

Chapter 7

Learning, “Flow,” and Happiness

Mihaly Csikszentmihalyi

Why do people learn? If we could only answer that modest question, we would be well along the way toward understanding and implementing lifelong learning. If one knew what motivates people to learn, one could facilitate its occurrence and channel it in directions that are socially or ethically desirable. But of course that question is not as simple as it sounds; in fact, no generally useful answer can be given to it at this time. In this paper, I will attempt to deal in depth with some dimensions of the motivation for learning and to relate these to other approaches. Before doing that, however, I will have to set down some of the ground rules for what kind of learning we shall be talking about and what kinds we shall exclude from the analysis.

Learning is an increase in complexity in the information-processing capacity of an organism. It can be consciously pursued, or it can involve changes that happen accidentally as a result of the organism’s interacting with his or her environment or reflecting on previous experience in an unintended way. In the first case we have deliberate, voluntary, intentional learning; in the second, spontaneous, incidental, unplanned learning. Although many learning theorists would claim that much of the change an organism goes through is due to incidental learning, we shall consider here only the deliberate kind.

Deliberate learning can be either intrinsically or extrinsically motivated. When a person chooses to learn and feels responsible for his or her choice, the motivation is intrinsic. This stance corresponds, it seems to me, to what Warren Ziegler calls the “praxiological proposition.” On the other hand, learning can in fact be extrinsically motivated. For most people, the thirteen-plus years spent in formal educational institutions involve learning that is experienced as forced rather than chosen, and over which one does not feel responsibility or ownership. Among adults the proportions might well be reversed, but even in the second half of life much learning is

“There are instances where we have been unable to trace or contact the copyright holder. If notified the publisher will be pleased to rectify any errors or omissions at the earliest opportunity”

forced on us by changing conditions. The dangers of extrinsic motivation in learning have been amply documented.¹ To educate people under compulsion is costly in terms of social resources because it requires an expensive system of rewards and deterrents to be viable; and it is destructive of the individual's agentic powers, thereby increasing anomie and alienation. For these reasons, we shall here be concerned primarily with intrinsically motivated learning.

Learning that is intrinsically motivated can be either autotelic or exotelic. Autotelic learning is pursued for its own sake. In it the experience of active change involved in learning becomes its own reward. The goal is contained within the learning process. Exotelic learning is directed to an outside goal: the outcome is prized rather than the process itself. In practice, the distinction between these two modes of acting is not always clear. A person might first decide to learn to play the piano for exotelic reasons—for instance, because he or she would like to be a good pianist. Playing itself is a chore, a painful discipline. With time, however, the goal of becoming a good pianist may recede as the primary motivational factor because the experience of playing is so rewarding that it can sustain the process by itself, at which point the motivation becomes essentially autotelic.

I will try to develop a model of learning that is *intentional, intrinsically motivated*, and *autotelic*. I will argue that these three criteria define a psychological state that contains a powerful force, for good or for ill. In such a state persons will expend great energies without the need of external rewards. When this force is directed to ethical ends, the social system is strengthened; if it is wasted or harnessed to destructive purposes, it becomes a great danger.

I will further argue that any intentional, intrinsically motivated, and autotelic activity must lead to learning, that is, to changes in the complexity of the organism. Moreover, I shall propose that this kind of learning is the avenue for personal growth that approximates most closely the state of happiness.

Happiness as Personal Development

From earliest times, a majority of people have identified happiness as the ultimate goal of life. There has been no problem in agreeing that happiness is a subjective feeling, but beyond this point sharp differences arise in terms of the origins of this state and in terms of strategies for reaching it.

¹ P. Goodman, *Compulsory Mis-education* (New York: Horizon, 1964); U. Bronfenbrenner, *Two Worlds of Childhood* (New York: Pocket Books, 1973); R. DeCharms, *Enhancing Motivation: Change in the Classroom* (New York: Irvington, 1976); E. L. Deci, *Intrinsic Motivation* (New York: Plenum, 1975); M. Csikszentmihalyi, "Intrinsic Rewards and Emergent Motivation," in M. R. Lepper and D. Greene (eds.), *The Hidden Costs of Reward* (New York: Erlbaum, 1978): 205–216; M. Csikszentmihalyi and R. Larson, "Intrinsic Rewards in School Crime," *Crime and Delinquency*, 1978, 24(3): 322–335; and M. Csikszentmihalyi and P. L. Mayers, "Intrinsic Motivation and Learning in High School," manuscript submitted for publication, 1979.

The great variety of attempts to pursue happiness can be reduced to one of two complementary approaches: to maximize pleasure or to minimize pain. The first is the hedonist approach, manifested in our days by that component of the American Dream that stresses material success, comfort, pleasure, and ever increasing consumption. The second solution is typified by the Epicurean stance of *ataraxia*, or serene acceptance of the inevitable, and the stoic notion of right living in harmony with the natural forces in the environment. While less popular at this time, the course of reaching happiness through minimizing pain is still an option chosen more or less self-consciously by a number of people in our culture. It seems clear, for instance, that current concepts of mental health, coping, and adaptation are continuous with stoic prescriptions of how to reach happiness.

What is common to both these approaches is that they are essentially homeostatic. The seeking for constantly new sources of pleasure in the hedonistic stance can barely disguise the fact that the experience of pleasure is limited by the inherited capacities of the organism. Thus, the pursuit of pleasure, no matter what novel forms it takes, always seems to lead back to the same cycles of arousal and release. The pleasures of food, sex, rest, and intoxication may produce positive subjective states, but they do not lead the organism to change. Avoidance of pain as a basic stance is also inherently a homeostatic goal, though less so than the pursuit of pleasure. The various disciplines required to curb one's drives and to cope with external changes—from yoga to psychotherapy, from *ataraxia* to Calvinist asceticism, from Tantric rituals to monastic practices—tend to change the organism, to refine conative skills, and thus lead to personality growth. Yet the ultimate goal of such procedures is still homeostatic in that they aim at maintaining the person at a level of quiescence or integrity, protected from the buffeting of fate.

The American Dream, that vague if powerful collective expression of hope that has been the most attractive asset of this society in the eyes of the rest of the world, includes goals that go beyond the homeostatic processes of pleasure seeking and pain avoidance. More clearly and consistently than in perhaps any other society, people in ours have claimed that it is possible for men and women to fulfill their potential by growing in skills, in knowledge, in wisdom. Not for any specific adaptive reason, not as a response to environmental pressure, but simply for the sake of actualizing latent possibilities.

Historically, policies created to implement personal growth have been channeled into educational institutions. It made sense to expect that the unfolding of personal potential would be best achieved within schools. Thus, it is through schooling that we have attempted to escape from homeostatic circularity into an ever spiraling growth pattern. Unfortunately, the school systems inherited from previous ages were not designed for such a purpose. The structure of schools, their curricula, their connections to the rest of societal institutions are encrusted with a variety of status-maintaining functions. Thus, all too often schools limit themselves to sorting young people into the social roles they are expected to assume; only rarely are they able to stimulate patterns of lifelong growth. It is not surprising that formal education has now lost some of its credibility as the main vehicle for personal growth and fulfillment.

Despite this setback, it is worth considering how education is related to happiness. Perhaps if we succeed in clarifying the connections between learning, growth, and happiness, it will become easier to understand what went wrong with education and what could be done to set it right.

The thesis of the present argument will be that the state of happiness is best described by the developmental rather than the homeostatic models. Pleasure and absence of pain are rewarding conditions, indispensable to maintain psychic processes on an even keel. But happiness also depends on something else: the feeling that one is growing, improving, changing to approximate a barely intuited ideal state. That process is by definition a process of learning broadly defined. One might conclude that learning is necessary for happiness, that learning *is* the pursuit of happiness.

The rest of this essay will elaborate on this theme. In order to develop the argument with some conceptual rigor, it will be necessary first to outline a model of the self and its dynamics. It is on this model that the later analyses of growth and learning will be based.

A Systemic Model of the Person

Happiness is a state experienced by persons. Experiences are changes in the state of the self. The self is an information-processing system. Through the allocation of *attention*, which represents psychic energy and is in limited supply, the self can produce and then process information about its outer environment and its inner states.² For example, if I say, "I feel feverish," I am relating the fact that I am aware of certain changes in my physical state that suggest the presence of illness. The "fever" as an experience is not diffused in the body but describes a certain state of my consciousness, or self. If I think, "I am bored," this again refers to a state of my information-processing system. In this case consciousness reflects on its own state and produces the information "I am bored."

All of this sifting and relating of information is accomplished through allocation of attention. Since attention cannot be split indefinitely, the amount of information that can have an effect on the self is limited by the availability of attention. Hence, the amount of attention available determines the kind of experiences one can have and therefore the content of one's life over time. It is impossible to "experience" a symphony and a poem at the same time, or to balance a checkbook and process a philosophical argument concurrently. It is difficult to feel happy and sad at once, and the intensity of one experience will be at the expense of the other. How one allocates one's attention will determine the content and quality of one's life.

² M. Csikszentmihalyi, "Attention and the Holistic Approach to Behavior," in K. S. Pope and J. L. Singer (eds.), *The Stream of Consciousness* (New York: Plenum, 1978): 335–358.

For practical purposes it is convenient to differentiate two ideally contrasting states of the self. The first might be called psychic entropy. This obtains when the information-processing system, or self, is in a state of disorder. In this state attention is withdrawn from the outside world to reconcile conflicting information in consciousness. Conflict is the result of a mismatch between information being processed and goals or intentions developed by the self. The ensuing subjective experiences are anxiety, self-pity, jealousy, boredom, and so forth. They are all characterized by self-consciousness, that is, the *involuntary* turning inward of attention to restore order in the self. Thus, psychic entropy is a state of disorder in the self system that results in decreased efficiency of that system, inasmuch as less attention is left over to relate to new information.

The opposite state might be called psychic negentropy. This is a condition in which the information processed in consciousness does not conflict with other information available to the self. The self system is in harmony, and no attention needs to be allocated to its internal functioning. If attention is turned inward, it is done so voluntarily to reflect or to plan, not to negotiate inner conflict. The subjective experiences of psychic negentropy are what we call fun, involvement, enjoyment, serenity; and they are characterized by lack of involuntary self-consciousness.

Psychic disorder is not necessarily “bad,” nor its opposite “good.” There is no way to avoid information that conflicts with expectations held by the self, and the self develops by integrating new material into itself, part of which is bound to produce conflict. Entropic self-consciousness is often the necessary precondition for artistic accomplishment and creativity in general. At the same time, a person who devoted most of his or her psychic energy to introspection would not have enough attention left to relate adaptively to the environment. Moreover, while psychic entropy is subjectively experienced as a negative state, negentropy is exhilarating. The former might be justified as a means to achieving the latter, but psychic order is in itself the goal.

Entropy and negentropy do not apply only to states of the self. They can be seen as attributes of the information exchanged *between* people as well; thus, they characterize states of social systems. For instance, a classroom as a social system is in a state of entropy when the information provided by the teacher does not match the students’ expectations, or vice versa. In such a case the teacher’s actions will produce information that creates conflict in the students. Instead of paying attention to the lecture or the assignment, the students are conscious of boredom, worry, or anger, or else they withdraw into fantasy. Negentropy of a classroom system would consist of all of the students and the teacher processing the same information without being distracted by extraneous thoughts and feelings. Order and disorder are useful concepts to describe the states of individual selves as well as the states of social systems, ranging from two-person dyads to entire nations.

The Conditions of Psychic Negentropy

How does it feel to be in the state of psychic negentropy? And what are the conditions that help produce it? Psychologists, whose province it would be to answer such questions, have seldom attempted to do so. In general they have instead devoted their efforts to exploring the various manifestations of psychic disorder. Among modern scholars, some exceptions are Maslow's description of "peak experiences," Laski's collection of reports of ecstasy, and Bradburn's survey studies of happiness.³

In a series of studies started ten years ago, we conducted interviews with several hundred people who were intensely involved in enjoyable activities: artists, athletes, chess players, dancers, rock climbers, and so forth. We expected that such an elite group would constitute the extreme tail of the normally distributed population in terms of familiarity with psychic negentropy. From their accounts we hoped to be able to reconstruct the essence of the experience. These studies were later replicated with more "normal" samples: professionals, high school students, engineers, secretaries, assembly-line workers, and groups of elderly people.⁴

The descriptions obtained from these studies agree to a remarkable extent about what the experience of enjoyment is like and about the conditions that facilitate its occurrence. For the sake of brevity we shall refer to the negentropic experience as "flow," which was a term often used by our early respondents to describe their feelings while involved in an enjoyable activity.

The flow experience is one of deep concentration on a limited set of stimuli that are accepted by the person as being relevant. These stimuli might be the opponent's serve for a tennis player, a set of musical notes for a composer, or the patient's anatomy for a surgeon. Concentration precludes the person from thinking about, or even noticing, those stimuli that are temporarily "irrelevant" to the task. Thus, a chess player in a tournament is typically unaware for hours that he or she might have a splitting headache or a full bladder; only when the game is over does awareness of one's physical condition return. Such intense concentration is sustained in part by the activity's having clear goals and providing clear feedback to the person's actions. The climber suspended on a rock wall knows what he has to do and is constantly aware of whether his moves do or do not help him achieve

³ A. Maslow, *Towards a Psychology of Being* (Princeton: Van Nostrand, 1962); A. Maslow, *The Farther Reaches of Human Behavior* (New York: Viking, 1971); M. Laski, *Ecstasy: A Study of Some Secular and Religious Experiences* (Bloomington: Indiana University Press, 1962); and N. M. Bradburn, *The Structure of Psychological Well-being* (Chicago: Aldine, 1969).

⁴ M. Csikszentmihalyi, *Beyond Boredom and Anxiety* (San Francisco: Jossey-Bass, 1975); P. Mayers, "Flow in Adolescence and Its Relation to School Experience," unpublished doctoral dissertation, University of Chicago, 1978; P. Mayers, M. Csikszentmihalyi, and R. Larson, "The Daily Experience of High School Students," paper presented at the meetings of the American Educational Research Association, Toronto, 1978; and H. R. Gray, "Enjoyment Dimensions of Favorite Leisure Activities of Middle- and Old-aged Adults Based on the Flow Theory of Enjoyment," unpublished doctoral thesis, Pennsylvania State University, 1977.

that goal. Composers have a set of sounds “in their minds” that they wish to reproduce on paper, and each note they write down approximates more or less closely the effect they wish to achieve.

Concentration on a manageable and clearly structured stimulus field leads to a total immersion in the activity, with no attention left over to think about one’s self as separate from the interaction. Thus, people report a loss of awareness of time passing, a loss of self-consciousness, of self-doubt, of any of the ego-related concerns that one experiences in everyday situations where goals, feedback, and concentration are more loosely or contradictorily structured. And finally, the flow experience is unanimously described as being exciting, fulfilling, enjoyable—an experience that is rewarding, a goal in itself rather than a means to some external reward.

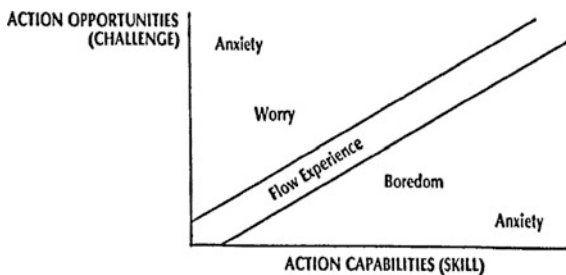
These findings suggest that in the flow experience we might have a model for that optimal state of being on which a theory of happiness could be built. Flow differs from the homeostatic approaches to happiness because it consists neither in seeking to satisfy a limited and closed set of needs for pleasurable stimulation nor in attempting to avoid unpleasant sensations. Studies of the flow experience show that people obtain positive negentropic states by seeking out new stimuli that might be threatening, like dangerous mountains or the depths of the sea. Enjoyment does not derive from the satisfaction of instinctual needs but from the achievement of *emergent* goals, that is, from one’s ability to respond to opportunities in the environment that one learns about, or actually *discovers*, in the course of one’s life.⁵

But what are the conditions that make the experience of flow possible? As one might expect, psychic negentropy typically occurs in activities that are ordinarily classified as play or leisure. Yet the important finding from our studies is that any activity can produce flow. It is not the objective, culturally sanctioned nature of the activity that determines whether the experience will be entropic or negentropic; what counts are more subtle parameters in the structure of the activity. A game of tennis does not necessarily induce flow in the player, nor is working at the assembly line necessarily a sign that the worker’s consciousness is in a state of psychic entropy.

What, then, are the structural parameters in a situation that mark the presence of flow? In the first place, it is necessary that there be *something to do*, that the person be faced with opportunities for action, or challenges. Next, it is necessary for the person to have appropriate skills, or the capacity to respond to the challenges at hand. When the skills and challenges balance each other, the situation usually produces flow. If the challenges are too high relative to the skills, entropy ensues in the guise of worry or anxiety. If the skills overwhelm challenges, self-consciousness appears in the form of boredom (see Fig. 7.1).

⁵ M. Csikszentmihalyi, “Intrinsic Rewards and Emergent Motivation,” in M. R. Lepper and D. Greene (eds.), *The Hidden Costs of Reward* (New York: Erlbaum, 1978): 205–216; and M. Csikszentmihalyi, “Love and the Dynamics of Personal Growth,” in K. S. Pope (ed.), *On Love and Loving* (San Francisco: Jossey-Bass, 1980).

Fig. 7.1 A model of the flow experience



In addition to the balance between skills and challenges, a flow activity (that is, an activity that tends to elicit the flow experience in people who practice it) usually has clear rules and clear goals and provides clear feedback. The stimuli relevant to the activity are clearly identified to facilitate concentration. As a result, a flow activity is able to provide a self-contained little world in which a person can act with total involvement and without self-doubts. The most obvious example of a flow activity is an athletic context, such as a football game. Here the relevant space is limited by the gridiron, the relevant time is indicated by the game clock, the uniforms separate the actors from the audience and the team from its opponents. Rules, goals, and challenges are clear. After each play the results of one's actions are measured in terms of yards gained or lost. In this well-structured little world, one can act with total involvement for a little while and experience flow.

But what is important to realize is that one doesn't have to play to experience flow. Every activity can be enjoyable because every activity has the potential of being structured like a game. There is no inherent reason for work to be painful, nor for learning to be dull.

To understand the experience of psychic negentropy, it is essential to keep in mind that the conditions that produce it are both objective and subjective. For instance, the amount of challenge present in a situation will depend on what is actually there and on what the person perceives to be there. To most people, a vertical slab of rock does not present opportunities for action; it is something to be glanced at and immediately forgotten. To a rock climber, it might constitute an exquisite sequence of challenges to be savored for hours or days. The same is true of skills. While some people consistently overestimate their own abilities, others think they can do less than they are “objectively” able to do. Thus, the ratio of challenges to skills cannot be accurately predicted by knowing only the external parameters of a situation.

That point has some very important practical consequences. It implies that to make a person happy in a given situation, it is not enough to change the external conditions; the person's perception of the situation must be changed as well. People need to be able to restructure their interaction with the environment to bring their skills in line with the challenges. It is possible, for instance, to enjoy even the most objectively “boring” situation by developing enough cognitive challenges and skills. That is what the discipline of yoga and other meditational

techniques teaches. Similarly, musicians, poets, and mathematicians are able to transform even concentration camps into tolerable experiences because they can interact with a symbolic world of challenges and skills they have internalized. The best policy for increasing negentropy in everyday life, however, would consist in a two-pronged approach that aims to restructure both the objective and the subjective structure of activities. It is necessary to transform the typical tasks of life into flow activities and, at the same time, to teach people how to reach flow even when what they have to do is not inherently conducive to the experience.

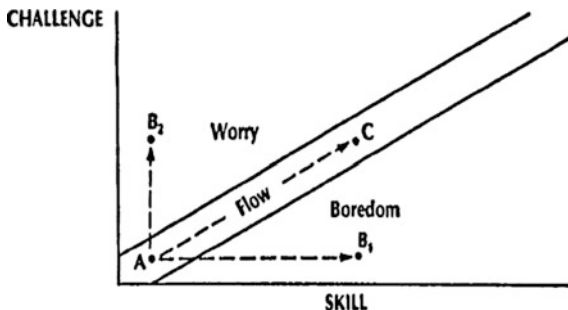
Perhaps by now the relationship between happiness—or the state of psychic negentropy we have called “flow”—and what Warren Ziegler is calling the “learning stance” has started to emerge. The connection will become clearer in the following sections, but at this point it might be convenient to state its development thus far. For a person to experience flow, he or she must be able to recognize opportunities for action in the environment and must have the skills to deal with them. It is clear that some people are born with or acquire skills in a specific area and thus have a privileged entry into one type of flow activity; for example, physical build, a good singing voice, a special talent or early training may set a person up for competence in a certain activity. But in addition to such specialized skills, there is a more important, more general skill available to everyone. That is the ability to transform any situation into a flow activity, the capacity to restructure one’s environment to achieve a balance between challenges and skills. A person with this meta-skill sees opportunities where others don’t or learns new ways to cope with challenges if they threaten to be overwhelming.

This basic meta-skill seems to be a good description of the “learning stance.” It is also very similar to what I understand Kenneth Benne to mean by his “methodological character,” or one’s tendency to seek out new learning through conflict and doubt. How it relates to psychic negentropy, and how it can be affected by training and policy decisions, will be explored later. At this point it should be emphasized that the flow model suggests that such a learning stance is not just a means to an adaptive end. The importance of this basic kind of learning does not lie only in the fact that it can provide skills necessary to cope with this or that problem of existence. The learning stance is a necessary skill by itself, regardless of its outcomes, because it offers the closest approximation of happiness that human existence can provide.

The Dynamics of Personal Growth

I do not intend to imply that people are happy only when they are learning to cope with new challenges or when they are deeply involved in a demanding flow activity. As the model in Fig. 7.1 suggests, flow experiences occur also at the lowest levels of challenges and skills, provided these are in balance. In fact, the results of our ongoing research suggest that day in, day out, the most enjoyable times in people’s lives consist of rather trivial, low-key experiences. About one-

Fig. 7.2 Dynamics of flow: a hypothetical transition from a low skill, low challenge state (A) to three possible alternative states



third of the reports concern pleasant occasions of sociability: talking around the dinner table, admiring a friend's new car, sharing gossip around the office water cooler. Another third of the time, people explain why they feel exceptionally good in terms of being rested, well fed, relaxed, or in tune with the weather. Finally, a third of the time the good feelings come from something the person is doing, from the activity itself. On the whole, we are now estimating that about 15 % of the best everyday experiences occur in the context of learning, which includes such things as trying out a new recipe or a new hairdo, as well as more conventional tasks such as learning a new language or improving one's tennis game. On the other hand, people report that of the worst daily experiences, fewer than 3 % involve new learning. More than a third of the worst experiences are due to boredom experienced in routine, repetitive activities.

If it is true that people in general are happiest when they are relaxed in an undemanding situation, what is the justification for suggesting that the flow model is crucial for understanding happiness? The reason is that the prevalence of happy experiences that are extremely low in challenges and skills should not obscure the fact that restful occasions are enjoyed because they contrast with the more challenging encounters of daily life. Without the latter, the times of relaxation begin to pall. The charged experience of deep involvement is enjoyable in its own right, and it gives value to the low-key occasions in which neither challenges nor skills are high.

But the most important feature of the flow model in the present context is its implication for understanding the growth of the self. An example might serve to illustrate the dynamics involved. Let us imagine a beginning chess player, who plays against other beginners. In terms of the flow model, one would predict that he enjoys playing the game because challenges and skills are matched. His situation is represented by position A in Fig. 7.2. As time passes, and our imaginary player keeps playing, one of three possible outcomes is likely to occur. One is that both the player and his opponents learn new skills as a result of practicing the game. If this is what happens, then the player will move to position C in Fig. 7.2: he will still be in flow when he plays. A second possibility is that the player improves, but his opponents do not. In this case, our player will find himself at B, and will tend to get bored when playing. If he gets bored, he will either stop

playing chess or find himself some more skillful opponents, thus moving back up into flow at position C. A third alternative is that our player's opponents improve much faster than he does; in this case he will soon find himself in position B_2 . At this point the player does not enjoy the game because he knows he will keep losing, and the experience becomes frustrating. He has the option of quitting the game or of returning into flow, either by finding opponents with fewer skills (i.e., back to position A) or by improving his own skills until they match the opponents' (up to position C).

In other words, positions at the lower end of the flow diagonal are inherently unstable. People must progress upward along the diagonal if they wish to keep enjoying whatever they are doing. If they do not move, boredom or worry is likely to ensue. Incidentally, the same argument explains why some activities are more conducive to flow in the long run than others. A game of tick-tack-toe, for instance, soon becomes boring because it cannot offer new opportunities for action. Chess, on the other hand, provides an almost unlimited range of increasing challenges.

But what does a move up the flow diagonal imply? What is the difference between positions A and C in Fig. 7.2? It is not necessarily true that the quality of the experience changes as one matches higher challenges with greater skills. Playing with a puppy can be as involving a negentropic state as playing a Beethoven violin solo is. The difference between A and C on the diagonal is that C is a more *complex* experience. It means that the opportunities for action are more difficult to meet and that the abilities being used are more refined. Higher up the diagonal, behavior is more complex because more differentiated responses are required to meet the demands of the situation. Therefore, the experience might be described as being more "deep," since presumably more cognitive and affective skills are involved and the attention is more concentrated. It follows that a person who stays in flow in several different activities will necessarily become a more complex person because the dynamics of the flow process must become more complex as a condition for continued enjoyment. This increased complexity of the self is what one means by personal growth. Thus, to be happy one must grow.

It is now possible to see more clearly the role connection between learning and happiness. Happiness requires that one be able to find increasingly complex opportunities for action and that one be able to improve one's appropriate skills. That ability, which seems to come naturally to children, apparently often atrophies by early adulthood. Some people, exposed to a constricting environment, never realize their inner resources or the presence of surrounding opportunities. Others are overwhelmed by demands in their milieu early on, and they find that the only way they can cope with the entropic forces is to restrict their perception of opportunities. For them, the French definition of human development applies: first an age of illusion, followed by an age of disillusion, ended by an age of indifference. The only way to break this vicious cycle is to maintain one's ability to grow, to find ways of getting deeply involved with the world around. That is the ability that we are calling the learning stance.

Our research with representative blue- and white-collar workers in the Chicago area suggests that people differ greatly as to how often they report experiencing deep flow. About 10 % claimed never to have felt anything like it; the rest were rather evenly distributed along a continuum ranging from once a year to several times a day. Of course, it is difficult to know whether such interview reports are accurate reflections of the experience. Convergent validation, however, suggests that what people say in this respect might be true. The more often people report flowlike experiences, for instance, the more satisfied they are with every aspect of their lives and the more involved they are with their work.⁶ In our sample, adult workers report that about 40 % of their deep flow experiences take place while they are working on their jobs, and the rest occur about evenly in situations of sociability, in hobbies and sports, in passive leisure activities like reading or listening to music. These preliminary findings confirm three important predictions derived from the model: (a) flow can be experienced in a variety of situations, including work; (b) people differ greatly in terms of where and how often they experience flow; and (c) those who experience flow more often, regardless of context, are more involved and more satisfied with their lives.

Some Principles for Development of the Learning Stance

These considerations lead us back to policy issues. While it is clear that research in this field is still in its infancy, and much more data need to be collected before we can be sure of our facts, one might hazard some suggestions about what can or cannot be done to increase happiness by affecting the learning stance.

In the first place, the argument thus far provides a different philosophical justification from the ones that usually underlie policies in adult education. The point is that opportunities for learning in later life should be made available not only in response to specific needs such as occupational retraining, certification, the improvement of health, and cultural enrichment. These are important reasons, but an even more central one is that learning opportunities are necessary for nongenotropic personal growth. Learning is essential not only because of what one can do with the knowledge, but also because of how one feels while one is learning and the kind of person one becomes as a result of the experience.

It follows that the content of learning must be seen as much broader than the usual utilitarian subject matter of adult education. The question should be, What kind of opportunities are most conducive to the development of personal potentialities? We need to know more about the sort of activities that adults find intrinsically rewarding and growth producing. The most obvious policy direction

⁶ M. Csikszentmihalyi and R. Graef, "Flow and the Quality of Daily Experience," manuscript submitted for publication, 1979.

would then be to make such activities available to larger segments of the population.

To a certain extent, we already know that people spontaneously take on a variety of learning opportunities in their lives. Allen Tough has shown that average adults spend almost 10 h each week engaged in learning efforts. That is an impressive investment of psychic energy, but know a bit more about the quality of these learning experiences. How complex are they? How much growth do they provide? How integrated is the change produced with the rest of people's lives? My impression is that answers to these questions would spell out a less optimistic picture than the numbers alone suggest. Our data—which were not collected specifically to find out about learning and are therefore far from conclusive on this score—suggest that although most adult learning efforts are intrinsically motivated, they are usually exogenous. In other words, they are means to specific, and usually short-term, ends. While this type of learning is invaluable for coping with the day-to-day problems of existence, it is essentially a homeostatic response that may not lead to growth and complexity.

An enlightened policy would not restrict itself to enabling people to learn skills that are easiest to acquire. The flow model suggests that a person will engage spontaneously in activities that are enjoyable and that initially these will be activities of low complexity, unless the person's capacities are already developed. The temptation is to satisfy immediate needs for involvement by providing activities that not only require few skills to begin with, but that also never make substantial demands on the person's abilities; therefore, they are structurally incapable of nurturing growth. We should remember that in Latin *education* meant "to lead out" and that educational policy should aim to assist people to move upward along the diagonal of complexity. Fashionable but trivial learning opportunities are in the long run literally self-defeating; they keep people busy for a little while, but they fail to start them on a pattern of growth.

Perhaps the main priority for lifelong learning at this point is the development of symbolic skills. Strictly speaking, of course, all learning involves symbols, even learning how to bake bread or how to fix the plumbing, but here I mean learning to operate within a symbolic subworld like mathematics, music, chess, poetry, or art, which provides greater opportunities for growth. How does mastery in such a subworld contribute to happiness? The advantage of symbolic action systems (like poetry, for instance) is that they offer an almost unlimited range of opportunities in which negentropic states can be experienced. Symbolic systems have two main limitations. First, they require a certain level of skill to enjoy in the first place and thus need a large initial investment of psychic energy, second, compared with achievements based on power of money, symbolic skills are generally seen as useless and hence not worth bothering with. This problem can be resolved, at least in principle, since whether people perceive an activity to be useful depends to a great extent on the amount of attention others devote to the activity, hence, a policy directed to enhance happiness through learning might be able to support symbolic accomplishment by devoting increasing attention to it and so generating enough attention to make the activity self-sustaining. An excellent example in this

direction is the work of the poet Kenneth Koch. He has trained ghetto children and a group of semi-illiterate older persons to express their most intimate feelings in poetry.⁷ Having learned the tools of poetic expression, these essentially alienated people were able to make order in their experiences through symbolic means—psychic order. The temporary flow became a way to a more permanent one. Such methods are a national resource to be studied and applied by anyone concerned with lifelong learning.

The importance of symbolic systems goes beyond the fact that they can provide a way of ordering people's experiences and thereby create states of psychic negentropy and growth. They also have implications for the future of our society. As long as our values are exclusively material and utilitarian, people's energies will be devoted to secure increasingly expensive material goals: bigger homes, more energy-intensive appliances, more powerful means of transportation. It is clear by now that this course can lead to only two alternatives: either we destroy our planet by seeking happiness in material objects, or we shall have to scale down our appetite, in which case intense frustration and demoralization can be expected.⁸ Education in symbolic skills might be one way out of this ruinous course. To the extent that a person becomes able to act in subworlds that operate on different principles from the everyday environment, subworlds that run on information rather than oil, to that extent he or she might become less dependent on the material world and more able to find satisfaction in symbolic rather than material rewards. One should add, of course, that "material" rewards are also symbolic; the problem is that focusing people's energies exclusively on this one set of opportunities has upset the ecology almost beyond repair. Attempts to improve the learning stance should therefore not disregard ephemeral symbolic skills in favor of simpler, more concrete training. In fact, creative efforts to reconstitute legitimate alternative realities in the present barren materialistic landscape might be the most important contribution a policy in this field can make.

Having pointed out some general principles pertaining to the *content* of what should be included in the learning stance, the question arises: How should this content be transmitted? Clearly "formal education" can be only a small part of the answer. Classroom instruction works only for students who are already motivated to learn in a classroom setting. To affect the learning stance, one must recalibrate people's motivation to become involved with learning in the first place. The ability to restructure situations to make the interaction with them enjoyable, and hence

⁷ K. Koch, *Wishes, Lies and Dreams: Teaching Children to Write Poetry* (New York: Chelsea House, 1970); and K. Koch, *I Never Told Anybody: Teaching Poetry Writing in a Nursing Home* (New York: Random House, 1977).

⁸ M. Csikszentmihalyi, "The Release of Symbolic Energy," paper presented at the American Art Therapy Association meetings, Baltimore, 1976; M. Csikszentmihalyi, "Attention and the Holistic Approach to Behavior," in K. S. Pope and J. L. Singer (eds.), *The Stream of Consciousness* (New York: Plenum, 1978): 335–358; and M. Csikszentmihalyi and E. Rochberg-Halton, "People and Things: Reflections on Materialism," *The University of Chicago Magazine*, 1978, 70(3): 6–15.

growth producing, is presumably a meta-skill one develops fairly early on. We need to know more about when and how it is acquired because it is likely that the most efficient way to enhance lifelong education is by maintaining more and more children on the growth path. At present we know a great deal about how children learn to read and to count. But we know next to nothing about how children learn to enjoy learning and about how to foster this skill. Yet that is what we need to know if we wish to enhance what Brewster Smith⁹ called the “benign spiral” of self-development, or what we are calling the learning stance.

At present, the structure of a young person’s environment is not the most conducive for the development of a learning stance. Community resources for intrinsically motivated learning are sorely inadequate and research with adolescents, we found that while youngsters enjoyed watching TV less than anything else in their daily lives, and enjoyed sports and games most, they still spent almost four times as much time in the former activity than in the latter.¹⁰ Television mimics activity and purports to convey information, but those who watch it do not act and therefore cannot get feedback and learn about themselves. Sports and games require a greater output of psychic energy to get started in; but once that initial expenditure is made, they become autotelic, and one grows by practicing the necessary skills.

What about schools then? Surely they are the institutions expressly designed to instill the learning stance, and young people spend a large proportion of their time in them. The problem with classroom instruction is that the material presented by the teacher (which constitutes the “challenge” for the students) is by necessity aimed at an average level of complexity in relation to the individual skills of the students in the class. For many students the material is too easy, and they will be bored; for others it is too difficult, and these students will be anxious. Although it is true that some classes are seen by some students as enjoyable as flow activities, and even though enjoyment of a class is a better predictor of a student’s semester grade than scholastic achievement scores or grade point average,¹¹ in general school is experienced as boring or threatening most of the time, and making it more enjoyable is not one of the priorities of educators. It is typical, for instance, for an inner-city school in budgetary difficulties to curtail its art, music, or physical education program. Yet these are the activities that children in general enjoy most, and for many children with low academic skills they provide opportunities for growth otherwise unavailable. If we also consider that art, music, and sports are

⁹ B. Smith, “Competence and Socialization,” in J. A. Clausen (ed.), *Socialization and Society* (Boston: Little, Brown, 1968).

¹⁰ M. Csikszentmihalyi, R. Larson, and S. Prescott, “The Ecology of Adolescent Activity and Experience,” *Journal of Youth and Adolescence*, 1977, 6(3): 281–294; and P. Mayers, M. Csikszentmihalyi, and R. Larson, “The Daily Experience of High School Students,” paper presented at the meetings of the American Educational Research Association, Toronto, 1978.

¹¹ P. Mayers, “Flow in Adolescence and Its Relation to School Experience,” unpublished doctoral dissertation, University of Chicago, 1978.

some of those symbolic systems our culture needs to develop in order to survive, the shortsightedness of such policies becomes even more obvious.

What young people need in order to acquire a lifelong learning stance are opportunities for action and respected adult models from whom they can learn. Socialization into the learning stance requires that young people be exposed to adults who are doing complex things and *who enjoy themselves*. A teenager will not be wholeheartedly motivated to be an engineer as long as he sees engineering as something unreachable or boring. Our interviews with adolescents reveal that the greatest positive impacts in their lives were made by adults who cared for them, who did difficult things at the level the youngster could understand, and who seemed to enjoy the interaction. In addition to parents, these were athletic coaches, summer camp counselors, work supervisors, and teachers.

It is unfortunate, however, that the most widely available cultural role models for young people are figures from the entertainment world. Posters of rock stars, fashion models, and movie actors decorate the walls of their bedrooms, shrines where youths invest their psychic energy. These cultural heroes are merchandised by the media as examples of psychic negentropy: people who have no problems, who have fun, who can satisfy every one of their whims.

These few observations have indicated some of the principles for establishing a viable learning stance in young people. But what can be done to maintain it in adults? The principles remain the same throughout life: opportunity and example are still the major factors. Given the social roles of adults, however, some specific points should be raised.

Most adults spend about half of their waking hours at work and spend additional time working in their homes. For the vast majority of people, the jobs they do were not designed to foster the learning stance or to provide enjoyment. Since the Industrial Revolution, almost every occupation has been affected by Taylolean criteria of efficiency, which boil down to the question: How should a person act to produce more in a shorter time? From a purely materialistic rationality, this question is a sensible, even elegant one. Like an athletic event, it sets down simple rules for a race in which new records can be attained again and again. But as the only principle for organizing human effort, the productivity criterion not only stifles growth by channeling it into too narrow a course; it becomes actually self-defeating in its own terms because people eventually refuse to let their actions be dictated entirely by requirements set up by production engineers.

Of the worst experiences that our sample of workers reported in an average week, the largest single category—28 %—was due to aggravation with a routine, boring job. That was twice the frequency with which they complained about physical inconveniences like being tired or feeling ill. These workers each wore an electronic pager for a week, and they were randomly "beeped" during the day; whenever the pager beeped they filled out a brief report on where they were, what they were doing, and what they were thinking about. In addition, they rated their experience at the time along two dozen dimensions. We learned, for instance, that when these workers are on the job they actually work only about 60 % of the time; the rest they talk, daydream, or do other things unrelated to their task. As one

would expect, the less they enjoy their job, and the *fewer flow experiences they report outside their job*, the less time they spend working at their task.¹² It seems that even in terms of productivity one should consider enjoyment as one of the main factors in designing jobs.

Satisfaction with one's job is best predicted by the amount of *variety* and *challenges* one finds in the task. These variables correlated with overall work satisfaction many times higher than the amount of salary the worker is paid.¹³ These trends clearly suggest that the opportunities to learn and to grow are as essential to the person who is working as they are in life generally. Yet very rarely are these requirements built into the way jobs are structured.

If one were to ask, "Why is productivity so important?" the answer would be some variation of "Because material products will make our lives more happy." It then makes little sense to give up our present happiness in exchange for a hypothetical future one. "Deferral of gratification" is a valuable skill to have, but when it becomes a way of life built into the social structure, it ceases to make sense.

Some researchers have claimed that it doesn't matter whether workers enjoy their jobs or not provided they can dispose of their free time at will. But when at least half of one's waking time is spent doing routine things on the job, and then another quarter or more has to be employed in routine maintenance tasks like dressing, driving, shopping, and cooking, it is difficult to use the remaining energies for starting a complex activity. It is much easier to watch TV or go bowling or drinking. Here the challenges are few, but one is comfortable with the skills one has. These activities rarely get more complex, but there is enough day-to-day variation in the stimuli experienced to give the illusion of change, if not of growth.

Given this situation, it is difficult to see how the learning stance of adults can be significantly improved without seriously restructuring working experience. Under present conditions only those people who are fortunate enough to have developed an already strong learning stance succeed in making routine jobs an opportunity for further growth. In a welding shop we studied, where more than a hundred workers were assembling railroad cars amidst an infernal din and extremes of temperature, there was a sixty-year-old immigrant with a fourth-grade education who illustrates the rare exception. Joe, who was a line worker on the lowest end of the status and pay scale, was respected by management and co-workers alike for his uncanny ability to spot and repair malfunctions in any of the machinery used in the plant. "Without Joe," many of the others said, "this place would have to close. He keeps this plant running." Joe described his uncanny ability to repair mechanical defects very simply. Early on in his life, he said, whenever a machine malfunctioned, he would ask himself, "If I were this thing and I couldn't do my

¹² M. Csikszentmihalyi and R. Graef, "Flow and the Quality of Daily Experience," manuscript submitted for publication, 1979.

¹³ R. Graef, M. Csikszentmihalyi, and P. Griffin, "Flow and Work Satisfaction," unpublished manuscript, University of Chicago, 1978.

work, what would be wrong with me?" Having identified with the machine, he would then patiently find out what interfered with its functioning.

The ability to experience flow at work generalized to the rest of Joe's life. At home he had bought three empty lots adjacent to his house, where over the years he built an elaborate rock garden in which he planted hundreds of cacti and succulents. He also installed an underground sprinkling system he designed so that rainbows would form over the garden when the water was turned on. Finally, he placed a system of spotlights next to the sprinklers so that he could make rainbows even at night. Joe had a library of about four hundred books on gardening. Every week, he claimed, he tried to read at least one book on plants, preferably cacti.

In a modest, self-effacing way this poor, uneducated laborer had succeeded in transforming his life, at work and outside it, into a complex growth experience. I can think of no better example to illustrate the learning stance. As William Westley noted, flow in one's job can liberate a tremendous amount of psychic energy. Workers whose jobs are redesigned to allow greater variety and challenge will volunteer their free time for civic activities and will become politically involved. Changing from psychic entropy to negentropy at work makes a great deal of attention available, from grouching to constructive use.

Joe's case is an exception, showing that even under the most inauspicious conditions a person who has developed a learning stance will be able to achieve psychic negentropy and growth. Such exceptions, however, do not relieve us from the responsibility of trying to restructure work and community life to make them more conducive to complex learning. If we reduce the number of what Westley calls "role traps" in occupational settings, a great amount of energy for learning and growth could be generated. Westley's own method of "sociotechnical design" is a good example of how this could be done in practice, so I need not go into that issue here.

If one looks at the causes of the most enjoyable and least enjoyable experiences in everyday life, one finds that in addition to work *other people* are the primary source of both negentropic and entropic states. One-third of the best experiences are explained in terms of enjoying the company of whomever one is with, and about the same percentage of the worst events are due to arguments or other interpersonal tensions.

That suggests that the way one relates to others is a central factor in determining happiness. But can sociability contribute anything to personal growth? In our research with adolescents, we found that teenagers ranked "being with friends" throughout the range of complexity of the flow diagonal, from the very lowest to the very highest level of challenges and skills (this tended not to be true of other activities, which were ranked either only at the low end of complexity, like watching TV, or only at the high end, like playing the piano or participating in athletics). This seems to reflect the fact that interaction with others is remarkably flexible: it can be a relaxing homeostatic activity similar to watching television, or it can be a challenging, growth-producing experience. It is probable that friendships and love relationships, like games, lose their power of attraction when they

cease being enjoyable—that is, when they cease to maintain the optimal ratio of challenges and skills.¹⁴

Would it be very unorthodox to propose that concern with the learning stance be extended to include interpersonal skills? In addition to being crucial to personal happiness, these are also necessary to maintain social negentropy, by facilitating exchange and integration of information among persons. Here again, the issue is *not* to teach social skills directly. The strategy would be to provide more opportunities for structured interaction, responsibility, and leadership. Of course, people spontaneously make such opportunities available to themselves already: they form religious sects and chess clubs, Elvis Presley fan clubs and professional associations, and so forth. But if the principles derived from the analysis of the learning stance were to be applied to provide opportunities for more and more complex social activities, the overall growth due to interactions could surely be improved.

Elise Boulding describes with great eloquence the complex interpersonal skills that women possess and use in our society. She points out the enormous contribution that women's nurturance makes to collective well-being and the fact that this contribution goes almost entirely unnoticed. While we can quantify the material effects of a change in the GNP, we cannot express the difference that energy invested in reducing interpersonal entropy makes. Clearly it is a priority for any healthy society to recognize nurturant skills and to encourage their development.

Another set of interpersonal problems is that addressed by Jerome Ziegler and Kenneth Benne. They talk about the learning community, the societal organization of problem finding and problem solving. This involves the institutionalization of flow into political action and urban planning and lifts the issue of entropy and growth from the level of the individual to that of the social system. I will not attempt to deal with these issues, except to say that the energy for community action must ultimately come from individual motivation, and thus the conditions for getting people to grow and learn that I have tried to explore in this paper should be relevant to making the learning community possible.

Suggestions for Research

Any of the above ideas for enabling the development of the learning stance must remain tentative and vague until we have firmer knowledge concerning the relevant facts. Thus, it is proper to conclude these considerations with some indications about what questions might be most important to investigate to establish a firmer factual basis for implementing policies.

In the first place, we need to confirm the following relationships: (a) that, other things being equal, one enjoys more an activity from which one learns; (b) that the

¹⁴ M. Csikszentmihalyi, "Love and the Dynamics of Personal Growth," in K. S. Pope (ed.), *On Love and Loving* (San Francisco: Jossey-Bass, 1980).

more opportunities for enjoyment one has, the more happy the rest of one’s life is; (c) that the more opportunities for enjoyment one has, the more productive one becomes; (d) that growth in symbolic and nurturant skills is inversely related to material needs and consumption; (e) that enjoyment liberates energy for productive and community action. Each one of these propositions opens up a broad field of research with potentially vital contributions for the theory underlying the learning stance.

Next, it is necessary to find out how the learning stance develops. The following questions need to be addressed at this level: At what point do children show stable differences in the ability to concentrate? to derive enjoyment from the use of skills? How can such differences be affected? How can the range of stimuli to which children respond spontaneously be increased?

Some recent research by Holcomb¹⁵ bears on these issues. She found that college students who reported a wide range of enjoyable activities were able to reverse perceptually ambiguous figures much easier, and showed lower cortical activation levels when paying attention to sensory stimuli, than students who rarely reported enjoying themselves. These findings might mean that the learning stance has a physiological basis—either inherited or acquired. It seems that those who can enjoy themselves in any situation are able to restructure sensory input at lower energy costs. Related to this issue are studies on stimulus over inclusion and anhedonia, which show that inability to control access of stimuli into consciousness, and absence of enjoyment, are crucial symptoms of schizophrenia and related diseases.¹⁶

Finally, there is a whole host of research that needs to be done concerning the evaluation of policies attempting to affect the learning stance in adults, if and when such are implemented. Of particular interest would be interventions aimed at restructuring jobs and those that try to increase symbolic and interpersonal skills. In the meantime, while waiting for research directly dealing with these issues to be started, it would be important to reinterpret already existing studies in related areas to see what light they shed on the learning stance. The topics of most direct relevance would be those dealing with the development of competence and attentional processes in children, and work satisfaction, intrinsic motivation, and psychological well-being in adults.

The pursuit of happiness has been too “soft” an ideal to generate much interest among either academics or politicians. Perhaps a recognition that happiness consists in complete involvement with a challenging task, from which learning and growth result, will make it possible for us to take this ideal seriously. If this happens, the learning stance might become a high priority research and policy goal, as it deserves to be.

¹⁵ J. H. Holcomb, “Attention and Intrinsic Rewards in the Control of Psychophysiological States,” *Psychotherapy and Psychosomatics*, 1977, 27: 54–61.

¹⁶ A. McGhie and J. Chapman, “Disorders of Attention and Perception in Early Schizophrenia,” *British Journal of Medical Psychology*, 1961, 34: 103–116; and R. Grinker, “Anhedonia and Depression in Schizophrenia,” in T. Benedek and E. Anthony (eds.), *Depression* (Boston: Little, Brown, 1975).