel *driven* to acquire food, money, or knowledge, which are just a few of the many compelling needs that seem to motivate human beings.

Most often, needs act like strong internal feelings that push a person toward a general goal. The more strongly the person feels the need, the greater the chances the person will feel an accompanying pressure to attain the related goal. This tension or pressure can translate into a *desire* when the individual becomes aware of this feeling and *wants* to achieve a *particular* goal. A person feels hunger and a need for food (general goal). He desires to cook himself a gourmet meal (particular goal). Another person feels a bit lonely and needs some social company (general goal). He desires to call his best friend (particular goal). Desire usually leads to satisfaction and enjoyment. It is what people *want* to do. When adults need and desire what they are learning, they will tend to be highly motivated. Instructors can influence motivation based on need by being sensitive to apparent needs and by formulating how and what they present to adult learners in a manner that gratifies those needs. For example, "Those of you who are taking this training to improve your relationship with your employees will learn three management techniques that will help you to do exactly that."

Probably the most widely known approach to the concept of need is the one developed by Maslow (1970). This holistic and dynamic theory assumes that need gratification is the most impor-

tant principle underlying human development. Maslow organized a hierarchy of needs arranged in order of prepotency. Table 1 shows the hierarchy of needs, common conditions of deficiency and fulfillment, and an everyday example of such fulfillment.

Prepotency means that when needs are satisfied at one level, the next higher order of needs becomes predominant in influencing behavior. Physiological needs are the lowest in the hierarchy while self-actualization needs are the highest. Unless a lower need is at least partially fulfilled, it is difficult for the next higher need to be influential on the person's behavior. Thus, a very lonely person (love and belongingness needs) would have difficulty concerning himself about becoming highly competent (esteem needs) at a particular job. However, it must be stated that there is very little empirical support for prepotency at every level of Maslow's hierarchy (Whaba and Bridwell, 1976).

There is considerable research support for the physiological and safety needs being active on a prepotent basis. People do need to feel physically well and personally safe before they can commit themselves to learning. After these two needs are satisfied, people appear to respond to the rest of the needs in the hierarchy on almost a totally situational basis. Maslow's hierarchy (especially the higher needs) is probably most useful as a comprehensive list of needs that helps instructors to categorize motivational strategies and instructional objectives after they become empathically aware of the needs that have brought the adults to the learning situation.

There is evidence that supports the understanding that adults who are less educated and in the socioeconomically lower classes will be more interested in learning and education that is aimed at their survival needs (physiological and safety), while the more well-educated middle and upper classes will be more open to learning and education that is aimed at personal development, achievement, and self-actualization (Cross, 1979). Nevertheless, in the beginning of any learning situation, instructors of adults are more effective when they recognize the needs that have brought the adults to the learning situation, and they can intensify the adults' desire for learning by applying motivational strategies that enhance what the learners *want* to acquire through their participation.

How Stimulation Maintains Attention

What is stimulation? Is it excitement, entertainment, or provocation? Sometimes it is. But frequently it is not. *Stimulation* is any change in our perception or experience with our environment that makes us active. We see something more colorful and are attracted to it. We hear something new and listen more carefully to the sound. We touch something unexpectedly and retract our hand from it. Someone shows us something for the first time and we think about it for a while. A surprise jolts our emotions. All of these are stimulating experiences. They can be interesting, frustrating, invigorating, or irritating. Whatever their quality, they will get our attention and tend to keep us actively involved.

Human beings seek stimulation. There is considerable evidence that sensory stimulation is important to the development and maintenance of normal motivated behavior (Petri, 1981). Prolonged periods of inadequate stimulation can lead to problems ranging from retarded physical growth to excessive fear and hallucinations. Sensory-deprived people will work very hard to maintain stimulation. From the Count of Monte Cristo to prisoner-of-war diaries, there are numerous literary and historical references that document the tragic consequences of lack of normal stimulation.

Petri reports that a considerable amount of research in neurophysiology suggests that an actual need for stimulation exists. It appears that stimulation increases the activity of the brain and keeps human beings aroused and alert to deal with their environments. Small or moderate changes in arousal are reinforcing to us and cause us to direct our attention toward these various forms of stimulation. As long as these changes such as novelty, uncertainty, and complexity continue, we continue to pay attention to them. Once these changes stop, we tend to become bored and explore in other directions to maintain our alertness.

Stimulation directly helps to sustain adult learning behavior. If a person does not pay attention to instruction, very little learning will take place. The instructional process and its related materials make up the main body of most learning activities. Adults can have a desire to learn something as well as a positive attitude toward it, but if they do not find the process of learning stimulating, their

Table 1. Maslow's Need Hierarchy and Conditions of Deficiency and Fulfillment.

Need Hierarchy	Conditions of Deficiency	Conditions of Fulfillment	Illustration
Physiological ^a (lower-level)	Hunger, thirst Sexual frustration Tension Fatigue Illness	Physical well-being Pleasure from senses Relaxation Comfort Healthy state of being	Feeling satisfied after a good meal
Safety ^a (lower-level)	Insecurity Fear	Security Calmness	Being secure in a full-time job
Love and belongingness (higher need)	Loneliness Self-consciousness	Sense of friendship Free expression of emotions Sense of unity with others	Experiencing total acceptance in a love relationship
Esteem (higher need)	Incompetence Inferiority	Competence Confidence	Receiving an award for outstanding performance on a project
Self-Actualization (higher need)	Absence of meaning in life Uncreative	Work that embodies personal values Creative living	Realizing a personal potential as in writing a valued book

^aEvidence for prepotency exists.

attention will diminish. People do not *want* to become bored but they *become* bored. Self-discipline and will power can only take concentration so far. A continually repetitive and uninteresting stimulus can wear down the best intentions of most people. Once boredom sets in, *fatigue* and *distraction* are not far behind. Being adults, we are more vulnerable to these two oppressors of learning because, unlike children for whom school may be their first priority, adults have other serious responsibilities and learning may be one more demand added on to an already stressful life-style.

To be a stimulating instructor of adults is a great challenge and a real necessity. I believe it is the area of instruction where the least amount of practical knowledge exists. However, this text accepts this gauntlet; Chapter Six will provide a formidable array of strategies to maintain stimulation during the instructional process.

How Affect Motivates Behavior

The major motivation factor of affect pertains to the emotional experience—the feelings, concerns, and passions—of the individual learner or group while learning. No learning takes place in an emotional vacuum. Learners feel something while learning, and those emotions can motivate their behavior in a number of different directions.

Some psychologists have proposed that emotions are the "chief movers" of behavior (Tomkins, 1970), and most psychologists accept the idea that thinking and feeling interact to mutually influence one another as well as to lead to changes in behavior. Weiner (1980b), widely known as a cognitive psychologist, has recently offered evidence that a feeling in and of itself can motivate behavior. The following example is offered to represent his understanding.

A college student asks another college student for her notes to a particular class. She tells her she has been in an accident and was forced to miss class because of it. She is wearing bandages and an arm splint. The student feels compassion for her and lends her the notes. In this scenario the student has a cognitive understanding that leads to a feeling (compassion) that causes her to lend her notes.

It is important to emphasize that it is *the degree of her feeling* that mostly caused her behavior. If she had felt less sorry for the injured student, she may not have given her the notes. Although the perception and feeling are related, it is the intensity of her feelings at that moment that had the strongest influence on her immediate behavior. People constantly make judgments and interpretations about the causes of their own behavior and the behavior of others that lead to emotional feelings. But it is the intensity of those emotions that seems to play the largest part in influencing immediate future behavior. If people wait a period of time after a certain perception, their emotions will often change or lessen, leading to a different behavior from the one that might have actually occurred if they had acted immediately after the perception had taken place. Someone says something that angers us and we immediately want to argue with the person. After some time passes, our anger may diminish and we choose not to debate with the individual. This is probably why conventional wisdom encourages us to postpone important decisions while we are feeling any emotion very strongly—the emotion itself can trigger behavior that may not be in our best interest.

Every learning environment is constantly influenced by the normal emotional reactions of its participants. Also, because adult learning so often deals with success and failure in achievement and accomplishment activities, the personal feelings of these learners are continually rampant as they react to their progress or lack of it. The emotional state of an adult at a particular instance of learning is a significant influence. Ask any group of adult learners about how they *feel* about what they are doing and you will receive an indicator regarding their future involvement, perseverance, completion, or return to the learning activity.

It is also important for instructors to keep in mind that emotions not only influence behavior but may affect thinking as well. For example, a learner notices he has forgotten an important assignment and feels a degree of fear. To reduce this anxiety, he may think of acceptable reasons to tell his instructor about why he forgot the assignment.

This constant dynamic of thinking, feeling, and behaving is what puts vitality and humanity into the learning situation. In-

structor and learner emotions give meaning and relevancy to learning. Affect can be an intrinsic motivator. When emotions are positive while learning, they sustain involvement and deepen interest in the subject matter or activity. If reading fine literature fills a learner with wonder and joy, that learner will very likely want to read more of the same literature. Harmony between emotions and thinking, so that they can influence motivation to learn as a supportive integrated force, is in the best interest of effective instruction.

How Competence Builds Confidence

According to White (1959), human beings *inherently* desire to gain competence over their environment. Competence theory assumes that people naturally strive for effective interactions with their world. By virtue of being a human being, a person is intrinsically motivated to master the environment and finds successful mastery of tasks to be gratifying. We are genetically programmed to explore, perceive, think about, manipulate, and change our surroundings to promote an effective interaction with our environment. "The behavior that leads to the building up of effective grasping, handling and letting go of objects, to take one example, is not random behavior produced by a general overflow of energy. It is directed, selective, and persistent, and it is continued not because it serves primary drives, which indeed it cannot serve until it is almost perfected, but because it satisfies an intrinsic need to deal with the environment" (White, 1959, pp. 317-318).

Researchers have demonstrated that infants as young as eight weeks old can learn particular responses to manipulate their environment. In one such study, infants were placed in a crib with a mobile above their head (Watson and Ramey, 1972). By turning their head to the right, an electrical apparatus in their pillow was activated and caused the mobile to move. Not only did these children learn to "move" the mobile but they displayed more positive emotions (smiling, cooing) than infants for whom the mobile movement was controlled by the experimenter.

The history of the human race is a continuous, colorful catalogue of bold scientists and daring adventurers who have

relentlessly reached out to master their environment. We are apparently active and reasoning creatures who want to shape the course of our development. In general, competence is the concept or major motivation factor that describes our innate desire to take the initiative and effectively act upon our environment rather than remaining passive and allowing the environment to control and determine our behavior.

A number of different psychological theories embrace competence as a central assumption. Attribution theory, achievement motivation theory, personal causation theory, cognitive evaluation theory, and social learning theory support the idea that human beings strive for understanding and mastery (Weiner, 1980a). Their combined research is an outstanding documentation that adults tend to be motivated when effectively learning something they value.

Because awareness of competence is such a powerful influence on human behavior, adults who are learning and can feel an actual sense of progress and real accomplishment are usually well motivated to continue their efforts in a similar direction. In addition, since there is considerable evidence that adults enter educational programs with a strong need to apply what they have learned, there will be a continual attentiveness on their part toward how effectively they are learning (Knox, 1977). They know their families, jobs, and communities will be the arenas in which they test this new learning and under those conditions, there is little margin for error or incompetence.

In general learning situations, a sense of competence occurs when there is an awareness of personal mastery: the realization by the person that a specified degree of knowledge or level of performance has been attained that is acceptable by personal and/or social standards. This usually comes toward the end of the learning process when the person has had a chance to apply or practice what is being learned. When the person knows (usually through feedback) how well he can do what he is learning and can make internal statements, such as "I really understand this" or "I am doing this proficiently," feelings of competence will occur.

Once the person knows with some degree of certainty that he is able or adept at what he has learned, he will feel self-confident.

This comes from the person's realization that he has intentionally mastered whatever has been learned through his own ability and effort. This self-confidence emanates from such internal statements as "I can do it" or "I will be able to do it again."

The relationship between competence and self-confidence is mutually advantageous. Competence allows confidence to develop, which leads to emotional support for effort to master new skills and knowledge. Competent achievement of this new learning further buttresses confidence, which can now again support and motivate more extensive learning. This can result in a spiralling dynamic where competence and confidence grow in continued support of one another. To personally feel assured that one's own ability and effort can eventually lead to new learning and achievement is a powerful and lasting motivational resource. It is also the mark of a true expert or champion in any field. Instructors can help learners to achieve this by emphasizing and establishing conditions for competent learning. It is a wonderful gift.

How Reinforcement Enhances Learning

One of the most fundamental laws of psychology is the principle of reinforcement. *Reinforcement* is any event that maintains or increases the probability of the response it follows (Vargas, 1977). In countless studies with animals and humans, in laboratories, classrooms, and clinical settings, psychologists have found that behaviors can be made more or less likely through the judicious application of positive and negative reinforcement. The effective use of reinforcing events, such as the results of one's work, praise, social approval, and attention, have been established as important variables to be considered in the design of educational environments (Glaser and Cooley, 1973).

Reinforcement is designed and employed in this text in essentially the theoretical framework of Skinner (1968). This means that it is used in an "operant" or "instrumental" sense where learner behavior is emitted (mainly occurring spontaneously) and is instrumental in bringing about reinforcement. Talking, writing, and reading are operants that can be instrumental in bringing about instructor reinforcement. A learner writes a paragraph using correct

grammar and is complimented by her instructor for the specific use of this grammar. The learner, having been reinforced, will be more likely to use this type of grammar in future paragraph writing. According to *operant conditioning*, if no one reinforced a person's writing, that person would not learn how to write. This approach is very much in the Darwinian tradition. "Operant learning is a process much like Darwinian selection is for species. In a given environment those acts which are in some way effective survive and those which are ineffective die out. Over a period of time, patterns of behavior, like species, evolve from the kinds of individual operants that survive" (Vargas, 1977, p. 35).

In this type of reinforcement theory, positive reinforcement plays a major role (Karoly, 1980). *Positive reinforcement* happens when a behavior is followed by a presentation of a desired stimulus that increases the behavior's rate of occurrence (Alberto and Troutman, 1982). A *positive reinforcer* describes the consequent event itself. Positive reinforcers can be *tangible*, such as money and prizes, or they can be *social*, such as approval and affection. People do seem to study with greater effort and learn more effectively when their specific learning behaviors are positively reinforced by their instructors (Wlodkowski, 1982). Good grades, high test scores, academic awards, and instructor attention have been educational incentives for many years. It is difficult to believe any academic setting could positively survive without them. Although recent studies have indicated that *how* these reinforcers are applied must be carefully qualified (and these qualifications and cautions will be fully considered in Chapter Eight), research in adult learning and work continues to support their effective use (Korman, Greenhaus, and Badin, 1977; Pittman, Boggiano, and Ruble, 1983).

A *negative reinforcer* is an aversive stimulus or event that can be removed or reduced in intensity. *Negative reinforcement* is the contingent removal or reduction of an aversive stimulus following a behavior that increases the future rate and/or probability of the behavior's occurrence. An example of negative reinforcement would be an instructor telling a learner that a certain boring drill can be terminated when a specific level of achievement has been reached. Penalties, disapproval, and threat often act as negative reinforcers. However, because negative reinforcement is an aversive approach to

learning with many of the potential drawbacks of punishment, I evaluate this procedure as potentially too dangerous and do not advocate its use or application (Karloly, 1980). In general, adults in this culture do not respond well when they know or feel their learning is coerced. Consequently, their motivation for learning under such conditions tends to diminish over time. For these reasons, negative reinforcement will not be further considered in the following sections of this book. Therefore, the major motivation factor of reinforcement, as it continues to be discussed, is synonymous with positive reinforcement.

Organizing the Major Factors of Motivation for Maximum Usefulness

We have seen how important and yet how confusing motivation as a general concept can be. One way for instructors to make sense out of the array of theories that make up motivational psychology is to consider major motivational factors that are broad enough and scientifically supported so that they can serve as categories to arrange instructional strategies based on these many theories. To this end, six major factors of motivation have been offered: attitude, need, stimulation, affect, competence, and reinforcement. Each of these major factors has a wealth of multiple theories as well as related research that supports its powerful influence on learner motivation. The question now is "How do we arrange and use these major factors for instructional planning?"

This also seems like an appropriate time to say a few words about motivation planning in general. I am convinced that one of the logical reasons why ineffective and unmotivated learning so frequently occurs is because of the lack of motivation planning on the part of many instructors. Ask yourself or any other instructors how often and consistently do they do motivation planning for what they teach. When it comes to motivation, even the best of us tend to use common sense, intuition, and trial and error as our means for instructional planning. This is not willful negligence. This is the best that we can do when such a confusing and conflicting array of motivational theories exists. Until this book, no general programmatic design for comprehensive motivation planning has been presented in the literature on instruction for adults.

Lesson planning and instructional design have existed, but not with continuous attention to and detail for motivated learning throughout the instructional sequence. Attention to stimulation has usually been woefully lacking. One can plan an effective learning sequence, but that does not mean the learners will be motivated while learning. This is the problem with instructional objectives. In their orthodox use, there is hardly any attention to affect or stimulation. I contend that for an adult to *learn and want to learn* (motivated learning), motivation planning is necessary. Otherwise, a person may, at best, learn but also dislike what has been learned or the learning process itself.

Motivation planning can be integrated with instructional planning or it can be used in addition to instructional planning. This will help to avoid two other pitfalls common to instruction, the first of which is *instructor ignorance when instruction seems un motivating*. If a person does not have a motivational plan, what does that person do when instruction seems boring or lifeless? What is the logical approach? With no plan, the instructor is back to trial and error and intuition. Sometimes this is successful, but it is more frequently inefficient and prone to consequent feelings of impotence and exasperation. The second problem emerges when the instructor, having no motivation plan to analyze for possible solution to motivational difficulties that arise during instruction, places the entire responsibility for this state of affairs upon the learners. Blaming the learners for being unresponsive to instruction that is actually poorly designed or implemented in terms of its motivational influence is a common reaction among many instructors. It is difficult for us to be openly self-critical. Defense mechanisms like rationalization and projection act to protect our egos. With no motivation plan to fall back upon, we are that much more likely to be influenced by such defense mechanisms and to see our learners as responsible for the difficulties we are having. Motivation planning helps to keep our attention on how we instruct and what we can do about that instruction when it is not as vital as we would like it to be. *This diminishes our tendency to blame, which is a common reaction to problems that seem unsolvable.*

Instruction is systemic in nature. It is a network of interactions between an instructor and learners that leads to learning.

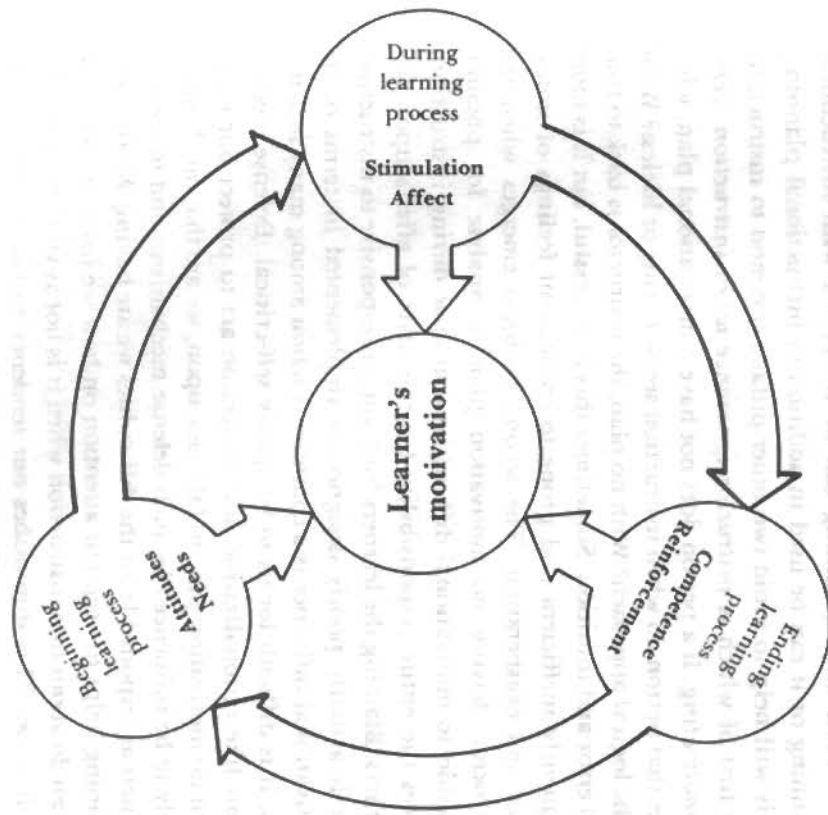
Therefore, motivation planning has to be systemic as well. No single major factor, such as need, exists without somehow being related to the other factors, such as stimulation and competence. Learning activities are arranged in patterns or sequences that lead to the attainment of learning objectives. For example, learners listen to a lecture, which is followed by a discussion, which is followed by some problem solving based on the previous lecture and discussion. The learning objective is that the learner will correctly solve a certain kind of problem, and three learning activities were sequenced to reach this objective.

Every learning sequence, whether it lasts twenty minutes or twenty hours, can be divided according to a time continuum. There is always a beginning, a middle, and an end. There are effective things that can be done during each of these phases to enhance learner motivation. Each phase has a maximum potential for the employment of motivational strategies that can optimally influence the learner's motivation. Each phase also relates to the others in forming a dynamic whole that, when proper motivational strategies are applied according to their particular phase, enhances the overall learning experience and catalyzes the learner's positive return to the learning situation. The various learning activities that make up the sequence can be analyzed in terms of when they occur and which motivational strategies they can incorporate in order to maximize their motivational influence throughout the sequence. The Time Continuum Model of Motivation organizes motivational strategies according to this rationale (Wlodkowski, 1981) (see Figure 1).

In the Time Continuum Model of Motivation there are three critical periods in any learning sequence or process during which particular motivational strategies will have maximum impact on the learner's motivation.

1. *Beginning.* When the learner enters and starts the learning process.
2. *During.* When the learner is involved in the body or main content of the learning process.
3. *Ending.* When the learner is finishing or completing the learning process.

Figure 1. The Time Continuum Model of Motivation.



For each of these critical periods, there are two major factors of motivation that serve as categories for strategies that can be applied with maximum impact during those periods of time.

- *Beginning: Attitudes.* The learner's attitudes toward the general learning environment, instructor, subject matter, and self.
- *During: Needs.* The basic needs within the learner at the time of learning.
- *Ending: Stimulation.* The stimulation processes affecting the learner via the learning experience.

