

# Beyond Control and Rationality: Dewey, Aesthetics, Motivation, and Educative Experiences

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*Contemporary perspectives in psychology and education characterize ideal students as rational and in control of their thinking and actions. The good student is often described as intentional, cognitive, metacognitive, critical, and reflective. I begin with a brief history of control and rationality to establish how “The Tradition” is deeply rooted in philosophy, religion, and, in general, the story of Western civilization. Although these qualities are indeed important, I suggest that powerful educative experiences can neither be fully explained nor evoked if learners exercise only logical reasoning and self-control. I call on the aesthetic philosophy of Dewey and others to propose that transformative, compelling experiences require not only the rational, intentional processes of acting on the world, but also the non-rational, receptive process of undergoing. Dewey’s aesthetic experience, as described in “Art as Experience,” integrates both the rational and non-rational, and self-control and its opposite. In the implications section, I propose that anticipation—the imaginative sensing of possibility—as an important new motivation construct because it captures the aesthetic qualities of engaging educative experiences. I also discuss conditions that could support these kinds of experiences in the classroom. I conclude with a few provocative ideas: a new view of autonomy, the essential role of faith in education, value without work, suffering is passion, and responsibility redefined.*

## CONTROL AND RATIONALITY IN PHILOSOPHY: THE TRADITION

A few examples from Western philosophy illustrate how control and rationality are *sine qua non* to our image of the good student. Called the “Tradition” by Rorty (1982), the history of philosophy has promoted the value of thought based on logos since the time of early Greek philosophy. We can turn first to Socrates who famously asserted that the unexamined life was not worth living and, furthermore, that “there is only one good, knowledge, and one evil, ignorance.” In his role as public intellectual, Socrates wandered the streets of ancient Athens questioning those who presumed to be wise. Through his incessant—usually irritating—interrogation, Socrates forced his audience to logically contradict them-

selves and to reveal that they were not as wise as they thought themselves to be. Socrates' life illustrates how action guided by reason is the highest virtue—certainly more important than action based on authority or position. In a related vein, accounts of Socrates often mention his mastery over his bodily self. He seemed impervious to the effect of weather, the pain of hunger and thirst, the intoxication of drink, and the temptation of love. Bertram Russell (1945) observed, "He was the perfect Orphic saint: in the dualism of heavenly soul and earthly body, he had achieved perfect mastery of the soul over the body" (p.91).

Thus, in the life and philosophy of Socrates, we find evidence of two ideas that have endured till today—the separation of soul and mind from body and the elevation of reason over nature. After ancient Greece, the history of Western philosophy and theology has been, with a few notable exceptions, the story of the special status for human reason and control in the pursuit of knowledge, beauty, and morality. Several examples are sufficient to illustrate this point.

First, Western philosophy and religion have often sought an elevated place for man in the kingdom of all living things. Reason and consciousness are often cited as the critical qualities that distinguish man from beast. Appetite, will, reflex, and instinct, unless severely restrained, are widely believed to lead inevitably to a life of ignorance and immorality. From this perspective, "naturalistic" philosophies that blur distinctions between man and animal are rejected. Similarly, Western culture emphasizes the rationality of the universe and man's place in it. Existence has a purpose and design and it is man's unique ability to grasp it intellectually. In this Tradition, it is not surprising that many are repulsed by Schopenhauer's stark claim that human life has neither special status nor transcendent purpose. According to Schopenhauer, human existence is nothing more than an irrational "will to live." To believe otherwise is wishful thinking. Schopenhauer (1969), and later Nietzsche (1968, 1976), assigned no special status to our faculty of reason. In fact, reason is subservient to the will—it exists only as an instrument for the will to live. It is not easy to accept Schopenhauer's nihilism—the belief that human existence has no justifiable purpose and that there exists no basis for claiming one existence as better than another. For many, only our ability to bring order and control to our world saves us from Schopenhauer's pessimism.

Perhaps nowhere is the "rise of reason" in Western culture more vividly illustrated than in the French Enlightenment. Preceding the Enlightenment, the influence of the king, church, and nobility pervaded almost every aspect of life including law, government, and religion. However, a growing weariness of oppressive authority and an emerging

belief in natural human rights formed the conditions for the dramatic political, philosophical, and religious changes of the Enlightenment. Often called the Age of Reason, the central tenets of the Enlightenment were the beliefs that authority should be questioned, ignorance was the cause of many societal ills, the ability to reason was a natural and inherently good quality of all human beings, and that the progress of humanity depended on reason. Thus, above all else, reason and knowledge were the keys for gaining responsible control of one's own existence (Tarnas, 1993; Copleston, 1994; Russell, 1945). The confluence of philosophical and social forces was reinforced by events in science and religion. Newton's mathematics revealed the rationality and laws of the universe. In religion, one's relationship to God and even God's existence were also seen as a matter of reason. Whereas the Church had been the ultimate arbiter of the meaning of faith, the Enlightenment saw a greater role assumed by individuals—reasoning individuals—to interpret the Bible for themselves. Reason gave people the ability to understand both God and the workings of the universe—its power seemed limitless, indeed.

#### A PARALLEL AND OVERSHADOWED TRADITION

The rise and valuing of human reason is a driving and organizing force in the story of Western philosophy and civilization. It would be a mistake, however, to believe that the story of Western culture is only about the importance of reason and control. Even as the Tradition of reason was given form in the Greek idea of *logos*, a parallel tradition—one that would be received less favorably in the millennia to follow—was emerging. An early example is the ancient Greek's worship of Dionysus. Dionysus represented the sap, juice, or lifeblood element in nature, and lavish festal *orgia* (rites) in his honor were widely instituted. According to Russell (1945), these rites:

. . . contained many barbaric elements, such as tearing wild animals to pieces and eating the whole of them raw. It had a curious element of feminism. Respectable matrons and maids, in large companies, would spend whole nights on the bare hills, in dances which stimulated ecstasy, and in an intoxication perhaps partly alcoholic, but mainly mystical. Husbands found the practice annoying, but did not dare oppose religion. (p.15, see also *Bacchae* of Euripides (1880))

Dionysian worship was, in part, a reaction to the more civilized and sanctioned tendencies of Greek culture and fulfilled a longing for a more

instinctive and passionate way of life. At the time, the Greeks also worshipped Apollo, who, like Dionysus, was a creative force in music and poetry. Unlike Dionysus who was a blind, passionate energy, Apollo created by structuring, ordering, and reshaping. According to Nietzsche's (1967) classic analysis, the Dionysian aesthetic experience was found in receptivity or surrender to the spirit of Nature in its immediate form. The Apollonian aesthetic, in contrast, involved acting upon or mastering Nature. In art, as well as in other aspects of life, the beautiful was a product of bringing order to chaos, restraint to excess, and rationality to non-rationality.

Although the Apollonian aesthetic and the more general valuation of reason and control became the dominant tradition, the core ideas of the Dionysian aesthetics continued as a minor theme in philosophy, art, and culture. For example, the idea that the world does not fully yield to the power of reason inspired continued and diverse expression in the philosophy of Nietzsche, Schopenhauer, Kierkegaard, Sartre, and Camus. And, the philosophy, art, and literature of Romanticism can be seen as a reaction to Apollonian, Classicism, and Enlightenment's precepts of order, harmony, balance, and rationality. Continuing the Dionysian tradition, Romanticists were inclined to exalt emotion over reason and creative imagination over strict adherence to formal rules and traditional procedures.

Through history, expression of Dionysian ideals often seemed inspired as a reaction to the dominant tradition of reason. While the rise and fall of tension between the two traditions may make for a dramatic story and inspire many to choose one side or the other, Dewey and other holists would insist that the complete human experience is always the unity of the two. Thus, it is neither accurate nor sensible to assert that one side is more important than the other or to force an either/or choice. That said, in this essay I highlight contrasting perspectives as means to advance understanding. The challenge is discuss opposing qualities without being dualistic. Furthermore, I will pay more attention to non-rational and "opposite of control" qualities in aesthetic experiences. This essay is inclined in that direction not because these qualities are more important than rationality and control, but because they have not received as much attention in the domains of psychology and education.

#### *Control and rationality in psychology and education*

Not surprisingly, most contemporary perspectives in psychology and education reflect the broader Western zeitgeist. As a result, the ability to be rational and in control of oneself has become an important quality of the

motivated learner. Standing back from one's "self" or situation to gain understanding and control is often cited as a defining quality of higher-order psychological activities such as problem solving and reflection. Greeno, Collins, and Resnick (1996) have called this general perspective the "cognitive/rational" view. Central to this perspective is the work of Piaget (1952), for whom human development was the emergence of logico-mathematical reasoning, for example, the ability to interact with the world intentionally, abstractly, and from an objective distance. In this spirit, neo-Piagetian and information-processing theorists develop constructs such as executive processes, metamemory, and metacognition to emphasize that intelligence is the degree we are aware and in control of our thoughts and action (e.g., Case, 1985; Flavell & Wellman, 1977). Even Vygotsky (1978, 1986) who worked beyond the mainstream cognitive perspective saw higher order functioning as the ability to objectify experience in the form of language in order to control it.

The relationship between control and general positive psychological outcomes may be most prominent in the study of intrinsic motivation—the kind of engagement often considered optimal in educational contexts. One of the most prominent treatments of intrinsic motivation has been Deci and Ryan's Self-Determination Theory (Deci, 1981; Deci & Ryan, 1985; Ryan & Deci, 2000). As the name suggests, the ability to choose and to control one's self and world is virtually equated with what it means to be intrinsically motivated (Iyengar & Lepper, 1999). Ryan and Deci (2000) assert:

The fullest representations of humanity show people to be curious, vital, and self-motivated. At their best, they are agentic and inspired, striving to learn; extend themselves; master new skills; and apply their talents responsibly.

The core belief that ideal learners are self-motivated, agentic, striving, extending, mastering, and responsible is also central to educators who posit that effective teaching should support intentional, thoughtful, problem-driven, student-centered activity. For example, the Fostering a Community of Learners (FCL) classrooms designed by Brown and Campione (1993) emphasize "learning by doing" and metacognitive reflection. Likewise, many of the innovative technology environments (e.g., Jasper, Cognition and Technology Group at Vanderbilt, 1992; CSILE, Scardamalia & Bereiter, 1994; Bereiter & Scardamalia, 1989) are designed to support student-directed exploration, problem solving, and intentional learning.

## EXPLORING BEYOND THE REALM OF CONTROL AND RATIONALITY

### PROMISING WORK IN PSYCHOLOGY

The preceding overview of philosophy and psychology is intended to elaborate the observation that a large majority of the work in education and psychology views rationality and control as essential to worthwhile, learning experiences. It is important to note, however, that there are important and vibrant efforts in both psychology and education to explore beyond the realm of control and rationality. Even Deci and Ryan (year), whose work I consider to exemplify the inclination to value conscious, intentional activity, suggest that motivation should be not only “agentic”, but also “inspired.” This suggestion acknowledges that the inspired qualities of motivation are the necessary complement to agentic qualities and invites consideration of how learners can be moved by things beyond their own intentions and goals. In this section, I draw attention to several examples of work that have looked beyond control and rationality to develop a fuller account of human experience.

#### *Flow*

Csikszentmihalyi’s (1990) well-known notion of “flow” experiences—where performance is optimal and seemingly effortless—is intriguing in that it seems to be grounded in both the psychological traditions that highlight control and rationality as well as the realm beyond. The flow experience is deliberate in that there are clear goals, yet these goals have little connection to the self. Also, although feedback about one’s performance is important, there is a loss of awareness about one’s self. In the flow experience, one no longer perceives oneself as a separate entity acting upon something else; there is only the event in which one is an integral part. Clearly, the disappearance of the self and ego are central to Csikszentmihalyi’s view of optimal experiences. Yet, in the cognitive/rational tradition, the construct of the self and the importance of being aware of the self occupy a central role. The conscious individual is the one who sets goals, has plans and strategies, takes action, reflects upon actions, and makes attributions about the experience. A quick survey of numerous constructs associated with the term “self” is sufficient to make this point.

Csikszentmihalyi’s work offers a rich perspective for considering the non-rational qualities of compelling learning experiences. Csikszentmihalyi not only examines qualities such as automatic, effortless

performance and loss of self-consciousness, but also highlights the important role of emotions and immediate experience, ideas directly related to issues of aesthetics developed in this essay. On another note, his work focuses frequently on experts (in contrast to novice or intermediate learners) and on performance activities (in contrast to intellectual activities). Less attention seems to have been given to typical learners, where ordinary individuals are learning or improving their performance.

### *Automaticity*

The work on automaticity also represents a significant foray into the realm beyond rationality and control. The work by Bargh and his colleagues emerges from a “dual-process” perspective that appreciates both the conscious and non-conscious information-processing aspects of experience (e.g., Bargh & Chartrand, 1999; Bargh & Ferguson, 2000). Bargh’s research has provided compelling evidence that goal-directed activity, judgment of others, self-regulation, and expert performance—processes thought to exemplify our cognitive/rational nature—are much less under our conscious control than we may wish to believe. Instead, psychological processes such as social perception, goal activation, and evaluation of others are frequently and readily activated as automatic and unconscious responses to environmental cues. Some of the most provocative research emphasizes how our non-conscious reactions may be contrary to our conscious, rational thinking.

From an educational perspective, this kind of phenomenon represents a tantalizing opportunity for deep, transformative learning. To this point, however, relatively little attention has been given to the role of automatic, non-conscious processes in situations where significant learning is occurring. Typically, the non-conscious perceptions of interest are reflexive biases and prejudices. Scholars interested in automaticity could make important contributions to understanding the nature of compelling learning experiences if they turned their attention to the kinds of non-rational perceptions associated with the emergence of new meaning or intuition, in addition to perceptions associated with the activation of pre-existing schema. The ecological and Gestalt perspectives are examples of other work within the cognitive tradition that attend more directly to how the meaning of situations may be apprehended without conscious, intentional cognition (Gibson, 1979; Greeno, 1994). In these traditions, the non-cognitive aspects of experience are seen as an invaluable source of qualitative, aesthetic meaning and insight.

*Interest*

Another domain located, in part, in the realm beyond rationality and control is the study of learners' interest. The study of interest has examined the degree to which learners' are enjoying an activity or topic, prefer one thing rather than another, and want to continue with an activity in the near and distant future. Of particular relevance to this essay is the attention given to the inspired, emergent quality of engaging experiences (Renninger, Hidi, & Krapp, 1992). Their constructs of situational interest (a characteristic of the environment) and state interest (something emerging from the interaction of internal and external conditions) highlight the possibility that engagement can originate in things beyond our immediate control and rational understanding (Hidi & Anderson, 1992; Kintsch, 1980).

Unfortunately, the construct of situational interest often carries a negative connotation and is regularly contrasted with the more desirable dispositional interest—interest associated with intentional, learner-directed activity. Situational interest is temporary and superficial, rather than enduring and substantial. Garner, Gillingham and White's (1989) work on how "seductive details" can distract readers from the main point of a text emphasizes this point. Similarly, Hidi, Baird and Hildyard (1982) report a negative correlation between the "interestingness" of text information and importance of this information. Perhaps interest that emerges spontaneously from the environment is undervalued because most work in this area is firmly grounded in the tradition of rationality and control. For example, throughout their influential book, "The Role of Interest in Learning and Development," Renninger, Hidi, and Krapp (1992) emphasize that the ability to choose and control engagement are critical for sustained interest. The most worthwhile kind of interest emerges from something intrinsic to the learner, is selected by the learner, and is strategically managed by the learner.

*Person, environment, situation*

The analysis of flow and state interest are examples of perspectives where the individual is not seen as the center and origin of deeply engaging experience. Despite this shift in focus away from the individual and toward the environment, scholars in these areas should not be seen as occupying the same territory in the realm beyond rationality and control as the behaviorist camp. Instead, this new interactionism finds new ground by appreciating the person-environment interaction as a construct in itself, rather than as two separate constructs interacting with one

another. In a similar move, socio-cultural and situative perspectives also recognize as a primary principle the fundamental unity of the person-environment and eschew analyses that treat person and environment as separate, independent constructs (Brown, Collins, & Duguid, 1989; Lave, 1988; Rogoff, 1990; Vygotsky, 1978, 1986). Constructs often associated with the cognition perspective such as knowledge, intelligence, and even the mind are assigned a new home beyond the boundary of the individual being. Even the study of aptitude, long considered an individual quality, has been affected. In his later work, Snow acknowledged it might be more fruitful to conceptualize aptitude as residing at the "interface" between person and situation, rather than as a characteristic belonging solely to the individual (Snow, 1994; Corno, Cronbach, Kupermintz, Lohman, Mandinach, Porteus, & Talbert, 2002).

Scholars working these areas have the potential to offer insight into the nature of compelling, "moving" experiences. Their attention to the social and cultural aspects of a situation highlights how the process of learning is more than rational and that the individual is not the sole determinant of the nature of learning experiences. Socio-cultural and situative perspectives have been particularly well suited for understanding how learners acquire the values, beliefs, and practices of a community. The metaphors of appropriation and enculturation reflect this emphasis on learning as taking on the conventions and traditions of a community. However, less has been said about learning experiences characterized by creativity, insight, and breaking from convention.

### *Emotion*

The area of work that is, perhaps, most readily associated with work in the realm beyond the rationality and control is research on emotions. A number of broad domains of scholarship can be seen as working to describe the emotions or feelings experienced in learning situations. Research on the brain, spurred by advancements in imaging technology, offers tantalizing glimpses into the relationship between emotions, cognition, and behavior.

Another general domain in the study of emotions focuses on students' feelings about themselves or their performance. Work in this area includes investigations of the nature of feelings such as pride, shame, guilt, and embarrassment (e.g., Tangney & Fischer, 1995), perceptions of competence and control (e.g., Harter & Connell, 1984), self-esteem (e.g., Seligman, 1991), and expectations and attributions about success and failure (e.g., Weiner, 1974). In this broad characterization of several areas in field of motivation, the emotions of concern are feelings that an indi-

vidual has about his or her self in relation to learning. The focus is more on feelings about the self in the learning experience than about the meaning in the experience.

To fully capture the salient qualities of deeply engaging experiences, a broader palette of emotions is necessary. One kind of emotion is the *feeling* of understanding in an experience of learning. The term “feeling of understanding” highlights the vital quality of learning that is implicit, non-logical, and non-verbal. Examples include the feeling that an individual may have for the meaning of a difficult text passage, the symbolic significance of something in a work of art, the connection between an abstract idea and a concrete part of one’s world, or how a particularly difficult problem might be solved. (Flavell’s (1979) “metacognitive experience” is a related construct in that it describes a kind of non-rational awareness related to the process of comprehension. In my opinion, though, the metacognitive experience is a feeling about *whether* something makes sense or not, rather than a feeling about *what* sense something could make.)

Another salient emotion in moving experiences is the feeling of inspiration. The word “inspired” means, in its etymological sense, to be filled with breath, spirit, and life. Thus, the emotion of learning at its most powerful is the feeling of increased vitality as we realize our growing capacity to perceive and act. This particular quality of experience is addressed indirectly, at best, in mainstream psychological traditions. For example, the motivation construct of goals is useful for describing how learning has direction and energy, but the intentional and *a priori* quality typically associated with goals hinders this construct’s ability to capture the inspired and spontaneous nature of compelling experiences. Furthermore, motivation researchers by and large view goals as a cognitive element of learning and emotion as an unnecessary or epiphenomenal quality of goals. For example, students can have a goal, such as studying for a test. In order to describe how they feel about studying requires another construct, such as “value” (e.g., Shah & Higgins, 1997). Thus, learners’ feelings about a goal is a separate and, typically, secondary concern from the goal itself.

It should be apparent by now that I have chosen to step over conventional boundaries in my use of the terms “emotion” and “feeling.” I have assigned these spontaneous, non-rational processes to a role that is equal in importance to the role of intentional, rational processes in the experience of learning. I am looking beyond the perspective that sees emotions as separate and subordinate to thinking—a perspective that also prefers rationality over intuition and science over art as the way to understand the world. To push against this historical inclination is a difficult and,

perhaps, unpopular effort. But, before we can fully appreciate how learning can be “moving” and “inspiring,” we must first appreciate the complementary and vital role of both emotion and cognition.

AESTHETIC UNDERGOING:  
BEYOND CONTROL AND RATIONALITY

Even though most psychological studies of motivated behavior have not paid much attention to the realm beyond control and rationality, our everyday lived experience reminds us of its importance. Consider how we describe, in both everyday and poetic language, our most deeply engaging experiences. We are “swept away” in a passionate relationship. We “fall” in love as if pulled by an inexorable force. Intense films or books grip us; great ideas seize us; laughter infects us. As new understanding dawns on us, we first get the gist (from the German “geist” meaning spirit and related to ghost). And so on. Our language use clearly reveals how relinquishing control—being receptive to outside influence—is an essential quality of compelling, deeply engaging experiences.

The connection between receptivity and intensely motivated activity is further established when we appreciate that an arcane definition of “passion,” from the Latin “pati,” is suffering. Both passion and suffering mean to experience intensely while being acted upon by the world. It is to let something happen to oneself and to bear the weight of its consequences. Far from being destructive, passion and suffering are associated with heightened vitality and renewed life. From Shakespeare’s “Much Ado About Nothing” comes an illustration of elegant directness:

Beatrice: But for which of my good parts did you first suffer love for me?

Benedick: Suffer love! A good epithet! I do suffer love indeed, for I love thee against my will.

In his exchange, Shakespeare reminds us that “suffering” in this sense is vital to the intense experience of being in love. It is interesting to note that a recurring theme across Shakespeare’s plays is the idea that powerful forces beyond our control shape our lives. Whether the mischievous fairies in “A Midsummer’s Night Dream” or the tension between the Capulets and Montagues in “Romeo and Juliet,” forces shape the lives of Shakespeare’s characters and often seem impervious to reason and the best laid plans. In fact, one might argue that tragedy, comedy, and romance—basic genres in the worlds’ “stage” of life—are all artful expressions of that which cannot be fully explained or controlled.

These examples suggest that life's vitality requires that we both dwell within and venture beyond the realm of rationality and control. If we were somehow restricted to using only our rational faculties, we could neither completely understand passion nor make it happen.

*Beyond control*

As discussed earlier, the idea that human experience involves elements beyond our intentional control has been an overshadowed perspective in philosophy, psychology, and Western culture. Of the diverse perspectives within this tradition, Dewey's aesthetic philosophy, as expressed in "Art as Experience," is useful for developing the idea that worthwhile experiences require more than just control and rationality. For Dewey, there must be receptive undergoing in addition to active doing and thinking. Dewey (1934) illustrates this point with a prosaic example:

There are conditions to be met without which an experience cannot come to be. The outline of the common pattern is set by the fact that every experience is the result of interaction between a live creature and some aspect of the world in which he lives. A man does something; he lifts, let us say, a stone. In consequence he undergoes, suffers, something: the weight, strain, texture of the surface of the thing lifted. The properties thus undergone determine further doing. The stone is too heavy or too angular, not solid enough; or else the properties undergone show it is fit for the use for which it is intended. The process continues until a mutual adaptation of the self and the object emerges and that particular experience comes to a close. What is true of this simple instance is true, as to form, of every experience (LW.10.43-44).

The degree that any activity is aesthetic and educative—whether lifting a stone, creating art, or solving scientific problems—is related to the degree that active doing and receptive undergoing are joined in perception. We do something, we undergo its consequences, we do something in response, we undergo again. And so on. The experience becomes educative as we grasp the relationship between doing and undergoing. The experience is transformative as we have new thoughts, feelings, and action, and also as the world reveals itself and acts upon us in new ways. Dewey's aesthetic experience is a transactional phenomenon where both the person and the world are mutually transformed (Garrison, 2001; Jackson, 1998).

The idea that transformative experiences require active doing and receptive undergoing may seem obvious. In truth, however, we are ambivalent to the suggestion. On the one hand, we grasp tightly to the belief that we have choice and control over things. The “ideal” relationship between person and world is often embodied in the constructivist vision of student-directed learning. In this view, students control their interaction with the environment and give meaning to what emerges. They are intentional and reflective throughout the whole experience. On the other hand, we are also aware that aesthetic experiences are not “willed” into existence. In fact, an excess of conscious control and self-awareness is more likely to obstruct rather than facilitate the having of transformative experiences. Clearly, there is a need for a more sophisticated understanding of the active and receptive qualities of educative experiences.

We can return to Dewey to better understand the nuance and significance in the meaning of this receptive undergoing, “There is . . . an element of undergoing, of suffering in its large sense, in every experience. Otherwise, there would be no taking in of what preceded” (LW.10.47-48).

Dewey uses the “suffering” is precisely the same way as Shakespeare’s Benedict and Beatrice—that is, to suffer “in its large sense” is to be acted upon by the world, often against our will. Other examples of suffering in this sense come to mind easily: for example, to “not suffer fools gladly” (Shaw’s *Pygmalion*) or “to suffer the slings and arrows of outrageous fortune” (Shakespeare’s *Hamlet*). To describe undergoing as suffering is a clear effort on Dewey’s part to emphasize that compelling experiences are constituted by more than just our own intentional actions and our internal psychological experience. Rather, it is “doing and undergoing, outgoing and incoming energy, that makes an experience to be an experience.” To further emphasize the receptive compliment of intentional action, Dewey writes, “The esthetic or undergoing phase of experience is receptive. It involves surrender” (LW.10.59).

Few terms connote the relinquishing of control more emphatically than “surrender.” When considered together, surrender, receptivity, and suffering—it is clear that Dewey’s undergoing is not the same as active doing.

Suffering, receptivity, relinquishing control, surrender—these qualities seem far removed from the tradition of self-determination, intentionality, and choice. In the face of what seems like a stark contrast of dichotomous opposites, it is essential to appreciate that control and non-control are different but not dualistic, contrasting but not in conflict. Although undergoing may be receptive, it has no existence separate from active doing. As a holist, the idea of interactionism or mutual determination is

crucial to Dewey's way of contrasting doing with undergoing without creating an unbreachable dualism.

Perception is an act of the going-out of energy in order to receive, not a withholding of energy. To steep ourselves in a subject-matter we have first to plunge into it. When we are only passive to a scene, it overwhelms us and, for lack of answering activity, we do not perceive that which bears us down. We must summon energy and pitch it at a responsive key in order to take in. (LW.10.59-60)

Undergoing is going out in order to receive; plunging in order to steep; pitching in order to take in. The wonderful complementarity of these paradoxical terms captures perfectly the receptive and active quality of undergoing. Furthermore, the "perception of relationship between what is done and what is undergone constitutes the work of intelligence" (LW.10.52). Thus, deeply engaged learners have the capacity to be both active and receptive.

#### *Beyond rationality*

The idea of aesthetic undergoing advances our appreciation of two related issues associated with the nature of educative experiences. One issue, discussed above, is nature of the relationship between learners and their environment with regard to control. Dewey's aesthetic theory highlights how transformative experiences require both active doing and receptive undergoing—control and its "opposite" or complement. The second issue, sometimes called the learning or Meno paradox, concerns a fundamental epistemological question: If learning is only rational, that is, intentional, reasoned, logical, and firmly grounded in what we know, how can truly new ideas ever emerge? The rational mind is well suited to critique or justify ideas that have already been proposed. Similarly, a rational system is adept at recognition, deduction, and derivation: important qualities of the educated mind, no doubt. However, within the bounds of rationality, it is less clear how we can be inspired or creative. How is it possible that good teachers enable students to see the familiar as strange and the strange as familiar? How do some phenomena, originally seen as ordinary, come to be experienced as extraordinary? These, too, are important qualities of the educated mind.

It is in the emergence of new meaning—in insight and inspiration—that the construct of aesthetic undergoing and its relation to qualitative meaning play a vital role. Qualitative meaning is that which is intuited

rather than deduced, felt rather than described, and is immediate to the situation rather than removed from it (Dewey, 1934, 1958; Eisner, 1990; Greene, 2001; Jackson, 1998; Rosenblatt, 1978). In undergoing, we apprehend, rather than logically analyze, the qualitative aspects of situations in which we are a part. Dewey (1958) describes the experience of insight as a matter of qualitative sense—at least initially—rather than explicit reason.

When we are baffled by perplexing conditions, and finally hit upon a clew, and everything falls into place, the whole thing suddenly, as we say, “makes Sense.” In such a situation, the clew has signification in virtue of being an indication, a guide to interpretation. But the meaning of the whole situation as apprehended is sense. (Dewey, LW.1.200)

In aesthetic undergoing, insight or new ideas are first felt as part of the sense of a situation.

. . . the sense of a thing . . . is an immediate and immanent meaning; it is meaning which is itself felt or directly had. (Dewey, LW.1.200)

“Immediate” meaning is that which is not mediated—literally immediated—by conceptual or intellectual processing. “Immanent” meaning is intrinsic to the situation as contrasted with derived from it at a later time and place. A vital, yet vexing, quality of immediate, immanent meaning is that it cannot be readily named, analyzed, or judged without it changing in the process. Dewey (1958) illustrates this point by contrasting apprehending quality with the more rational process of finding order.

. . . quality is . . . not to be confused with . . . order. Quality is quality, direct, immediate and undefinable. Order is a matter of relation, of definition, dating, placing and describing. It is discovered in reflection, not directly had . . . (LW.1.92)

In a similar vein, Jackson (1998) contrasts qualitative sense and conscious reflection.

What Dewey is saying is that we sense or feel the situation we are in without thinking of it per se, without it becoming an object of reflection.

Again, even though this discussion focuses on the non-rational qualities of learning, it would be a serious misreading of Dewey to think that learning is a passive, irrational activity. In any worthwhile aesthetic experience, meaning is not only apprehended as the “sense of a thing,” but also cognitively mediated, signified, named, and associated with conceptual categories. In the end, we construct efferent meaning to be “carried away” from the immediate, aesthetic situation (Rosenblatt, 1978). The experience becomes “meaningful” as the aesthetic and efferent are inextricably related to one another. The value of an educative experience is the enrichment in our lives both in that moment and in subsequent experiences (Jackson, 1998; Rosenblatt, 1978).

## IMPLICATIONS

### ANTICIPATION: A NEW CONSTRUCT FOR MOTIVATION

A more complete perspective on moving experiences emerges when we consider how it involves rational and non-rational qualities, and learner control and its opposite. When examining rational and non-rational qualities of motivated learning, we can now see both mediated and immediate processes, the role of logic and intuition, and reasoning and sense. When examining qualities associated with learner control and its opposite, we can now appreciate the role of both doing and undergoing, intentional and spontaneous activity, and acting on and being receptive to the world. I call this more complete view an aesthetic perspective on learning.

Although it is an important first step, to propose that learning involves both rational and non-rational qualities, and learner control and its opposite does not yet adequately convey the critical quality of motivation—that which animates the learner. How is it that we become more alive and vital in deeply engaging experiences? In this section, I propose that the animating force in moving experiences emerges from a particular kind of relationship between rational and non-rational elements, and between processes associated with learner control and its opposite.

In addition to asserting that motivated learning involves both rational and non-rational elements, and learner control and its opposite, there is also something distinctive about the relationship between these elements. Dewey (1934) describes the relationship in this way.

Moreover, at each stage there is anticipation of what is to come. This anticipation is the connecting link between the next doing and its outcome for sense. What is done and what is undergone

are thus reciprocally, cumulatively, and continuously instrumental to each other. (LW.I0.56)

In other words, deep engagement is more than doing and undergoing, or acting on the world and the world acting on us. Deep engagement also requires a contingent, coherent, and evolving relationship between these elements. In each interaction, there is movement and direction toward some kind of culmination. And, although the culmination is by definition at the conclusion of an event, its presence is felt throughout. According to Jackson (1998),

This consummation, moreover, does not wait in consciousness for the whole undertaking to be finished. It is anticipated throughout and is recurrently savored with special intensity.

We anticipate the possibility of what might be—a new perception of the world or a new way of being in the world—and are energized to move forward.

Anticipation is embodied in readers who cannot put a book down and must keep turning the pages to learn whether an imagined possibility becomes a sensible actuality. Anticipation is the tension in the dramatic line that connects the “what if” to “what is.” The excitement of sensing an opening to a possible world and the irresistible urge to move into the world best describes the motivation of a student who suddenly sits bolt upright in class and exclaims, “I have an idea! What if . . .” Anticipation is what transforms an ordinary occurrence into an event saturated with significance and moving forward with dramatic energy. Whether the learner is engaged in reading a story, watching a film, or conducting scientific inquiry, anticipation is what moves us to the edge of our seat so that we may see better and be better prepared for what we might see.

As living creatures, we have a natural inclination to perceive and respond to changes in a situation. Anticipation is a response to the potential for change. It is a readying of ourselves—thoughts and actions—to respond to the change. Thus, the experience of anticipation draws on all aspects of human capacity, from the highest to most basic aspects of our being and from cognition, emotion, and behavior. In anticipation, we are more fully alive and more fully human. That is what makes these experiences so compelling.

Thus, in a more complete perspective on moving experiences, anticipation is the construct that unites non-rational processes such as sensing possibilities with rational processes such as considering their consequences. Also, anticipation brings together control and its opposite by

involving both intentional, active processes such as careful consideration of an idea as well as more spontaneous, receptive processes such as being open to the unexpected consequences of the idea.

#### *Focus and anticipation*

With the concept of anticipation, we gain new insight into motivation phenomena examined by other researchers. For example, one of the distinctive qualities of deeply engaging experiences is an intensity of focus on the task (Csikszentmihalyi, 1990). “Focus on the task” may seem somewhat ambiguous or circular in describing high levels of motivation. The construct of anticipation proposes that learners are caught up as a participant in the dramatic unfolding of imagined possibilities. They are filled with the thoughts and feelings associated with anticipating “what will happen if . . . ?”

#### *Contingency and anticipation*

In motivated experiences, a close contingency between action and feedback is often believed to be a critical requirement (e.g., Csikszentmihalyi, 1990). However, the idea of contingency in itself does not explain why something is motivating. For instance, there is close contingency between dropping a rubber ball on the ground and it bouncing back. This is not, however, likely to be a motivating experience. By contrast, the construct of anticipation joins the contingency of action and consequence with the requirement that the series of contingent activities become a forward moving, dramatic, story line. In other words, contingency matters to the degree that it is part of the anticipation that moves the experience.

#### *The emotions and anticipation*

According to Deci & Ryan (1985), “interest and excitement are central emotions that accompany intrinsic motivation” (p.29). While emotions such as interest, excitement, and joy surely characterize deeply motivating experiences, they do little to explain what is going on in the experience, or to suggest how situations can be designed to facilitate intrinsic motivation. Furthermore, it is not clear how these emotions are necessarily connected to the process of learning or the substance of what is being learned. By contrast, we characterize intrinsic motivation as a state of heightened anticipation, we are immediately considering the process (e.g., the contingency of action and consequence) and substance of learning (e.g., the sensing and consideration of ideas). In addition, the

emotions associated with the experience of anticipation include hope, disappointment, fear, tension, eagerness, uncertainty, relief, and so on. This broad spectrum of tones and colors can be used to better represent the emotional nuance of the experience of intrinsic motivation.

#### CONDITIONS THAT FACILITATE DEEP ENGAGEMENT

Much has been written about how educators can create conditions that facilitate student motivation. Under the broad label of “constructivist teaching,” we can see many of the distinctive features of the cognitive/rational perspective translated into recommendations for teaching. For example, the centrality of student control is enacted in practices where students choose the topic of study, develop their own plan for investigating that topic, and construct their own explanations or interpretations. There is emphasis on students developing “ownership” of the work through instruction that values their choices, interpretations, and prior experiences. Similarly, the crucial importance of rational thought is the basis for recommendations that students are motivated when they can grapple with conceptual problems, test predictions, marshal evidence to justify their arguments, or critically reflect on and respond to other points of view. These recommendations are particularly prevalent in the areas of science and math education (e.g., Tobin, 1993). In the burgeoning field of game design, comparable recommendations for creating conditions for deep engagement can be found. These conditions include: optimal challenge, uncertain outcomes, fantasy, curiosity, interactivity, control, intermediate number of choices, feedback, and competition (Asgari, 2005; Malone & Lepper, 1987; Reeve, 1992; Vorderer & Hartmann, 2003).

The central importance of student rationality and control is clearly a dominant idea in these recommendations for designing motivating environments. If we consider that moving experiences also involve processes beyond the realm of rationality and control, what additional insights emerge? More specifically, what implications come from taking an aesthetic perspective on motivation? When taking an aesthetic perspective, our attention is taken in new directions. We can look to the process of anticipation and ask, “What does it mean to anticipate in this particular situation and what conditions might heighten this kind of anticipation?”

In this light, an activity is deeply engaging not simply because it gives students control and engages their rational thinking. Rather, deep engagement also requires imagination, being acted upon, spontaneity, and surprise. The aesthetic perspective reminds us that motivated learning is compelling in the same way as powerful books, movies, pho-

tographs, or building spaces are compelling because both evoke a strong feeling of anticipation. In this view, the work of teachers is directly analogous to the work of writers, filmmakers, photographers, architects, and other artists. Indeed, the aesthetic perspective reveals new reasons why teaching is truly an art.

If learning is an aesthetic experience, then the teacher's task is to "artistically craft" a compelling experience (Pugh, 2002). This educative event "moves" because anticipation is heightened as students engage with worthwhile ideas. Here are a few suggestions for how teachers' might artistically craft conditions that evoke students' anticipation.

- Create situations in which meaning might be sensed by non-rational faculties. These situations might be alluring, suggestive, or evocative.
- Consider how non-verbal forms such as symbolism, tone, rhythm, sequence, juxtaposition, and harmony can evoke the anticipatory sense of the possible.
- Appreciate that detail is critical in evocative materials, but that detail does not mean that the material has to be explicit about its meaning. By showing rather than telling, evocative materials can be both detailed and implicit.
- Understand the difference between meaning that is evoked and meaning that is connoted (Eisner, 1990).
- Provoke imagination of the possible. A central "goal" of instruction is for students to have "what if," "what could be," and "what might happen" experiences.
- Create a strong sense of "unfolding" of an event where one part emerges from what came before it and leads into what comes next. The feeling of anticipation is what organizes and compels the event. Students should feel like detectives unraveling a mystery, not like cooks following a recipe.
- Direct student attention to the future in anticipation what might happen, not just to the past in reflection of what happened. Also, appreciate that the difference between anticipation and prediction or expectation is the difference between a qualitative feeling inspired by the present situation and a rational assertion derived from past experience.
- Encourage students to attend to, dwell on, and value their feelings and sense of a situation. Resist the inclination to "teach" students to immediately justify, explain, or even verbalize their thinking and feeling.
- Develop a vocabulary and other means to express the sense and

feelings of anticipation and other aspects of their qualitative experiences.

- In teacher education courses, study how anticipation is evoked in other art forms and consider how similar techniques might be used in the classroom.

I have no illusions about the challenge of this kind of teaching—no doubt, it is extremely difficult to do. Even gifted artists—talented and trained in these very skills—struggle to produce even a few of these experiences. It is important, therefore, to have modest goals. Teachers should try to create these kinds of moving experiences for one or two subject-matter ideas each year. They should begin with a topic or idea that they feel a strong passion for. If the teachers themselves do not appreciate the power and significance of the subject matter, there is little reason to expect that their students can (Garrison, 1997). Over time, a portfolio of successful artistically crafted teaching experiences will develop. Also, the work of individual teachers can be shared within the community of professional educators.

#### A NEW VIEW OF AUTONOMY

From the aesthetic perspective, the job of the teacher would be to not only provide students with opportunities to choose and think on their own, but also to be someone students can trust in the midst of learning experiences so compelling that the situation, in some respect, is beyond the students' control. The moral weight of teaching comes not only from the responsibility of ensuring "liberty and justice for all," but also from the realization of just how much influence good teachers and powerful ideas can have on students (the film "Dead Poets Society" is a popular fictional illustration of the moral weight inherent in teaching that really moves the students).

The notion that students cannot control the experience of learning at certain times may seem oppressive and antithetical to progressive ideals. We may be reminded that many students already find the experience of school to be beyond their control and choice. In this light, the suggestion that about the value of the non-rational and the opposite of control can be confusing. To clarify, an important distinction needs to be emphasized. In oppressive situations, choice is wrested from students in order to contain and direct thought and behavior. The teachers' goal is obedience and conformity. In contrast, when students undergo powerful learning experiences, the teachers' goal is to open up, rather than close down, the realm of possibilities for students. Thus, the wise educator understands

the context of choice and appreciates the complementary roles of student autonomy and its opposite in compelling educative experiences.

Although the aesthetic perspective illuminates the role of non-rational and the opposite of control, the importance of rationality and choice in moving experiences is hardly diminished. In fact, the role of rationality and control is actually expanded as intelligent learning involves students in four kinds of choices. There are decisions about which activity to engage in and how to approach the activity in terms of strategy. In addition, students decide whether to undergo, to relinquish control, in the experience of an activity. To be open to new experiences, to new ideas, or to another person's point of view is a conscious decision. Finally, Dewey emphasizes a fourth domain of student choice—an important element of his work that goes largely unappreciated by most progressive educators. Central to his pragmatic philosophy is the idea that learners themselves have responsibility for determining the meaning and value of an experience. In Dewey's view, the meaning and significance of an idea is found in its consequences—the possibilities for experience it creates—rather than deduced from *a priori* analysis, or coerced by dint of the teacher's authority.

Thus, in addition to choosing which activities to engage in, how to approach them, and whether to be open or not to the evoked experience, transformative learning involves students in the more complex responsibility of judging the meaning and value of their experiences. This view entails a conception of student autonomy often overlooked in education and psychology, and, more broadly, in our public discourse about the nature and value of freedom. Freedom, at least the kind of freedom worth cultivating, is not simply the ability to do as one pleases. Rather, freedom has more to do with having opportunity to grow and develop by sensing, exploring, and realizing possibilities (Dewey, 1938). Boisvert (1998) describes this freedom of growth as the “the continual flowering and actualizing of possibilities” (p. 59). In sum, freedom in learning is not only to think and do according to one's inclinations, but the freedom to realize new inclinations for thinking and doing.

#### A FEW MORE PROVOCATIVE IDEAS

The value of rationality and control has been deeply entrenched not only in our education and psychology, but also in broader Western culture. Therefore, to suggest that the “opposite” of control and rationality may also have value leads to interesting and, perhaps, controversial implications. Here are a few.

*The essential role of faith in education*

To acknowledge that non-rational and the opposite of control have a legitimate role in learning is acknowledging, in a very real sense, the essential role of faith in education. By faith, I am not referring to a belief in a higher power or an adherence to any religious doctrine. Instead, the faith I refer to is the firm belief in something for which there is no formal proof. Faith of this kind is critical for deep engagement with new ideas. In James' and Dewey's pragmatism, the full meaning of an idea cannot be deduced from rational analysis of its heritage or logical structure. Instead, the consequences of the idea must also be experienced and then considered in reflection. To experience an idea requires that one believes and acts, for a while, as if the idea were true. Kierkegaard saw this "subjective certainty about objective uncertainty" as the essence of faith. Similarly, the complete embrace of a possibility is also the essence of experiences that move the learner.

*Value without work*

When we are in the grip of a compelling experience, our feelings and ideas about the experience come, in large part, without conscious thought and effort. Dewey (1958) writes,

The sense of a thing . . . is an immediate and immanent meaning; it is meaning which is itself felt or directly had. (LW.1. 200)

Learning can lead to a better understanding of something, or be instrumental to accomplishing something else. Moving experiences also imbue the situation with personal significance. Jackson elaborates why Dewey calls this qualitative meaning a "gift of the gods,"

Dewey's reason for calling this enrichment of meaning a gift of the gods is easy to understand. The added meaning is not sought. It happens effortlessly and without notice—like a bolt from the blue. (Jackson, 1998: p. 15)

In the end, the personal, qualitative meaning of the learning experience may well be "incomparably more valuable for living a life" than the intended product of learning. (Dewey, 1980; p.330)

The idea that anything of great significance and value comes without effort runs counter to Western ethics concerning the relationship between work and value. The Puritanical ethic lives on in our everyday

platitudes: “there is no such thing as a free lunch,” “no pain, no gain,” and “work comes before play.” If something comes without the intention and effort that characterizes hard work, our immediate reaction is to value it less. Not only do we see work as a virtue in itself, we also associate effort with other desirable qualities such as dedication and responsibility. To think that things may turn out better if we exert ourselves less is logically and ethically confusing. However, the “gift of the gods”—insights and feelings that seize us—often emerges more readily when we have quieted our urge to reflect, strive, and analyze. Nobel laureate and writer Saul Bellows described the experience of having an epiphany for a new novel. “The book just came to me. . . . All I had to do was be there with buckets to catch it.” Make no mistake: inspiration does favor the prepared mind and many moving experiences are effortful. However, insight, new ideas, and deep engagement often come to us when we are relaxed and, perhaps, least expect it.

*Suffering is passion*

Recall that intense, moving experiences requires not only active doing, but also receptive undergoing, what Dewey calls suffering in “its broadest sense.” Recall also that “passion” is an arcane synonym for suffering. Both passion and suffering mean to experience intensely while being acted upon by the world. Far from being destructive, passion and suffering are associated with heightened vitality and renewed life.

The idea that suffering is passion is confusing to educators who see passion as characterized only by pleasure and fun. The idea may also seem repulsive to those who strive to make learning a positive, enjoyable experience. Their aversion is justified, in part. There is no doubt that suffering caused by oppression or unfulfilled basic needs is immoral and has no place in education. However, we should all be concerned if progressive educators saw it as their mission to eliminate suffering in all its forms. Nietzsche argued that the push to eliminate suffering, while important, comes at a grave expense if taken as our primary moral imperative. Although this famous dictum, “That which doesn’t kill you makes you stronger” is too severe, to shield ourselves from the unfamiliar, the dangerous, and the intense is to thwart our natural tendency to evolve and create. For teachers to limit students to agreeable experiences is censorship and dishonest. Dewey encourages us to reconsider the essential “goodness” of suffering, in its broadest sense. Without suffering—that is, without intense, honest interaction with the world—truly transformative learning is impossible. Without suffering, we cannot be moved and, therefore, cannot be overtaken in the experience passion. Our basic

humanness depends on suffering of this kind and is diminished in its absence.

*Responsibility redefined*

One of main qualities distinguishing childhood from adulthood is the taking on of greater responsibility. Through many years of experiences with my son in parent-teacher conferences, I am convinced that being responsible is viewed as one of the highest virtues of the good student. After a recent conference, where I once again renewed my promise to the teacher to help my son become more responsible, I took time to consider the meaning of the term. Typically, to be responsible means to be capable of making rational decisions and therefore to be accountable for one's actions. In light of the main argument of this essay, I propose that being truly responsible involves more than just the exercise of rationality and control. I propose a new definition of "responsible"—one that may or may not have a proper basis in etymology. Response-ibility, like sense-ibility, is a capacity to respond to situations in an aesthetic manner: that is, wholeheartedly. In order to be responsible, one has to first be sensitive and responsive in addition to being thoughtful and intentional. So, even though my son is far from being a responsible adult, I am not worried because I know with certainty that he is fully capable of wholehearted responsiveness. In fact, this is the gift of childhood. He demonstrates this quality of response-ibility each time he is carried away by books, movies, other people, and ideas. Without a doubt, we want our children to be thoughtful, prudent, and respectful—responsible in the conventional sense. However, I reject the suggestion that they must trade a so-called immature, childish quality for something more adult-like. With this strange definition of responsibility, I offer an alternative perspective from which to consider the relationship between childhood and adulthood.

### CONCLUSION

In the cognitive/rational perspective, good "constructivist" teaching is often portrayed as supporting students' control over the learning activity and enabling their intentional, logical, reflective thinking. However, if we appreciate that compelling educative experiences involve the non-rational, receptive undergoing as well as rational and controlled activity, a broader vision of learning emerges. Deeply moving experiences are more likely to emerge when students are less cautious, self-aware, skeptical, objective, and intellectual, and more venturesome, un-self conscious, trusting, subjective, and emotional. This perspective is a necessary com-

plement to the conventional instructional approach that recommends that students should set goals, strategize, monitor, and reflect on everything they think and do. To be motivated, to have passion, is not merely to be working toward pre-determined goals, but to be swept away by the power of an idea or the drama inherent in all educative, transformative events.

Similarly, if we appreciate that compelling educative experiences involve the non-rational, receptive undergoing as well as the rational, controlled doing, a broader vision of teaching emerges. In brief: to teach is to inspire. With the Latin root “spirare,” to “inspire” is “to breathe life into” someone. It is not only the exercise of control and rationality that characterizes passionate activity. Rather, it is also the exhilarating sense of growing awareness and capacity as the idea, the world, and oneself expand in meaning and significance. Like an artist, good teachers appreciate the experience of passion for their subject and can evoke it in others. Teachers are also able to help students develop a more sophisticated aesthetic sensibility: the capacity to be seized by inspiration, to respond emotionally and intellectually, and to intuit as well as analyze meaning. Educators, at their best, create experiences in which students can feel more fully alive, more fully human. Perhaps, it is hard to imagine that learning can be so moving. Our darkest, most weary cynicism dismisses this vision of education as idealistic, romanticized, and too difficult to achieve. However, in the end the truth is this: we only wish our learning could be so compelling.

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Beyond Control and Rationality: Dewey, Aesthetics, Motivation, and Educative Experiences. DAVID WONG. Michigan State University. Contemporary perspectives in psychology and education characterize ideal students as rational and in control of their thinking and actions. Beyond Control and Rationality 193. selves and to reveal that they were not as wise as they thought themselves to be. Socrates's life illustrates how action guided by reason is the highest virtue—certainly more important than action based on authority or position. In this section, I draw attention to several examples of work that have looked beyond control and rationality to develop a fuller account of human experience. Flow. Beyond control and rationality: Dewey, aesthetics, motivation, and educative experiences. Teachers College Record, 109, 192-220. doi:<http://www.tcrecord.org> ID Number: 12740. How Do You Foster Transformative Experiences? Science, art and experience: Constructing a science pedagogy from Dewey's aesthetics. Journal of Science Teacher Education, 18, 9-27. doi:10.1007/s10972-006-9029-0. Pugh, K. J., Linnenbrink-Garcia, L., Koskey, K. L. K., Stewart, V. C., & Manzey, C. (2010). Wong, D. (2007). Beyond control and rationality: Dewey, aesthetics, motivation, and educative experiences. Teachers College Record, 109(1), 192–220. yazici, H. J. (2004). Student perceptions of collaborative learning in operations management classes. Journal of Education for Business, 80(2), 110–118. Reproduced with permission of the copyright owner. Further reproduction prohibited without permission. Related Interests.