Theories of Intelligence, Learning, and Motivation as a Basic Educational Praxis

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This article begins with an examination of the early building blocks of intelligence and learning through signs and symbols, such as proposed by Vygotsky and Freire. Then the inquiry moves into methods of achieving resonance as praxis of learning as expanded on by Freire, and connecting with students by addressing their multiple intelligences as described by Gardner, as well as their level of emotional intelligence as proposed by Goleman. Next is a brief consideration of the role of intention in learning, before moving on to the achievement of educational duration and transformation through principles of andragogy as presented by Knowles and others. Finally, the article wraps up with a contemplation of learning goals toward self-actualization through illumination and the sacrament of teaching, as expounded on by Maslow and Johnson.

Signs and Symbols as Early Tools of Intelligence and Learning

If one is to contrast the development of children individually with the evolution of the species (in a similar vein to Haeckel's observation that ontogeny recapitulates phylogeny), it may be argued that signs and symbols, evolving into words, are the earliest forms of transmitting knowledge from one developing intelligence to another, both as individuals and as a species. Vygotsky (1978) proposed that the exchange of such signs, symbols, and words serve “first and foremost as a means of social contact with other people. The cognitive and communicative functions of language then become the basis of a new and superior form,” which is what distinguishes us from the animals. It is these developed cognitive and communicative abilities that “provide for auxiliary tools in the

solution of difficult tasks, to overcome impulsive action, to plan a solution to a problem prior to its execution, and to action," ultimately to master our own behaviors (pp. 28-29).

Much in the understanding of adult learning has been gleaned from research into animals and children, since adults make for a more difficult controlled study (Knowles, Holton & Swanson, 1998). While considering the relation between individual learning styles with the development of the species, we may also need to apply many learning theories of children to adults.

> Traditionally, we have known more about how animals learn than about how children learn; and we know much more about how children learn than about how adults learn. Perhaps this is because the study of learning was taken over early by experimental psychologists whose canons require the control of variables. And it is obvious that the conditions under which animals learn are more controllable than those under which children learn; and the conditions under which children learn are much more controllable than those under which adults learn. The fact is that many of the 'scientific' theories of learning have been derived from the study of learning by animals and children. (Knowles, Holton, & Swanson, 1998, p. 18)

The use of symbols and symbolic actions in intelligent communication and learning may be as simple as tying a knot for a memory aid; or an elementary pointing, which may have evolved from a lower-intelligence reaching for an object, into a higher-intelligence cognitive abstraction of indicating with a pointed finger (Vygotsky, 1978). These acts of pointing or tying knots, or other such *reconstructive processes* in a human's development, are "the creation and use of a number of artificial stimuli. These play an auxiliary role that permits human beings to master their own behavior, at first by external means and later by more complex inner operations" (p. 73).

We may observe further evolution of human intelligence, from the use of symbols, to a deeper attribution of meaning to those symbols. Vygotsky attributed this as a "special feature of human perception"—arising from a very early age, presumably in

both the individual and the species—as the "so-called perception of real objects, that is, the perception of not only colors and shapes, but also meaning" (p. 98).

> This is something to which there is no analogy in animal perception. Humans do not merely see something round and black with two hands; they see a clock and can distinguish one thing from another. (p. 98)

Freire (1973) also observed the use of symbols in communications, where "in the relationship between communication and dialogue the Subjects engaged in dialogue express themselves through a system of linguistic signs" (p. 138). For there to be a successful transference of meaning or learning, there should be a common frame of reference meaningful to both and all communicators.

> If this agreement on the linguistic signs used to express the object signified does not exist, there can be no comprehension between the Subjects, and communication will be impossible. The truth of this can be seen in that there is no separation between comprehension (intelligibility) and communication, as if the two comprised different moments of the same process or the same act. On the contrary, intelligibility and communication occur simultaneously. (Freire, 1973, p. 138)

The human animal has been empowered to elevate the use of gestures, symbols, and signs through the power of spoken language, again evolving within the species and the individual as intellectual abilities unfolded. The spoken word itself became the powerful arbitrator of exchanged meaning.

> But the word is more than just an instrument which makes dialogue possible; accordingly, we must seek its constitutive elements. Within the word we find two dimensions, reflection and action, in such radical interaction that if one is sacrificed—even in part—the other immediately suffers. There is no true word that is not at the same time a praxis. Thus, to speak a true word is to transform the world. (Freire, 1993, p. 87)

It is through the word that we are empowered to transfer learning and indeed transform one another on a global scale by way of communication with new technologies. Still any word is hollow without a resonant substance of meaning. The importance of

Vygotsky and Freire's insights into the use of symbols, signs, words, and meaning becomes all the more clear in the next section considering the purposes of intellectual resonance in human education.

The Application of Resonance in Learning

Brazilian educator Paulo Freire proved especially successful in adapting teaching method, and molding it into themes and images that resonated with his target students, in this case the impoverished and illiterate workers of Brazil's villages and cities. In fact, so successful were Freire's techniques, that within just 45 days, three hundred workers in the city of Angicos had learned to read and write (Elias & Merriam, 1995, p. 146). A plan was formulated in Brazil to teach twenty million illiterates through twenty thousand discussion groups, furthering Freire's intent of utilizing education to "bring about social, political, and economic changes in society" (p. 139). Yet Freire and his revolutionary ideals may have been betrayed by his own success.

> Widespread opposition began to develop in Brazilian conservative circles, however, and Freire was accused of using his literacy method to spread subversive and revolutionary ideas. Freire's literacy work in Brazil was brought to an abrupt end in April 1964. A military coup toppled the Goulart government and along with many other leaders of leftist groups, Freire was jailed. (Elias & Merriam, 1995, p. 146)

Freire's (1993) applied theory was actually quite simple: speak to the students using themes, images, symbols, and words that resonate. Freire accused educators—as well as politicians—of often failing to communicate understandably with the peasant class "because their language is not attuned to the concrete situation of the people they address. Accordingly, their talk is just alienated and alienating rhetoric" (p. 96).

> The language of the educator or the politician (and it seems more and more clear that the latter must also become an educator, in the broadest sense of the word), like the language of the people, cannot exist without a structure to which they refer. In order to communicate effectively, educator and politician must understand the structural conditions in which the thought and language of the people are dialectically framed. (Freire, 1993, p. 96)

To bridge this communication schism, Freire proposed developing an educational curriculum that includes a "group of themes" that unites the educator and the educatee in a knowing process. The educator, through structured research, would need to learn the "peasants' manner of seeing the world," which contains the themes and problems so ingrained in the peasants' way of living (Freire, 1973, p. 159). These themes in turn generate other themes (Freire referred to them as *generative themes*), in an ongoing process of identifying ever more resonant ways of communicating well. "If one offers the peasants their own theme, so that in the act of knowing they can dialogue on it with the educator … it is apprehended in its relationship with other related themes through the transformation undergone by the perception of reality" (p. 159).

Freire (1993) attempted to identify the generative themes by working through concentric circles of examining the students' lives, moving from the general to the particular, such as first considering some of the universal themes of life, then finding locally resonant themes. Once such universal theme proposed by Freire was the "fundamental theme of our epoch … that of *domination*—which implies its opposite, the theme of *liberation*, as the objective to be achieved" (p. 103).

> It is this tormenting theme which gives our epoch the anthropological character mentioned earlier. In order to achieve humanization, which presupposes the elimination of dehumanizing oppression, it is absolutely necessary to surmount the limit-situations in which people are reduced to things. (Freire, 1993, p. 103)

To find a localized relevance for an identified theme, Freire proposed to present it as a posed problem in a way relevant to the "significant dimensions of an individual's contextual reality, the analysis of which will make it possible for him to recognize the interaction of the various components" (Freire, 1993, p. 104). Once resonant themes have been identified and codified, those themes may be represented not only through words, but also graphically through photographs, drawings or posters. Freire warned educators to keep in mind that a graphic is simply a tool representing a theme, and should not be treated as more than that (for example as an icon, or as an object of study in itself)—it is "merely, however, a point of reference. A visual point of reference is just that and no more" (p. 164).

How Freire's theories may be applied to effective learning will be revisited further ahead. While it is important to connect with students in terms that resonate with a student's life experience, it may be as equally important to present teachings that resonate with the students' way of learning. Gardner's (1983) germinal work identified seven fundamental intelligences, or ways that students may approach new learning: linguistic, logical-mathematical, musical, spatial, bodily-kinesthetic, and the two personal intelligences (internal and intrapersonal). Gardner proposed these intelligences are the keys to presenting new information to students in a resonant learning process. "One might go so far as to define a human intelligence as a neural mechanism or computational system which is genetically programmed to be activated or 'triggered' by certain kinds of internally or externally present information" (p. 64).

Of Gardner's proposed seven realms of human intelligence, he noted the first two, linguistic and logical-mathematical—"are the ones that have been typically valued in

school" (Gardner, 1999, pp. 41). Gardner's realms of intelligence may be further examined:

> *Linguistic intelligence* involves sensitivity to spoken and written language, the ability to learn languages, and the capacity to use language to accomplish certain goals. Lawyers, speakers, writers, poets are among the people with high linguistic intelligence.
> *Logical-mathematical intelligence* involves the capacity to analyze problems logically, carry out mathematical operations, and investigate issues scientifically. Mathematicians, logicians, and scientists exploit logical mathematical intelligence.
> *Musical intelligence* entails skill in the performance, composition, and appreciation of musical patterns.
> *Bodily-kinesthetic intelligence* entails the potential of using one's whole body or parts of the body (like the hand or the mouth) to solve problems or fashion products. Obviously, dancers, actors, and athletes foreground bodily-kinesthetic intelligence. However, this form of intelligence is also important for craftspersons, surgeons, bench-top scientists, mechanics, and other technically oriented professionals.
> *Spatial intelligence* features the potential to recognize and manipulate the patterns of wide space (those used, for example, by navigators and pilots) as well as the patterns for more confined areas (such as those of importance to sculptors, surgeons, chess players, graphic artists, or architects).
> *Interpersonal intelligence* denotes a person's capacity to understand the intentions, motivations, and desires of other people, and consequently, to work effectively with others. Salespeople, teachers, clinicians, religions leaders, political leaders, and actors all need acute interpersonal intelligence. …
> *Intrapersonal intelligence* involves the capacity to understand oneself, to have an effective working model of oneself—including one's own desires, fears, and capacities—and to use such information effectively in regulating one's one life. (Gardner, 1999, pp. 41-43)

Gardner later considered the evidence for new "candidate intelligences" including a *naturalist intelligence*, a *spiritual intelligence*, and an *existential intelligence* (Gardner, 1999). He stretched the consideration of various intelligences to the point of posing the question, is there a moral intelligence? Finally, Gardner concluded, the definition of intelligence could only be applied to limited explanations of human understanding and behavior, and ultimately morality "is fundamentally a statement about the *kind of person* that one is, or, more properly, about the kind of person that one has developed to be. It is not, in itself, an intelligence" (p. 77).

By addressing the intellectual strengths of various students, Gardner proposed the process of education might be better tailored to meet the diverse needs and learning styles of students in a course. This indeed is the central tenet of Gardner's work.

> One could take the position that everyone should study the same thing in the same way and be assessed in the same way. The standard view of intelligence leads readily, perhaps ineluctably, to that educational course. Yet, if there is validity to the idea of multiple intelligences—if individuals indeed have different kinds of minds, with varied strengths, interests, and strategies—then it is worth considering whether pivotal curricular materials could be taught and assessed in variety of ways. (Gardner, 1999, p. 167)

Aspiring practitioners may find one of the problems in addressing and teaching to multiple intelligences is in assessment, especially given the infinite array of mixtures along the continua of the seven circumscribed intelligences. Gardner (1999) agreed the assessments are problematic and often impractical, given the intensive observation necessary for validity, as well as the mercurial nature of intelligence as an individual develops.

> If I were asked to assess someone's intelligences, I would not be satisfied until I had observed him solving problems and fashioning products in a number of settings. … And even then, I would have no guarantee that the intelligences profile would remain the same a year or two later. (Gardner, 1999, p. 139)

Gardner's (1999) multiple intelligence theory stipulated neither what to teach nor how to teach it to meet the needs of diverse student intelligences. It is left up to individual instructors and curricula to determine how the theory may be applied in classroom settings, though Gardner suggested that "one could teach English literature or the theory of mechanics by using a number of different lesson plans or by giving students software the draws on their various intelligences" (p. 144). Apart from Gardner's theory of intelligences, schools have long recognized various learning abilities and interests and have taught to them, as may be reflected in elective courses ranging from art, music, math, science, shop, theater, dance, philosophy, literature, and so on.

Given the sweeping nature of Gardner's theory, it is based on some surprisingly simplistic assumptions. Gardner reduced them to a "ringing endorsement of three key propositions," including, we are not all the same; we do not all have the same kinds of minds that operate as distinct points on a bell curve; and education works best if these differences are addressed rather than ignored. This "suggests that any uniform educational approach is likely to serve only a small percentage of children optimally" (p. 91). Sincerely dedicated teachers may be tempted to respond, "Duh!" Educators likely understand that effective learning involves a variety of tools and teaching styles, yet given the limitations of larger class sizes, funding reductions, and imposed standards, a commitment to multiple intelligence practices may prove an unpractical goal. Gardner may have further overstated his case by expressing the dangers multiple intelligence training might pose, if we were to harness its powers for nefarious ends. "We have eliminated small pox and polio, and we stand on the verge of eliminating biological warfare and land mines. Perhaps we can also agree not to manipulate the intellectual

capacities of future generations" (p. 227). Such hubris comparing the powers of multiple intelligence theory to the eradication of small pox gives one pause.

Perhaps a more constrained and applicable theory may be Goleman's (1995) concept of intelligences. Goleman proposed that even at its best, a person's IQ contributes only some 20 percent of the factors that determine life success, leaving 80 percent of the success equation to other forces. Those other forces Goleman deemed as *emotional intelligence,* encompassing such abilities such as "being able to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and to hope" (p. 34). Goleman provided a bullet-list of emotional skills contributing to a successful life:

- Identifying and labeling feelings
- Expressing feelings
- Assessing the intensity of feelings
- Managing feelings
- Delaying gratification
- Controlling impulses
- Reducing stress
- Knowing the difference between feelings and actions (p. 301)

By developing emotional intelligence, on may not only improve her or his own chances for success, but may influence the success of classmates and colleagues as well. Goleman (19995) considered that emotions might be contagious, "a part of a tacit exchange that happens in every encounter. We transmit and catch moods from each other in what amounts to a subterranean economy of the psyche in which some encounters are toxic, some nourishing" (p. 115). These emotional exchanges may occur in imperceptible ways, but nonetheless have profound impact on our outlook and attitudes. "The way a salesperson says thank you can leave us feeling ignored, resented, or genuinely welcomed

and appreciated. We catch feelings from one another as though they were some kind of social virus" (p. 115).

The Power of Intention in Learning

It has been said that the road to hell is paved with good intentions, which is a misquote of the original thought of Saint Bernard of Clairvaux, who said, "Hell is full of good intentions or desires." As a false corollary, it could then also be presumed that perhaps the road to heaven paved with bad intentions. As found throughout the laws of science and the laws of the land, it is the intent of the subject that often determines the nature of an act, whether in physics as the observer determines the wave or particle nature of light, or in a court of law where intent helps calculate the degree of guilt. Our acts are not the measure of our intent; our intent is the measure of our acts.

Some learning theorists have pondered the role of intent in education. Vygotsky (1978) marveled at the unique power of humankind's ability to freely express intent in choice, where "even the most senseless intention is astounding in itself … There is reason to believe that voluntary activity, more than highly developed intellect, distinguishes humans from the animals which stand closest to them" (p. 37).

Freire (1973) spoke of the human being, with "its 'intentionality' towards the world, is always consciousness *of* something. It is in a permanent state of moving towards reality. Hence the condition of the human being is to be in constant relationship to the world" (p. 146). Our intentions drive our very consciousness, as well as our actions. Our intentions help define our immediate reality, which is also intimately intertwined with human intention (or drive) for transforming self-actualization. "Discussion about

transcendence must take its point of departure from discussion on the *here*, which for humans is always a *now* too" (p. 154).

As intention may power the drive for learning, teaching should also be approached with *developmental intention* (Taylor, Marienau, & Fiddler, 2000). Such an intention toward development "is marked by movement along five dimensions: toward knowing as a dialogical process … toward a dialogical relationship to oneself … toward being a continuous learner … toward self-agency and self-authorship … toward connection with others" (pp. 32-33). The developmental intention has a focus on *experience*, "attending to experience, interpreting experience, relying on experience, using experience as a point of reference, and creating references" (p. 43). The learners and educators are partners in the intention of development, with a "necessity that learners engage in *reflection* and c*onstruct meaning*" (p. 43).

As Freire (1993) considered in the application of themes to resonant learning, he underscored as well the importance of intent in the form of aspirations, motives, objectives, as an animating force of the themes. It is the intent to learn, to live, to experience, to grow, that defines our very humanity.

> We must realize that the aspirations, the motives, and the objectives implicit in the meaningful thematics are *human* aspirations, motives, and objectives. They do not exist 'out there' somewhere, as static entities; *they are occurring*. They are as historical as human beings themselves; consequently, they cannot be apprehended apart from them. (Freire, 1993, p. 107)

Achieving Transformation through Learning

What transforms must be enduring, and what endures must be transformative (Freire, 1973). Indeed, duration "does not mean *permanence* but the interplay between permanence and transformation" (p. 152). Those who seek permanence in unchanging

beliefs and ways are not serving the true intent of knowledge. Rather than a search for permanence, learning is instead "a search for liberation" (p. 152). Freire envisioned education as a transformational tool, a liberating force from the domination of those who would instead use knowledge as a foundation for permanence of the status quo. He proposed it was thus a mistake to assume a pedagogical tactic of tasking education to be an "act of transmission or as the systematic extension of knowledge":

> The educator's task is not that of one who sets himself or herself as a knowing Subject before a knowable object, and, having come to know it, proceeds to discourse on it to the educatees … Education is communication and dialogue. It is not the transference of knowledge, but the encounter of Subjects in dialogue in search of the significance of the object of knowing and thinking. (pp. 139-140)

In the early years, children may need rote education to acquire the fundamental tools of learning, such as the memorization of the alphabet, times tables, historical facts. Yet when adults are subjected to a rote and authoritarian pedagogy, the developmental intention is suppressed, and that "conception of education 'anaesthetizes' the educatees and leaves them a-critical and naïve in the face of the world" (Freire, 1973, p. 152).

The consideration of transformational learning as a partnership between the educator and the educatee is at the heart of *andragogy*, a concept grounded in a focus on the fully developed intention and desire of the adult to transform into a self-actualized being. The pervasive term *pedagogy* is based on education of children, comprised of the Greek roots of *paid*, meaning *child*, and *agogus*, meaning *leader of*. "Thus, pedagogy literally means the art and science of teaching children" (Knowles, Holton, & Swanson, 1998, p. 61).

> The pedagogical model assigns to the teacher full responsibility for making all decisions about what will be learned, how it will be learned, when it will be learned, and if it has been learned. It is teacher-directed education, leaving to the learner only the submissive rule of following a teacher's instructions. (p. 62)

Andragogy employs the Greek root of *andro*, signifying *man* or *adult*; so andragogy refers to the process of leading adults in learning. As considered earlier in this paper, much of the initial research into theories of learning focused on animals and children, since they were easier to subject to study controls (page 3). Knowles et al. (1998) found this surprising, considering that many of the ancient great teachers—"Confucius and Lao Tse of China, the Hebrew prophets and Jesus in Biblical times, Aristotle, Socrates, and Plato in ancient Greece, and Cicero, Evelid, and Quintillian in ancient Rome—were all teachers of adults, not of children" (p. 35). These early educators of adults developed different means of learning than has come to dominate contemporary education, where the term pedagogy is applied even to university curricula. Instead, "they perceived learning to be a process of mental inquiry, not passive reception of transmitted content"—inventing techniques for "engaging learners in inquiry" such as the case method introduced by ancient Chinese and Hebrew educators; the Socratic Method employed by the Greeks; the adversarial debates enjoyed by the Romans (pp. 35-36).

It is this adult-oriented dialectical intercourse—such as the interplay between permanence and change—that "makes the educational process 'durable,' interprets education as something which is in a *state of being*, and not something which *is*" (Freire, 1973, p. 155). It is an adult take on the learning process, which finds many differences from that of the pedagogical model:

1. *The need to know*. Adults need to know why they need to learn something before undertaking to learn it.
2. *The learners' self-concept.* Adults have a self-concept of being responsible for their own decisions, for their own lives.
3. *The role of the learners' experiences.* Adults come into an educational activity with both a greater volume and a different quality of experience from youths.

4. *Readiness to learn.* Adults become ready to learn those things they need to know and be able to do in order to cope effectively with their real-life situations.
5. *Orientation to learning*. In contrast to children's and youths' subject-centered orientation to learning (at least in school), adults are life-centered (or task-centered or problem-centered) in their orientation to learning.
6. *Motivation.* While adults are responsive to some external motivators (better jobs, promotions, higher salaries, and the like), the most potent motivators are internal pressures (the desire for increased job satisfaction, self-esteem, quality of life, and the like). (Knowles, Holton, & Swanson, 1998, pp. 65-68)

By providing an educational climate that resonates with adults, offers learning opportunities that coincide with the developmental intentions, respects andragogical rights and responsibilities, adult educators may find the opportunity to play a part in a true, enduring, transformation of humanity. "Even dyed-in-the-wool pedagogical instructors have reported that their teaching has become more effective when they adapted some of the andragogical concepts to the pedagogical model":

> Some ways they do this are by proving a climate in which the learners feel more respected, trusted, unthreatened, and cared about; by exposing them to the need to know before instructing them; by giving them some responsibility in choosing methods and resources; and by involving them in sharing responsibility for evaluating their learning. (Knowles, Holton, & Swanson, 1998, p. 70)

As considered earlier, human intention entwines with our efforts, our development, and ultimately our destiny (pages 12-13). Our intention is reflected in our desires, our motives, our aspirations. As we advance as adults, the drives beyond our satisfied physical needs impel us to new heights. Our attention turns from the external to the internal, which the andragogical model acknowledges and ingrains.

> The andragogical model of adult learning makes some fundamentally different assumptions about what motivates adults to learn. Adults tend to be more motivated toward learning that helps them solve problems in their lives or results in internal payoffs. This does not mean that external payoffs (for example, salary increase) have no relevance, but rather that the internal needs

> satisfaction is the more potent motivator. (Knowles, Holton, & Swanson, 1998, p. 149)

Maslow (1954) served to identify some of those internal needs, as we ultimately strive toward self-actualization in our evolution as individuals and as a species. While transformation may be a goal of andragogical learning, it invites questions of just what it is we might be transforming into, and how educators may better appreciate and facilitate that.

Developmental Illumination

Maslow (1954) identified a hierarchy of human needs, what we might also consider as intentions, motivations, aspirations. Humans and humanity advance through this hierarchy in fits and starts, occasionally achieving transformation to the higher calling of self-actualization, and frequently slipping back into the primal safety modes. Starting at the bottom, Maslow's hierarchy includes:

Physiological needs, ranging from biological prerequisites such as water, salt, and oxygen to the regenerating drive and necessity to procreate. Before any higher order needs can be addressed, the fundamental needs of sustaining life must be satisfied.

Safety needs, which, next to the sustaining physiological needs, may be so consuming that they appear to be the primary fixation of a person. If the need for safety is unfulfilled, it may well lead to immobilizing neurosis. Development must be fed; it must also be protected.

Belongingness and love needs, a hunger for affection and place within the group, where an unsatisfied fulfillment of the desire may cause "maladjustment and more severe psychopathology" (p. 89). A sense of isolation or exclusion may engender self- and group-destructive forms of behavior.

Esteem needs, including "the desire for strength, for achievement, for adequacy, for mastery and competence, for confidence in the face of the world, and for independence and appreciation," as well as a desire for "reputation or prestige, status dominance, recognition, attention, importance or appreciation" (p. 90). Beyond a need of simple belonging and participation, there follows a higher calling for a sense of esteem and respect for the individual and by the individual, as well as for the group and by the group.

Self-actualization needs, or the ultimate motivator once all lower needs have been met, drives people on with feelings of "discontent and restlessness … unless the individual is doing what he is fitted for," or, as Maslow prescribes, "What a man *can* be, he *must* be" (p. 91). Even when all the lower needs have been satisfied, "a musician must make music, an artist must paint, a poet must write, if he is to be ultimately at peace with himself" or herself (p. 91).

Advancement through the hierarchal stages is a process of cognitive and intellectual development. Learning plays a supportive role in the development process. Though learning and development may not necessarily coincide (Vygotsky, 1978), they do correlate in a zone of "proximal development," where learning leads the way of the lagging developmental process (p. 90).

> Although learning is directly related to the course of child development, the two are never accomplished in equal measure or in parallel. Development in children never follows school learning in the way a shadow follows the object that casts it. In actuality, there are highly complex dynamic relations between developmental and learning processes that cannot be encompassed by an unchanging hypothetical formulation. (Vygotsky, 1978, pp. 90-91)

As life evolves from the lower animal spheres, through the limited abilities of children, to the fully acquired aspirations of the adult, we find the praxis of

transformational growth. “Only human beings *are* praxis—the praxis which, as the reflection and action which truly transform reality, is the source of knowledge and creation. Animal activity, which occurs without a praxis, is not creative; people’s transforming activity is” (Freire, 1993, pp. 100-101).

What are some of the characteristics of the transformed, self-actualized adult? What is it that we as adults, as educators, as a species, are ultimately aiming for? It is an important and timely issue to consider as new methods of learning, teaching, and reaching through global technologies, provide a means to lead the development process through enhanced educational channels. Maslow considered it in depth.

In an insightful study into self-actualized and self-actualizing persons, Maslow (1954) discovered some specific traits and practices common to the advanced development. For example, self-actualizing men and women “have the wonderful capacity to appreciate again and again, freshly and naively, the basic goods of life, with awe, pleasure, wonder, and even ecstasy, however stale these experiences may have become to others,” where yet another sunset, a flower in bloom, a thousandth baby, all, hold the same miraculous appeal as the first one ever seen (p. 215). In this respect, self-actualized people may resemble the wondering aspects of the child, yet they also apply the contextual, analytical, practical abilities of the adult.

Self-actualized adults in general strongly apply their abilities and childlike wonder to addressing problems outside of themselves, unlike the more egocentric aspects of the child. “In current terminology they are problem centered rather than ego centered. … These individuals customarily have some mission in life, some task to fulfill, some

problem outside themselves which enlists much of their energies" (Maslow, 1954, p. 211).

Educators and students alike, as they consider the developmental possibilities of self-actualization, should realize the term does not imply a super-human achievement. The self-actualized person is not a perfected person, devoid of flaws and even guilt over inevitable human shortcomings. Self-actualization is a process rather than an end, and even personal shame may serve a developmental process. Maslow suggested rather than pointless guilt, the self-actualized person might feel remorse (or shame, anxiety, sadness, and defensiveness) for actions and deficits that are

> (1) Improvable shortcomings, e.g., laziness, thoughtlessness, loss of temper, hurting others;
> (2) Stubborn remnants of psychological ill health, e.g., prejudice, jealousy, envy;
> (3) Habits, which, through relatively independent of character structure, may yet be very strong, or
> (4) Shortcomings of the species or of the culture of the group with which they have identified. The general formula seems to be that healthy people will feel bad about discrepancies between what is and what might very well be or ought to be. (Maslow, 1954, p. 208)

Maslow observed that the self-actualized subjects displayed many other human failings as well. They were often preoccupied with wasteful and thoughtless habits; they could be boring, stubborn, and irritating; they could be vain and pridefully partial to their own productions and circle of friends and family; they could display outburst of temper and even acts of "extraordinary and unexpected ruthlessness. It must be remembered that they are very strong people. This makes it possible for them to display a surgical coldness when this is called for, beyond the power of the average man" (Maslow, 1954, pp. 228-229).

Self-actualized people often may not be perceived as especially well-adjusted adults, at least in the sense of winning approval and having identification with their surrounding culture. “They get along with the culture in various ways, but of all of them it may be said that in a certain profound and meaningful sense they resist enculturation and maintain a certain inner detachment from the culture in which they are immersed” (Maslow, 1954, p. 224). Most of them may also have had youthful episodes of fighting and impatient eagerness, though in most cases they learned that their optimism for any quick changes through their social battles was unwarranted. “What they settled down to as a group was an accepting, calm, good-humored everyday effort to improve the culture, usually from within, rather than to reject it and fight it from without” (p. 226).

Furthermore, self-actualized people may appear to some as unpatriotic, in a sense that their perspective on humanity goes beyond nationalistic roles and definitions. As such, they may be considered to be autonomous, and more governed by the laws and rules “of their own character rather than by the rules of society. It is in this sense that they are not only or merely Americans, but also to a greater degree than others, members at large of the human species” (p. 227).

Yet, for all of her or his shortcomings and flaws, a self-actualized person may be seen as transforming or having transformed into a fuller realization of humanity’s potential as a species. Numerous religious precepts as well intimate at the possibilities of rapture, nirvana, enlightenment, achieved through a life of learning and discipline. Maslow referred to the mystical experience as an *oceanic feeling*.

> There were the same feelings of limitless horizons opening up to the vision, the feeling of being simultaneously more powerful and also more helpless than one ever was before, the feeling of great ecstasy and wonder and awe, the loss of placing in time and space with, finally, the conviction that

> something extremely important and valuable had happened, so that the subject is to some extent transformed and strengthened even in his daily life by such experiences. (Maslow, 1954, p. 216)

An aspect of self-actualization may be an increased level of creativity, which education might help focus. However, the creative expression may not show it self in such obvious forms as writing, music, and art, but could surface in much more humble forms. “It is as if this special type of creativeness, being an expression of healthy personality, is projected out upon the world or touches whatever activity the person is engaged in” (Maslow, 1954, p. 223). The creative product may be crafted with a spirit, an attitude “that arises out of the nature of the character of the person performing the act” (p. 223). That creative attitude may find itself as influential as Goleman’s *emotional contagion* discussed earlier (page 12). The creative intentions of the self-actualized may be expressed, appreciated, and felt by others through the mundane acts of a sign painter, a clerk, a gardener (Maslow, 1954, p 223).

It has been suggested that all humans may have the transformational capacities of a Buddha or a Saint Francis, though most people save a select few squander that potential (Johnson, 1999). Educators, however—with the proper intent—may be able to infect students through a perspective contagion. “If we could see each of our students as a potential Buddha or Saint Francis or Mother Teresa and give them the kind of reverence as beings of spirit, perhaps we can help this potential to emerge” (p. 111).

A theory of education well grounded in principles of andragogy, transformation, self-actualization, should represent a commitment to hope, aspiration, even love. Unfortunately, as education administrators find in reduced spending on education, even as spending expands for the military and national defense, fear is easier to fund. Hope

may be found through technological innovation incorporating some of the higher-minded principles, as educational opportunities are made possible on an unprecedented global scale. Individually configured and responsive educational programs may indeed be a near-term reality given “the ready availability of new and flexible technologies. Already, it is possible to use technology to vary the presentation of important materials—from physics lessons to musical composition” (Gardner, 1999, p. 153).

The learning theories and aims covered above may well be adapted and applied to globally far-reaching distance learning programs. The ways and means of that are considered in the article, *Distance Education as a Facilitator of Learning* (Van Hook, 2008).

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