Knowledge Area Module 5

Theories of Intelligence, Learning, and Motivation

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February 29, 2004

Walden University

Ph.D. in Education Program
Specialization: Transcultural Distance Learning

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Contents

Introduction ……..…..……..……. iii

Breadth Component
EDUC 8510:
Theories of Intelligence, Learning, and Motivation as a Basic Praxis …….…….. 1
References …….……..……..…….. 25

Depth Component
EDUC 8520:
Distance Education as a Facilitator of Learning ……...……...……..…….. 26
References ……..……..……...… 53
Annotated References ……..……. 55

Application Component
EDUC 8530:
Professional Practice Using Distance Learning Theories ..…….……...…..…… 70
References ……..……...…….……...…..…… 92

Introduction

This Knowledge Area Module (KAM) applies to my self-designed doctoral program, with a particular emphasis on distance learning and transcultural issues in education. This KAM will help fortify my understanding of learning theories as applied to the andragogical and technical aspects of distance learning, especially as the theories relate to international and domestic adult students.

For KAM 5, abiding by the guiding theme of theories of intelligence, learning, and motivation, for Breadth, I will compare theoretical foundations of the processes and exigencies associated with intelligence, learning, and motivation within a learning environment. For Depth, I will analyze, critique, and contrast the intelligence, learning, and motivational theorists from the Breadth component with contemporary theories and realities in emerging and expanding educational environments, in particular distance learning and international settings for adult students. For Application, I will evaluate the principles from Breadth and Depth in new student-centered methods of learning as they may be applied to distance courses I have developed and taught for Cardean and Antioch universities.

Knowledge Area Module 5

Theories of Intelligence, Learning, and Motivation

Breadth Component

EDUC 8510: Theories of Intelligence, Learning, and Motivation as a Basic Praxis

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

This Breadth component will begin with an examination the early building blocks of intelligence and learning through signs and symbols, such as examined by Vygotsky and Freire. Then the inquiry will move 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 will be 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 considered by Knowles and others. Finally, the component will wrap 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 bad 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 far-reaching distance learning programs. The ways and means of that will be considered in the Depth component ahead.

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Knowledge Area Module 5

Theories of Intelligence, Learning, and Motivation

Depth Component

EDUC 8520: Distance Education as a Facilitator of Learning

Distance Education as a Facilitator of Learning

Whether based in traditional or virtual settings, higher education is going through a transformation, where the focus is shifting from a *teaching* environment to one of *learning* (Levine, 2003). The old model, based on a pedagogical structure, emphasized a commonly shared process where instruction was calculated by "seat time, or the amount of time each student is taught. Students study for a defined number of hours, earn credits for each hour of study, and, after earning a specified number of credits, earn a degree" (p. 21). As educational options expand and increasingly competitive institutions offer greater choice for a diversity of students both in the classroom and online, there also expands an *individualization of education*, where students instead of institutions will inscribe the educational agenda:

> Students will come from diverse backgrounds and will have a widening variety of educational needs. New technologies will enable them to receive their education at any time and any place—on campus, in the office, at home, in the car, or on vacation. Each student will be able to choose from a multitude of knowledge providers the form of instruction and courses most consistent with how he or she learns. (Levine, 2003, p. 20)

Through necessity and the forces of competition, both traditional and innovative institutions of learning are seeking ways to meet the demands of andragogically-oriented adults. This Depth component will expand upon some of the learning theories covered in Breadth, applied to three key transforming areas in adult education in general, and distance learning in particular: the andragogical issues, the technical issues, and the cultural issues.

Andragogical Transformations

Why do adults want to learn? What is their intent? How has their educational dynamic and learning style changed? These are the questions concerning higher education administrators, instructors, policy makers, and even investors, as adult learners respond to shifting priorities and options. As intent helps mold the cognitive process, it is important to discern just what it is adult learners are looking for.

Nashashibi (2002) asked and responded to the question: why do adults take part in learning? "There are many possible answers, but a characteristic adult learners share is a high degree of self-motivation. Even when they feel pushed by circumstances or needs, it is generally the learners that have taken the decision and enrolled" (p. 10). The depth of this self-motivation may be witnessed when adults enroll in non-accredited courses, which may not contribute to degrees or specific recognition for academic or professional purposes.

> Learners can sample and select from the broad curriculum of traditional adult education before making a major commitment. In non-accredited learning they can find routes into foundation, vocational or academic courses which they might not have thought of undertaking, or then can use it to enrich their lives. … Two things are important here, the motivation and purpose of the learner—which can change—and whether the learning experience really facilitates development and progress. (Nashashibi, 2002, p. 11)

Thoms (2001) also examined the motivation of adult learners, with the interesting contrast that while adults may be motivated by learning goals, they have a performance aspiration for the knowledge, where the course and instructor are judged by the students on performance: practices must be meaningful and practical. "If the leaner sees no connection between the job/course and the activities, that person will likely lose interest and not succeed in the class" (p. 4). Among some of Thoms'

identified characteristics of adult learners: they have first hand experience, set habits and strong tastes, preoccupations outside the learning environment, established a rational framework by which they make decisions, strong feeling about the learning situation, and a strong need to apply what is learned (pp. 5-6).

Sample (2002) proposed two primary goals that motivate adult learners: p*erforming goal orientation*, and *learning goal orientation*. Individuals with a performing goal orientation may be motivated by a desire to please authority figures, and hold a belief that personal abilities are stable and unchanging, with a tendency to become frustrated and give up quickly when faced by challenging tasks (pp. 4-5). Individuals having a learning goal orientation try to develop competency by developing new skills, view their abilities as dynamic and changeable, and see mistakes and obstacles as a natural part of the learning process. Students with a performance goal orientation may have been conditioned through years in the workplace, and may have some initial discomfort when readjusting to academic life.

> Students returning to the classroom after an extended period of time as mature adults will have had years of experience 'performing' for managers and employers. These students are recognized by their 'performance' anxiety when completing challenging assignments and test taking. (Sample, 2000, p. 7).

Sample proposed that the learning goal orientation is preferable to the performing goal orientation, since a "strong learning goal orientation enables individuals to maintain their self-efficacy in the face of obstacles and setbacks" (p. 4). Sample suggested that a learning goal orientation should be fostered through a classroom culture that focuses on learning rather than performance, avoiding punitive feedback, encouraging and rewarding effort and cognitive strategies that result in

breakthroughs in learning; and selecting faculty who understand and will make efforts to appropriately challenge both groups of learning and performing oriented students (pp. 7-9).

Another circumstance endemic to adult students may be the challenges of cognitive overload, as they attempt to meld the rigors of learning with the demands of daily adult life. Matus-Grossman and Gooden (2002) identified several factors facing adult students that may affect their ability to stay in college, including stable childcare; personal support from family, peers, and college faculty and staff; and accommodating employers. Lost employment income due to the hours spent on school and studies also affected low-wage adult students' ability to afford college. Adult students who participate in institutional support such as academic and personal counseling and on-campus childcare may find the services "enormously valuable" (p. 7).

Given the competing academic and personal demands for an adult student's cognitive focus, educators should seek ways to present learning opportunities in compatible forms. Thoms (2001) detailed strategies to help accommodate adult learners through an andragogical orientation, including: put materials into bite-size chunks; use the whole-part-whole concept (which puts the specific learning within a greater context before and after the lesson); make the material relevant; provide efficacious documentation; add options and flexibility in assignments; create a climate of exploration; keep requirements in perspective to the amount of time for the course; make certain the student is equipped with enough knowledge to complete the assignment; and bend the rules if necessary and appropriate (pp. 7-8). Thoms suggested that instructors might also develop skills and characteristics that will assist in

motivating adult students, which include the ability to demonstrate expertise, empathy, enthusiasm, and clarity.

Among the developmental intentions both instructors and learners may employ is an andragogical focus on experience—the experiences that both educator and educatee bring to their respective desks. This focus on experience includes "attending to experience, interpreting experience, relying on experience, using experience as a point of reference, and creating references" (Taylor, Marienau, & Fiddler, 2000, p. 43). These experiences also allow learners to engage in *reflection* and c*onstruct meaning*, both essential aspects of effective adult learning.

Gardner proposed seven fundamental intelligences students might employ in various degrees and mixtures as part of a learning process (pages 8-9 above), including the two intelligences that are the primary focus of traditional education: linguistic and logical-mathematical intelligences. Armstrong (2000) developed means to address as well the other five intelligences through teaching practices (spatial, bodily-kinesthetic, musical, interpersonal), and additionally proposed a *naturalist intelligence* should be included in the mix.

> The teacher who lectures with rhythmic emphasis (musical), draws pictures on the board to illustrate points (spatial), makes dramatic gestures as she talks (bodily-kinesthetic), pauses to give students time to reflect (intrapersonal), asks questions that invited spirited interaction (interpersonal), and includes references to nature in her lectures (naturalist) is using MI principles within a traditional teacher-centered perspective. (Armstrong, 2000, p. 40)

In the Breadth component above, Freire proposed presenting resonant educational themes to students as problem tasks to solve, fitting within an individual's *contextual reality* (page 7). This approach to teaching has been further integrated in a

system of *problem centered* (or *problem based*) learning. Researchers have found students consistently find that the most meaningful tasks—whether in school or elsewhere—require the students to solve a particular problem (Jonassen, Howland, Moore, & Marra, 2003). "The task is meaningful because they want to solve the problem. In order to solve the problem, they must understand what the problem is about, as well as various solution options, outcomes, inferences, and so on" (p. 20). There are numerous kinds of problems an instructor may employ for engaging student learning:

> *Logical problems.* Logical problems tend to be abstract tests of logic that puzzle the learner. They are used to assess mental acuity, clarity, and logical reasoning.
>
> *Algorithmic problems.* One of the most common problem types encountered in schools is the algorithm. Most common in mathematics courses, students are taught to solve problems using a finite and rigid set of procedures with limited, predictive decisions.
>
> *Story problems.* In an attempt to situate algorithms in some kind of context, many textbook others and teachers employ story problems. This usually takes the form of embedding the values needed to solve an algorithm into a brief narrative or situation.
>
> *Rule-using problems.* Many problems have correct solutions but multiple methods and uncertain outcomes. They tend to have a clear purpose or goal that is constrained but not restricted to a specific rule-oriented procedure or method. Rule-using problems can be as simple as setting a table and as complex as completing tax return schedules.
>
> *Decision-making problems.* Decision-making problems are usually constrained to decisions with a limited number of solutions. For instance, which health plan do we select? Which depreciation schedule will optimize short-term profits?

> *Troubleshooting problems.* Troubleshooting is one of the most common forms of everyday problem solving. Maintaining complex computer equipment or debugging a computer program requires troubleshooting skills. The primary purpose of troubleshooting is to diagnose a fault in a system and replace it.
>
> *Diagnosis-solution problems.* Diagnosis-solution problems are similar to troubleshooting. … Frequently, there are multiple solutions and solution paths, so the physician must justify a particular solution. It is this ambiguity in solution paths that distinguishes diagnosis-solution problems from troubleshooting.
>
> *Tactical / strategic performance.* Tactical-strategic performance requires real-time, complex decision making where the performers apply a number of tactical activities to meet a more complex and ill-structured strategy while maintaining situational awareness. [For example, flying an airplane in battle or quarterbacking a football offense.]
>
> *Case / systems analysis problems.* Systems analysis problems require learners to understand complex, multifaceted situations. What makes these problems difficult to solve is that it is not always clear what the problem is.
>
> *Design problems.* One of the most ill-structured kinds of problems is designing something. Whether it be an electronic circuit, or a house, or any other product or system, designing requires applying a great deal of domain knowledge with a lot of strategic knowledge resulting in an original design.
>
> *Dilemmas.* Dilemmas or issue-based problems are the most ill-structured and unpredictable, often because there is no solution that will ever be acceptable to a significant portion of the people affected by the problem. [For example, the Middle East crisis.] (Jonassen, Howland, Moore, & Marra, 2003, pp. 20-24)

There is a central concern, however, in using problem activities as a learning aid. Solving a problem can be "can be incredibly motivating for students, but *helping* students getting to the point of doing it can be a struggle" (Jonassen, Howland, Moore, & Marra, 2003, p. 114). Jonassen et al. proposed a systemic perspective on working through this dilemma. Students may readily find themselves in a loop of negative outcomes—"working less at school, liking school less because they're not working, leading to even less engagement"—but they may also be assisted to position themselves in a loop of "rewards and reinforcement—getting a taste of empowerment and

ownership, leading to more engagement, which, in turn, allows further empowerment, and so on" (p. 114).

Some theorists have found that with adult students, poor academic performance may be more attributable to ineffective strategies (or poor skill) and having insufficient motivation (or poor will), rather than personal problems or other external factors (Kiewra & DuBois, 1998). Instead, a successful student may combine sufficient levels of desire, intention, focus, and effort to achieve quality learning.

> Effective students overcome personal and environmental barriers to learning by controlling their personal situation and their environment. They use effective strategies and they maintain motivation. Motivation is the result of Desire (setting goals), Intention (planning), Focus (working hard), and Sustaining effort. DIFS makes the difference. (p. 72)

Students' motivation may also be enhanced by incorporating instructional themes resonant with the students' life circumstances. As in Freire's thematic analysis referenced above (page 6), these themes may be identified through an active role of listening by the educator; a learning needs and resources assessment that serves an vital function both in principle and practice of adult learning (Vella, 2002). "When adult learners are bored or indifferent, it means their themes have been neglected in the design of the course. Motivation is magically enhanced, however, when we teach them about their own themes" (p. 6).

The introduction of student-resonant themes may also enhance an atmosphere of safety in the learning space, whether virtual or on-ground. "It means that the design of learning tasks, the atmosphere in the room, and the very design of small groups and materials convey to the adult learners that this experience will work for them. The context is safe" (Vella, 2002, p. 8). Vella emphasized the importance of safety in a

successful learning experience, empowering a student's will and eagerness to discover new knowledge. She posed the question: "What creates this feeling of safety?" Among the answers were explicit instructor expertise, lesson relevance, student participation, effective sequencing, and a nonjudgmental atmosphere.

> First, trust in the competence of the design and the teacher enables to learners to feel safe. It is important to make your experience and competence clear. … Second, trust in the feasibility and relevance of the objectives makes learners feel safe. It is important not only to review the design with the group but also to point out how the objectives have been informed by the learning needs and resources assessment. … Third, allowing small groups to find their voices enhances the power of safety. One of the first learning tasks I do in any course is to invite learners to work in small groups to name their own expectations, hopes, or fears about a learning event or norms they want to see established in the large group. … Fourth, trust in the sequence of activities builds safety. Beginning with simple, clear, and relatively easy tasks before advancing to more complex and more difficult ones can give learners a sense of safety so they can take on the harder tasks with assurance. … Fifth, realization that the environment is nonjudgmental assures safety. (Vella, 2002, pp. 8-10)

Correlating with the successful steps toward ensuring student safety, is avoiding situations where the students' safety may be endangered. The instructor should ensure that students receive affirmation, if not praise, to avoid a "fatal moment" when a student may make a comment "only to have the words hit the floor with a resounding 'plop,' without affirmation, without even recognition that she has spoken, with the teacher proceeding as if nothing had been said" (Vella, 2002, p. 10).

The ability to voice, to experiment, and to reflect is a key aspect of effective education. Taylor et al. (2000) referred to reflection as an essential aspect of adult learning. The very heart of praxis in education signifies the coupling of reflection with action (Vella, 2002). Action in learning is enhanced through a student's sense of safety,

as well as ensuring a proper allowance of time and encouragement for reflection, in a "beautiful dance of inductive and deductive forms of learning":

> As we know, inductive learning proceeds form the particular to the general, whereas deductive learning moves from a general principle to the particular situation. … Learning tasks are not practice but praxis. If inductive, they invite reflection or action on particular instances by using new content. If deductive, they consider new content and work to apply it in new situations. (Vella, 2002, p. 14)

Ultimately, educators should be seeking for their students those transcendent moments, the *aha!* experience when a new concept is realized, a fresh perspective is born, a transforming flash of insight, "when the abstract word becomes flesh! I know that moment by the quality of the silence that pervades the room, whether it is filled with a thousand, a hundred, ten adults, or just two of us" (Vella, 2002, pp. 98-99).

Higher educators themselves are facing such *aha!* moments of transformation, whether they may be aware of it or not. The demographics and dynamics of higher education are changing (Levine, 2003). College students are older and meshing their education with other demands of work, mates, family, and all the distractions that adulthood brings. "These students want higher education that is convenient, is efficient in providing service, offers quality instruction, and is low in price. These are prime candidates for stripped-down versions of college without electives and student services" (p. 17). Moreover, they are prime candidates for the benefits of distance learning, as shall be considered ahead.

Technological Transformations

While the Internet may have been born on American soil, it has quickly connected the rest of the world in a truly worldwide web, now leaping beyond the

transforming boundaries of wires and computers. Keegan (2002) has examined the evolution of new learning platforms through *dLearning* (distance learning), through *eLearning* (electronic learning), to the future promise of *mLearning* (mobile learning), or the "provision of education and training courses on wireless devices: PDAs (Personal Digital Assistants), palmtops and mobile telephones" (p. 7). E-learning, with the "award of nationally and internationally recognized university degrees, college diplomas and training certifications, to students who spend much or all of their study time in front of a computer screen" can be dated to 1995 and has rapidly spread globally (p. 168). Other forms of communication promising access to educational offerings—in particular wireless telephony—has penetrated deep in prime competitive markets for international educational institutions. Since 1990, the penetration of mobile telephones has reached more than 80 percent throughout regions of Europe and Asia, and provides an opportunity to catch up with and eclipse the American domination of computer-based learning (p. 169). Keegan proposed that mobile learning, especially involving mobile telephony, was seen as becoming a new sector of education whose future depends on solving the problems posed in presenting course materials on mobile technologies.

New communication technology provides a different medium for student interaction over traditional face-to-face settings, and though it may be less direct in physical connection, it does not necessarily need to be less personal (Jonassen, Howland, Moore, & Marra, 2003). While virtual discussions may not have the richness of face-to-face communication with such important cues as "body language, tone of voice, accents, dialects, pace, pauses, and other important cues to meaning," this may

encourage virtual educators and students to be more precise in their wording, often enhanced with the time-delayed luxury of asynchronous contemplation. Also in virtual environments, “there is no race, no gender, no age, no infirmities—only minds: people talking to people … a new freedom and level of participation (pp. 74-76).

Adult learners are especially drawn to the promise of distance learning, given their particular needs and learning styles so well suited for the flexibility and accommodations transforming technologies provide for enhanced and accessible education possibilities. Eventually the two distinct settings of education (onground and online) may form a system-wide blend embracing the best of both. As educators consider hybrid mixes of face-to-face and computer mediated learning, two themes clearly emerge as the most frequently cited strengths of blended approaches: the personal contact allowed by face-to-face classroom learning and the flexibility allowed by distance learning (Wonacott, 2002, p.1). This may be accomplished through means including a “judicious use of technology” such as web-based multimedia virtual tours, course websites storing assignments and video teaching presentations, and timely communication between the instructor and students through emails. “Perhaps the best of both worlds comes from observing the classic precept of sound instruction design that the choice of any learning method should be driven by the needs of the learner, the nature of the content, and the interactions needed for learning” (p. 2).

Though many institutions have attempted to employ technology-as-teacher, ultimately educators may find more success by employing technology as a partner in the learning process (Jonassen, Howland, Moore, & Marra, 2003). “Students do not learn from technology, they learn from thinking. Technologies can engage and support

thinking when students learn with technology" (p. 11). Jonnasen et al. posed the questions, how do students learn with technologies? How can technologies become intellectual partners with students? In answer, they proposed that technologies should be used to engage and facilitate "thinking and knowledge construction" through appropriate applications of technology (p. 12):

- As tools to support knowledge construction
- As information vehicle for exploring knowledge to support learning by constructing
- As context to support learning by doing
- As social medium to support learning by conversing
- As an intellectual partner to support learning by reflecting

Problem solving can be an effective form of student engagement and learning enhancement, with various types of problems detailed on above (pages 32-33). Technologies may be effectively applied to problem investigation and solution by helping students "seek information needed to solve the problem, model the system or domain in which the problem occurs, make decisions about how to solve those problems, and design different technology-enhanced representations of those systems" (Jonassen, Howland, Moore, & Marra, 2003, p. 25). Some specific examples:

> *Information searching.* Too many educators tacitly equate information searching with learning. They believe that if students are busily searching for information online, they will naturally make sense of what they find. … Yet, information searching is essential to meaning making and problem solving. In order to learn from information being sought, students must have an intention to find information with will help them to solve a problem.
>
> *Modeling tasks or content.* We do know that in order to really understand something, people construct a mental model of that thing. Mental models are mental representations that include different kinds of knowledge about a domain or phenomenon, such as visual-spatial, structural, and even metaphorical. … Constructing mental models of a phenomenon or domain can be facilitated by building technology-enhanced models of the same … [with] several classes of tools for modeling one's knowledge, including databases, semantic networking,

> spreadsheets, expert systems, system modeling tools, hypermedia, visualization tools, and microworlds.
>
> *Decision making.* Decision-making problems typically involve selecting a single option from a set of alternatives based on a set of criteria. Decision makers must choose from a set of alternatives, each of which has one or more consequences. … Technologies can be used to model decision situations. Those models can be used to test predictions about the outcomes of different choices. Technologies can also be used in gathering and representing different perspectives about the decision.
>
> *Designing.* Whether students are creating a video or designing a Web page or multimedia program, they are necessarily engaged in design. … Although design problems are the most ill-structured and often the most complex kinds of problems, they are also the most engaging. When students are designing and producing their multimedia and Web pages, for instance, they have ownership of the process and product as well as the ideas contained therein. Ownership is the key to constructivism. Ownership usually entails commitment, pride, and satisfaction. Those are desirable outcomes form any learning experience. (Jonassen, Howland, Moore, & Marra, 2003, pp. 26-29)

As demonstrated through practice, not all forms of technology may deliver the degree of student engagement and success predicted and hoped. Some educators had held televised learning up as an example of a potential technological transformation in learning, only to discover that students were not effectively engaged in the experience. "The reason television has failed to enlighten students is that viewing prerecorded television programming does not sufficiently engage learners in active, constructive, intentional, authentic and cooperative learning" (Jonassen, Howland, Moore, & Marra, 2003, p. 124).

In addition, cognitive differences between adult age groups may make some forms and formats of virtual education more successful than others with various demographics. Lawton (2001) compared two methods of computer instruction for older adults (over the age of 55): the first, Elder Computer Instruction, was designed and

developed taking into consideration identified cognitive and physical changes that occur within the aging process, with a particular emphasis on learning aids and placing the instruction within a practical context, along with a focus on andragogical learning principles as described by Knowles. The second method, Traditional Computer Instruction, consisted of generic computer instruction commonly used with adults of all ages. Lawton surmised that the when the elder adults "receive computer instruction that is designed uniquely for their needs, they appear to develop more positive attitudes toward computers" (p. 7).

For those doubting the immediate and long-term impact of technology on education, Kurzweil (1999) provided a fascinating glimpse into the rapidly transforming realms of learning enhanced and ultimately usurped through technology. Passages specific to evolutionary and revolutionary educational technology through projected decades are here excerpted:

> 2019: Hand-held displays are extremely thin, a very high resolution, and weigh only ounces. People read documents either on the hand-held displays or, more commonly, from text that is projected into the ever present virtual environment using the ubiquitous direct-eye displays. Paper books and documents are rarely used or accessed. Most twentieth-century paper documents of interest have been scanned and are available through the wireless network. Most learning is accomplished using intelligent software-based simulated teachers. To the extent that teaching is done by human teachers, the human teachers are often not in the local vicinity of the student. The teachers are viewed more as mentors and counselors than as sources of learning and knowledge. Students continue to gather together to exchange ideas and to socialize, although even this gathering is often physically and geographically remote. All students use computation. Computation in general is everywhere, so a student's not having a computer is rarely an issue. Most adult human workers spend the majority of their time acquiring new skills and knowledge. (p. 204)
>
> 2029: Human learning is primarily accomplished using virtual teachers and is enhanced by the widely available neural implants. The implants improve memory and perception, but it is not yet possible to download knowledge

> directly. Although enhanced through virtual experiences, intelligent interactive instruction, and neural implants, learning still requires time-consuming human experience and study. This activity comprises the primary focus of the human species. Automated agents are learning on their own without human spoon-feeding of information and knowledge. Computers have read all available human and machine-generated literature and multimedia materials, which includes written, auditory, visual, and virtual experience works. Significant new knowledge is created by machines with little or no human intervention. Unlike humans, machines easily share knowledge structures with one another. (p. 221)
>
> 2099: Machine-based intelligences derived entirely from these extended models of human intelligence claim to be human, although their brains are not basted on carbon-based cellular processes, but rather electronic and photonic 'equivalents.' Most of these intelligences are not tied to a specific computational-processing unit (that is, piece of hardware). The number of software-based humans vastly exceeds those still using native neuron-cell-based computation. A software-based intelligence is able to manifest bodies at will: one or more virtual bodies at different levels of virtual real8ity and nanoengineered physical bodies using instantly reconfigurable nanobot swarms. Even among those human intelligences till using carbon-based neurons, there is ubiquitous use of neural implant technology, which provides enormous augmentation of human perceptual and cognitive abilities. Humans who do not utilize such implants are unable to meaningfully participate in dialogues with those who do. (p. 234)

Levine (2003) predicted the profound influence of new technologies on higher education, not only altering us as individuals and institutions, but as a global community. These transforming technologies are "the largest megaphone in postsecondary history allowing colleges and universities to reach larger numbers than ever before in history, at any time and any place" (pp. 17-18). The unprecedented interaction among peoples in this expanding educational setting provides a unique opportunity as well as a demand to seek better bridges over cultural chasms.

Cultural Transformations

The transforming capabilities of technology are empowering the rise of global universities, which are able to transcend national borders and draw together a wide range of student diversity in a virtual classroom setting (Levine, 2003). “The most successful institutions will be those that can respond the quickest and offer a high-quality education to an international student body” (p. 19). This dynamic could be further enhanced by a “dramatic expansion in international student numbers as English becomes the world language and U.S. higher education remains the global postsecondary leader” (p. 17).

Educators succeeding within this environment of globally dispersed students will need adept adaptability to diverse demographics and learning styles, as well as profound cultural differences. This becomes especially problematic since the new technologies allow instructors to be ever more removed from the geographical and cultural settings of their students. Bruffee (2002) proposed that at the core of bridging cultural differences, resides the ability of “teaching the craft of mutual dependence and civil compatibility among diverse cultural communities,” and requires people becoming more aware that “many of the cultural assumptions and practices of their peers … are deeply similar to their own and serve similar social, political, emotional, and spiritual ends” (p. 13).

As the participation of diverse cultures may be especially pronounced within global distance learning programs, the program developers and educators should be especially sensitive to the range of cultural diversity within a class (Conceico, 2002). Adding a benefit to this expanded cultural awareness, international marketing for a

program may be enhanced since "accommodating more ethnic minority members as learners might well prepare us for using the Internet to reach an even more diverse learner population successfully" (p. 44). Conceicao concluded that socially and culturally relevant adult education in cyberspace should include "self-awareness and knowledge of the learner's background, interests, and level of experience" (p. 44). Course designers, faculty and staff providing learner support will be empowered through awareness of different cultural learning styles, and through that achieve an improved understanding of how the educational context can better accommodate the learner and the learning experience.

One of the foremost authorities in identifying cultural differences is Dutch researcher Geert Hofstede, who has investigated various dimensions of culture and offers insight into how some of those dimensions may interact in various settings. In his original study, Hofstede (1980) classified dimensions of work-related value differences in 40 subject countries. The classifications may well be applied to cultural dimensions of the students found within a *global university*:

- Power distance (or the extent to which individuals at lower levels accept their lack of autonomy and authority);
- Individualism (or the relative importance of self and immediate family versus the collective workplace);
- Masculinity (or the extent to which traditionally "male" goals of wealth and recognition are acknowledged); and
- Uncertainty avoidance (or the extent to which risk and ambiguity are acceptable business conditions).

Hofstede (1997) later added the fifth dimension of *long-term orientation* (fostering virtues oriented towards future rewards, e.g., thrift). This dimension interjected a growing understanding of Asian culture, specifically Confucian influence.

Follow-up studies since (e.g., Fernandez, D., Carlson, D., Stepina, L., & Nicholson, J., 1997) have validated Hofstede's findings, with minor modifications in rankings on cultural dimension scales as new measurement tools and analyses have been applied. (See Appendix 1 on page 50 for a chart of various country assessments under Hofstede's classification system.)

The various cultural dimensions may play out in various and challenging ways when intermixed in an education setting (Calloway-Thomas, Cooper, & Blake, 1999). One of the most evident dimensions to the instructor could be the individualist/collective differences between students.

> In collectivist cultures students expect to learn how to do, speak up in class only when called upon personally to by the teacher, and see education as a way of gaining prestige within their social environment and of joining a higher status group. Formal harmony is important and neither a teacher nor any student should ever be made to lose face. On the other hand, in individualistic cultures, students expect to learn how to learn and will speak up in class in response to a general invitation by the teacher. Education is viewed as a way of improving one's economic worth and self-respect based on ability and competence. In addition, confrontation is not necessarily avoided; conflicts can be brought into the open; and face-consciousness is weak. (Calloway-Thomas, Cooper, & Blake, 1999, p. 195-196)

A key factor in how instructors might effectively interact with their students is the power distance dimension. An instructor may need to vary the interaction styles between various students in a course, depending on the student's cultural foundation.

> In small power distance societies, the educational process is student centered. The students initiate communication, outline their own paths to learning, and can contradict the teacher. In large power distance societies, the educational process is teacher centered. The teacher initiates all communication, outlines the paths of learning students should follow, and is never publicly criticized or contradicted. In large power distance societies, the emphasis is on the personal 'wisdom' of the teacher, while in small power distance societies the emphasis is on impersonal 'truth' that can be obtained by any competent person. In Asian societies, the teacher is given much respect. There is a large power distance between teacher

> and student. A Chinese student would never consider arguing with a teacher. The role of the Asian student is to accept and respect the wisdom of the teacher. … In the United States, where the power difference is small, students are encouraged to challenge the teacher and one another. The teacher encourages students to discuss and debate issues, learn how to solve problems, and create their own answers to the questions posed. Americans prefer to learn through personal discovery and problem solving rather than through memorizing facts presented to them by an authority figure. (Calloway-Thomas, Cooper, & Blake, 1999, p. 196)

Educators may also need to adjust their style of interaction with students from high uncertainty avoidance cultures. This may be especially critical in the way instructors present new information, phrase discussion questions, or assign tasks.

> In a weak uncertainty avoidance society, students feel comfortable in structured learning situation (vague objectives, no timetables, broad assignments) and are rewarded for innovative approaches to problem solving. Teachers are allowed to say, "I don't know," interpret intellectual disagreement as stimulating, and seek parents' ideas. In strong uncertainty societies, students feel comfortable in structured learning situations (precise objectives, strict timetable, detailed assignments) and are rewarded for accuracy in problem solving. Teachers are expected to have all the answers, interpret intellectual disagreement as personal disloyalty and consider themselves experts who do not need parents' ideas (and parents agree). In a strong uncertainty avoidance culture, students prefer clear instructions, avoid conflict, and dislike competition. (Calloway-Thomas, Cooper, & Blake, 1999, p. 197)

Finally, instructors should give consideration to the feminine or masculine aspects of a student's culture. This may influence the grading structure or other forms of feedback students will seek and accept in relation to their course performance.

> In feminine societies, teachers avoid openly praising students because academic achievement is less important than successful interpersonal relationships, and cooperation among students is fostered. Teachers use average students as the 'norm.' In feminine societies a student's failure in school is a relatively minor event. The system rewards students' social adaptations. In masculine societies, teachers openly praise good students because academic achievement is highly regarded and competition is fostered. Teachers use the best students as the 'norm.' Academic failure is a severe blow to the self-image. The system rewards academic performance. (1999, Calloway-Thomas, Cooper, & Blake, p. 198)

Along with searching out ways to bridge cultural differences, educators may also seek ways to transcend those differences, where shared commonalities between students may help render cultural differences as a secondary concern, as Freire sought to find themes that resonant within a cultural niche (e.g., Breadth component page 6). Bruffee suggested three principles that might help achieve a more culturally harmonious end: 1) Recognize that "most cultural communities are nearly identical in many of the most rudimentary elements of social structure, needs, and desires." 2) Further recognize that "culturally diverse communities nested together in heterogeneous societies do share solid common ground." And 3) Find that "taking the common ground requires learning the intricacies and tact of re-negotiating membership on one's own cultures and of finding new occasions to negotiate across the boundaries that divide cultural communities" (pp. 14-15).

Along with resonant themes, there are certain universal characteristics that educators and students may develop to assist in assuaging cultural differences. Jongewaard (2001) identified six citizenship characteristics of *transcultural universalism*: cross-cultural adaptability, geographical global awareness, contextual global awareness, empathetic activism, shared values, and trans-cultural awareness. "Effective global citizens will have a working knowledge of these categories … Further, teachers trained in these areas will have the knowledge and skills to teach their own students about the universals that unite us all, despite our many differences" (p. 6). A drive toward such transcultural competence might be approached in three developmental stages: an intracultural "*I* stage," or "cultural understanding in personal and micro-cultural-terms"; an intercultural "*we* stage," or "cultural comparisons in local

and macrocultural terms"; and a transcultural "everybody stage" where "notions of cultural relativism and interdependence develop, along with membership in the human family and world citizenship (p. 6).

Well-intentioned educators should beware a difference, however, between achieving a transcultural environment, as opposed to imposing a particular worldview on the international classmates. Freire (1993) warned against a form of cultural invasion, where misguided educators may "penetrate the cultural context of another group, in disrespect of the latter's potentialities; they impose their own view of the world upon those they invade and inhibit the creativity of the invaded by curbing their expression" (p. 152).

There a number of ways instructors of international students may develop appropriate skills to employ appropriate transcultural contexts for learning. As one such example, Klapan (2001) observed that the educational needs and abilities of all adults might be regarded as both human and societal, motivating and encouraging individual development in accordance with the greater social and even global needs. Further, Calloway-Thomas et al. (1999, p. 246) proposed ten fundamental rules for achieving intercultural effectiveness:

1. Give people the benefit of the perceptual doubt.
2. Minimize confrontations.
3. Ask for clarification.
4. Use "I" instead of "you" to deflect blame.
5. Try to look at people as individuals rather than as members of ethnic groups.
6. Seek common ground.
7. Be flexible in selecting words and actions.
8. Learn how to distinguish between "because" and "in spite of" reactions.
9. Recognize the fact that people communicate differently.
10. Develop empathy.

Researchers have determined that American institutions—among the primary providers of distance learning—may do more to address the particular needs of international students (e.g., Pineiro, 2001; Udoh, 2000; Macia, 1999). Pineiro (2001) proposed that "international students' academic needs as learners may have been overlooked by American universities. This has become cause for dissatisfaction and has impacted the academic experience of many international students" (p. 3). International students may achieve more learning success through an enhanced experience of engagement and connectedness. "Positive participation was described as experiences where learners and teachers were actively engaged as co-learners and co-decision makers in the teaching-learning process … the readings and the discussions in the classroom were relevant to the needs and interests of the learners and took into consideration the learners' previous knowledge and professional experience" (p. 6), echoing the andragogical principles covered in the Breadth component.

Udoh (2000) recommended that the universities should provide more opportunities for cross-cultural interactions between international students. Macia (1999) concluded that secondary and higher educators, administrators, and curriculum specialists should dedicate more research to the specific needs of students from different cultures to ensure a better learning experience in transcultural settings. Further means that educators may employ for improving learning effectiveness in multicultural settings—particularly in global distance learning environments—will be considered in the Application component ahead.

Appendix 1:

Cultural Dimension Indexes from Hofstede (1997)

This chart measures the respective cultural dimensions on a scale of 0-100 (the higher the score, the stronger the cultural dimension is extant), and ranks 50 countries and three geographical regions in their relative position to one another.

PDI: Power distance index

IDV: Individualism index

MAS: Masculinity index

UAI: Uncertainty avoidance index

LTO: Long-term orientation index

	PDI		IDV		MAS		UAI		LTO	
	rank	score	rank	score	rank	score	rank	score	rank	score
Arab Countries	7	80	26/27	38	23	53	27	68		
Argentina	35/36	49	22/23	46	20/21	56	10/15	86		
Australia	41	36	2	90	16	61	37	51	15	31
Austria	53	11	18	55	2	79	24/25	70		
Bangladesh									11	40
Belgium	20	65	8	75	22	54	5/6	94		
Brazil	14	69	26/27	38	27	49	21/22	76	6	65
Canada	39	39	4/5	80	24	52	41/42	48	20	23
Chile	24/25	63	38	23	46	28	10/15	86		
China									1	118
Columbia	17	67	49	13	11/12	64	20	80		

	PDI		IDV		MAS		UAI		LTO	
	rank	score	rank	score	rank	score	rank	score	rank	score
Costa Rica	42/44	35	46	15	48/49	21	10/15	86		
Denmark	51	18	9	74	50	16	51	23		
East Africa	21/23	64	33/35	27	39	41	36	52		
Ecuador	8/9	78	52	8	13/14	63	28	67		
Finland	46	33	17	63	47	26	31/32	59		
France	15/16	68	10/11	71	35/36	43	10/15	86		
Germany FR	42/44	35	15	67	9/10	66	29	65	14	31
Great Britain	42/44	35	3	89	9/10	66	47/48	35	18	25
Greece	27/28	60	30	35	18/19	57	1	112		
Guatemala	2/3	95	53	6	43	37	3	101		
Hong Kong	15/16	68	37	25	18/19	57	49/50	29	2	96
India	10/11	77	21	48	20/21	56	45	40	7	61
Indonesia	8/9	78	47/48	14	30/31	46	41/42	48		
Iran	29/30	58	24	41	35/36	43	31/32	59		
Ireland (Rep of)	49	28	12	70	7/8	68	47/48	35		
Israel	52	13	19	54	29	47	19	81		
Italy	34	50	7	76	4/5	70	23	75		
Jamaica	37	45	25	39	7/8	68	52	13		
Japan	33	54	22/23	46	1	95	7	92	4	80
Malaysia	1	104	36	26	25/26	50	46	36		
Mexico	5/6	81	32	30	6	69	18	82		
Netherlands	40	38	4/5	80	51	14	35	53	10	44
New Zealand	50	22	6	79	17	58	39/40	49	16	30
Nigeria									22	16
Norway	47/48	31	13	69	52	8	38	50		
Pakistan	32	55	47/48	14	25/26	50	24/25	70	23	0
Panama	2/3	95	51	11	34	44	10/15	86		
Peru	21/23	64	45	16	37/38	42	9	87		

	PDI		IDV		MAS		UAI		LTO	
	rank	score	rank	score	rank	score	rank	score	rank	score
Philippines	4	94	31	32	11/12	64	44	44	21	19
Poland									13	32
Portugal	24/25	63	33/35	27	45	31	2	104		
Salvador	18/19	66	42	19	40	40	5/6	94		
Singapore	13	74	39/41	20	28	48	53	8	9	48
South Africa	35/36	49	16	65	13/14	63	39/40	49		
South Korea	27/28	60	43	18	41	39	16/17	85	5	75
Spain	31	57	20	51	37/38	42	10/15	86		
Sweden	47/48	31	10/11	71	53	5	49/50	29	12	33
Switzerland	45	34	14	68	4/5	70	33	58		
Taiwan	29/30	58	44	17	32/33	45	26	69	3	87
Thailand	21/23	64	39/41	20	44	34	30	64	8	56
Turkey	18/19	66	28	37	32/3	45	16/17	85		
Uruguay	26	61	29	36	42	38	4	100		
USA	38	40	1	91	15	62	43	46	17	29
Venezuela	5/6	81	50	12	3	73	21/22	76		
West Africa	10/11	77	39/41	20	30/31	46	34	54		
Yugoslavia	12	76	33/35	27	48/49	21	8	88		
Zimbabwe									19	25

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Bruffee, K. (2002, January-February). Taking the common ground: Beyond cultural identity. *Change*. 34 (1), 10-17.

This paper starts with the posed question, "How do we live with and learn from people who think, believe, and behave differently from us?" The author precedes the answer with a focus on the urgency of the matter, "Today, increasingly, our survival depends less on distinguishing 'us' from 'them' than on discovering and cultivating the common ground that lies beyond our carefully tended gardens"; those gardens frequently guarded by well-tended walls and gates (p. 13).

The core of the solution, Bruffee proposes, is in "teaching the craft of mutual dependence and civil compatibility among diverse cultural communities," and by people becoming more aware that "many of the cultural assumptions and practices of their peers … are deeply similar to their own and serve similar social, political, emotional, and spiritual ends" (p. 13).

Bruffee suggests three principles which might help achieve a more culturally-harmonious end: 1) Recognize that "most cultural communities are nearly identical in many of the most rudimentary elements of social structure, needs, and desires." 2) Further recognize that "culturally diverse communities nested together in heterogeneous societies do share solid common ground." And 3) Find that "taking the common ground requires learning the intricacies and tact of re-negotiating membership on one's own cultures and of finding new occasions to negotiate across the boundaries that divide cultural communities" (pp. 14-15).

The article is a little heavy on conclusions and weak on supporting data. Fortunately the deficit is covered in other selected references.

Conceicao, S. (2002, Winter). The sociocultural implications of learning and teaching in cyberspace. *New directions for adult & continuing education,* 96, 37-46.

This paper considered the sociocultural implications of learning and teaching in cyberspace. The author in particular examined the social and cultural contexts of gender and national origin in adult learning, as well as the influence of perception and personality on interpersonal behavior.

Among the author's conclusions: "Because learners represent a variety of backgrounds, gender experiences, and learning styles, it is important to consider differences across diverse groups of learners in designing and delivering online courses effectively" (p. 44). She added that "accommodating more ethnic minority members as learners might well prepare us for using the Internet to reach an even more diverse learner population successfully."

Conceicao advised that social and culturally relevant adult education in cyberspace should include "self-awareness and knowledge of the learner's background, interests, and level of experience" (p. 44). Course designers, faculty and staff providing learner support will be empowered through awareness of different learning styles, and through improved understanding of how the educational context can shape the learner and the learning experience.

Much of the article is based on the writer's personal experience as an online learner in Brazil, which prohibits sweeping generalities attributable to a more diverse audience (e.g., Asian and European students). Yet the anecdotal evidence is a valuable contribution to the insights necessary for programming online education for an international student body.

Fernandez, D., Carlson, D., Stepina, L., & Nicholson, J. (1997, February 1). Hofstede's country classification 25 years later. *The Journal of Social Psychology*.

The article revisits Hofstede's seminal study into cultural differences, some 25 years later. The authors underscore that "given the expanding presence and influence of multinational enterprises throughout the world, research on culture and values has grown both in amount and criticality" (p. 2). This current piece of research adds countries including Russia and China, which were not included in Hofstede's original work and methodology (IBM had no factories in those countries at the time—a target group of Hofstede's research). The authors also recount criticism against Hofstede's original methodology, such as misdefinition of cultural indicators, significant cross-loadings of measurement factors, aggregate analysis of data reducing power of subsequent analyses (pp. 2-3).

Augmenting and adjusting Hofstede's results, the current study demonstrates a marked similarity between Russia and China on all the selected cultural dimensions, including the highest levels of power distance and uncertainty avoidance (pp. 5-8). The United States now ranks higher in uncertainty avoidance and Japan comes in lower than in the original study. The United States continues to rank number one in Individualism, while Russia bottoms out the scale the in the realm of collectivism. China scored the highest on the dimension of masculine countries, with Russia also scoring above the mean. Germany shifted below as "feminine" in the current study, a shift from Hofstede's study.

The methodology in this study is well documented, and the results are graphed effectively. The article provides an extensive list of references.

Jongewaard, S. (2001, April). *Beyond multiculturalism: Towards a unification theory for the improvement of cross-cultural communication.* Paper presented at the annual meeting of the National Council for Social Studies Great Lakes Regional Conference, Bloomington, MN. (ERIC Document Reproduction Service No. ED453119)

The author proposed a unification theory of multiculturalism and global education called "transcultural universalism," which considers a "universal citizenship profile," what it consists of, and how it might be developed.

Jongewaard identified six citizenship characteristics of transcultural universalism: cross-cultural adaptability, geographical global awareness, contextual global awareness, empathetic activism, shared values, and trans-cultural awareness. "Effective global citizens will have a working knowledge of these categories … Further, teachers trained in these areas will have the knowledge and skills to teach their own students about the universals that unite us all, despite our many differences."

A drive toward transcultural competence might be approached in three developmental stages: an intracultural "*I* stage," or "cultural understanding in personal and micro-cultural-terms"; an intercultural "*we* stage," or "cultural comparisons in local and macrocultural terms"; and a transcultural "everybody stage" where "notions of cultural relativism and interdependence develop, along with membership in the human family and world citizenship (p. 6).

The article provides a useful list of characteristics that might be encouraged in an international classroom setting, as well as identification of the stages of awareness as a transcultural perspectives, as well as provides one of the few articles in the academic journals which include the term "transcultural."

Keegan, D. (2002). *The future of learning: From elearning to mlearning.* (ERIC Document Reproduction Service No. ED472435)

The author examined the evolution of new learning platforms through dLearning (distance learning), through eLearning (electronic learning), to the future promise of mLearning (mobile learning), or the "provision of education and training courses on wireless devices: PDAs (Personal Digital Assistants), palmtops and mobile telephones" (p. 7).

E-learning, with the "award of nationally and internationally recognized university degrees, college diplomas and training certifications, to students who spend much or all of their study time in front of a computer screen, can be dated to 1995 and has spread globally since" (p. 168). Since 1990, the penetration of mobile telephones has grown to over 80% throughout regions of Europe and Asia, and provides an opportunity to catch up with and eclipse the American domination of computer-based learning (p. 169).

In a study of student reaction to learning through mobile communication technology, the differences between individual students' acceptance were attributed to their different learning styles and study preferences. Keegan proposed that mobile learning, especially involving mobile telephony, was seen as becoming a new sector of education whose future depends on solving the problems posed in presenting course materials on mobile technologies.

Klapan, A. (2001, May). *Educational needs of the adults - the key question of andragogy*. Paper presented at the International Andragogical School in Bosnia and Herzegovina, Sarajevo, Bosnia. (ERIC Document Reproduction Service No. ED472062)

This paper was a bit ponderously written, and was either originally composed or translated into English by someone with poor skills. The author presents a position that "the realization and self-realization of an adult can be achieved through differentiated and individualized approach to educational needs, founded on demands and didactically-methodical solutions that make basis of various forms and models of the adult education, especially in conditions in which the differentiation and individualization of the educational needs is the basic variable of the adult education theory and practice" (p.8).

Translating this into a more usable form of English, it would appear Klapan was recommending that adult education should be tailored to meet the goal of self-realization (actualization?), through an individual approach best suited for the individual, especially if that individual approach is the guiding aim within education theory and practice. Making more sense was Klapan's observation that the educational needs of adults should be regarded as both human and societal needs, and those needs should both motivate and encourage individual development in accordance with the greater social needs. It is the conceptualizing of these needs which should be regarded as the key question of adult education theory and practice.

It is perhaps a more important question in Eastern Europe, where recent societal reformations still have numerous reforming sectors such as education, pondering the dynamic relation and responsibility between the individual and the collective.

Lawton, D. F. (2001, November). Older adults eager to explore cyberspace. *Proceedings of the National Convention of the Association for Educational Communications and Technology, Atlanta, GA, 1-2.* (ERIC Document Reproduction Service No. ED470093)

This article reports on a study comparing two methods of computer instruction for older adults (over the age of 55): the first, Elder Computer Instruction, was designed and developed taking into consideration identified cognitive and physical changes that occur within the aging process, with a particular emphasis on learning aids and placing the instruction within a practical context, along with a focus on andragogical learning principles as described by Knowles.

The second method, Traditional Computer Instruction, consisted of generic computer instruction commonly used with adults of all ages. The author referred to learning-style differences detailed in other studies, without precise description of them within the current study.

The author investigated the effects of both types of instruction on older adults computer attitudes, frequency of computer use, and types of computer tasks performed. The study concluded that both groups increased their frequency of computer use and the types of computer tasks performed, however there was a significant difference between the two groups in an e-mail task: those who had been instructed using the Elder Computer Instruction techniques were found to have sent more e-mail than those who received the Traditional Computer Instruction. Lawton surmised that the when the elder adults “receive computer instruction that is designed uniquely for their needs, they appear to develop more positive attitudes toward computers” (p . 7).

Macia, J. J. (1999). *Transcultural experiences: A literature bridge to English for ESOL students from Cuba.* Unpublished doctoral dissertation, Florida International University. (ERIC Document Reproduction Service No. ED446445)

This qualitative dissertation explored the transcultural experiences of ESOL students from Cuba, and sought to connect their lived experiences to literature in the classroom. The purpose of the study was to describe and explain the transcultural perspectives of six high school and community college students-- four Cuban-born and two American-born but raised in the Cuban-American culture. It investigates their lived transcultural experiences. The data were collected through student interviews, a researcher's journal, and document reviews.

Among the exploratory questions which guided the study: What are the underlying themes that account for the Cuban NNS students' transcultural experiences? What are the universal structures found among Cuban NNS students' transcultural experiences and the Cuban-American, native English/Spanish speaking (NESS) students' experiences? This questions are especially relevant to my own research into themes and images which may transcend a specific cultural foundation.

Macia observed that the study's survey provided a better understanding of the participating students' transcultural experiences, and showed the potential of connecting their perspectives to literature in the classroom. Macia concluded that secondary and higher educators, administrators, and curriculum specialists should use "more qualitative research to investigate the transcultural experiences of ESOL students from different cultures, emphasizing the cultural needs of each school and/or college," as this might lead to a better understanding of students' needs (p. 178).

Matus-Grossman, L., & Gooden, S. (2002). *Opening doors: Students' perspectives on juggling work, family, and college*. (ERIC Document Reproduction Service No. ED471815)

This article examined issues, problems, and means related to adult students enrolled in college courses, in particular at the community college level. The authors gathered information through focus groups help in a sample of states across the nation, including California, New York, Michigan, Oregon, Ohio, and Florida. Among some of the themes that emerged from the interviews: (1) working students typically take more than 2 years to complete (junior) college; (2) financial aid is a major factor affecting enrollment decisions; (3) balancing work, family, and college is difficult; (4) students need on-campus academic and personal support; (5) a gap exists between the services available to students and students' awareness of them; and (6) students view individual faculty members as the "front line" of their community college experience.

The authors identified key findings in the study, including that participants identified stable childcare; personal support from family, peers, and college faculty and staff, and accommodating employers as leading contributors to their ability to stay in college. Lost employment income due to the hours spent on school and studies also impacted low-wage adult students' ability to afford college. The authors recommend considering forms of financial aid that may offset lost income as well as help low-income students cover direct education costs. The study also determined that focus group respondents who participated in institutional support such as academic and personal counseling and on-campus childcare found the services "enormously valuable" (p. 7). Though the study addressed the needs of adults at the junior college level, some of the issues would likely apply to adults in upper division and graduate programs as well.

Nashashibi, P. (2002). *Learning in progress: Recognizing achievement in adult learning*. (ERIC Document Reproduction Service No. ED470805)

The author asks and responds to the question: why do adults take part in learning? "There are many possible answers, but a characteristic adult learners share is a high degree of self-motivation. Even when they feel pushed by circumstances or needs, it is generally the learners that have taken the decision and enrolled" (p. 10). The depth of this self-motivation may be witnessed when adults enroll in non-accredited courses, which may not contribute to degrees or specific recognition for academic or professional purposes. "Learners can sample and select from the broad curriculum of traditional adult education before making a major commitment. In non-accredited learning they can find routes into foundation, vocational or academic courses which they might not have through of undertaking, or then can use it to enrich their lives. … Two things are important here, the motivation and purpose of the learner—which can change—and whether the learning experience really facilitates development and progress" (p. 11).

As education delivery models change, it is important to pay attention to the motivations that drive students to one learning system or another, while also addressing their various learning styles. This article provided an interesting take on adult students enrolled in non-credit courses. Much of the piece is devoted to ways education providers might measure and demonstrate student achievement, through section headings including Recognizing Achievement, Celebrating Achievement and Telling the Story, Developing Practice, Achievement of Learning Goals, Quality Assurance, Setting Up a System to Recognize and Record Achievement, Challenge and Support, and Staff Development.

Pinheiro, S. O. (2001). *Perceptions versus preferences: Adult international students' teaching-learning experiences in an American university.* (ERIC Document Reproduction Service No. ED452785)

The author proposed that "international students' academic needs as learners may have been overlooked by American universities. This have become cause for dissatisfaction and has impacted the academic experience of many international students" (p. 3). This study examined international students' perceptions of and preferences for the teaching-learning process in a U.S. university. The study included nine participants representing three regions of the world (Asia, Africa, and Latin America), who were interviewed and asked to reflect on their teaching-learning experiences.

The students identified three key domains in the study: (1) the role of participation; (2) the learner's prior experiences; and (3) the teacher's role. Positive and preferred experiences were characterized by the themes of engagement and connectedness, while negative experiences were characterized by disengagement and disconnectedness (p. 6). Among the study's conclusions: "Positive participation was described as experiences where learners and teachers were actively engaged as co-learners and co-decision makers in the teaching-learning process … the readings and the discussions in the classroom were relevant to the needs and interests of the learners and took into consideration the learners' previous knowledge and professional experience" (p. 6). The study concluded that the international students' preferred experiences reflect what Knowles advocated in the andragogical model for effective adult learning principles. It would have been interesting to see what variations there may have been in the students' responses along their respective cultural backgrounds, though the study did not address that.

Sample, J. (2002, June). *Learning vs. performance: Implications for the adult learner.* Paper presented at the National Adult Learning Conference, Orlando, FL. (ERIC Document Reproduction Service No. ED470915)

This report is grounded in the proposition that it is goal setting that influences an individual's motivation to learn and to perform. The author, citing prior studies, proposed two primary goals that motivate adult learners: Performing Goal Orientation, and Learning Goal Orientation. Individuals with a Performing Goal Orientation may be motivated by a desire to please authority figures, and hold a belief that personal abilities are stable and unchanging, with a tendency to become frustrated and give up quickly when faced by challenging tasks (pp. 4-5). Individuals having a Learning Goal Orientation try to develop competency by developing new skills, view their abilities as dynamic and changeable, and see mistakes and obstacles as a natural part of the learning process.

"Students returning to the classroom after an extended period of time as mature adults will have had years of experience 'performing' for managers and employers. These students are recognized by their 'performance' anxiety when completing challenging assignments and test taking" (p. 7). The author suggests that a learning goal orientation should be fostered through a classroom culture that focuses on learning rather than performance, avoiding punitive feedback, encouraging and rewarding effort and cognitive strategies that result in breakthroughs in learning; and selecting faculty who understand and will make efforts to appropriately challenge both groups (pp. 7-9). The author postulates that the learning goal orientation is preferable to the performing goal orientation, since a "strong learning goal orientation enables individuals to maintain their self-efficacy in the face of obstacles and setbacks" (p. 4).

Thoms, K. J. (2001, April). They're not just big kids: Motivating adult learners. *Proceedings of the Annual Mid-South Instructional Technology Conference, Murfreesboro, TN*. (ERIC Document Reproduction Service No. ED463720)

This paper discusses motivation of adult learners, with the interesting contrast that while adults may be motivated by learning goals, they have a performance aspiration for the knowledge, where the course and instructor are judged by the students on performance: practices must be meaningful and practical: “If the leaner sees no connection between the job/course and the activities, that person will likely lose interest and not succeed in the class” (p. 4).

Among some of the characteristics of adult learners: they have first hand experience, set habits and strong tastes, preoccupations outside the learning environment, established a rational framework by which they make decisions, strong feeling about the learning situation, and a strong need to apply what is learned (pp. 5-6).

The paper detailed strategies to help motivate adult learners, including: put materials into bite-size chunks; use the whole-part-whole concept (which puts the specific learning within a greater context before and after the lesson); make the material relevant; provide efficacious documentation; add options and flexibility in assignments; create a climate of exploration; keep requirements in perspective to the amount of time for the course; make certain the student is equipped with enough knowledge to complete the assignment; and bend the rules if necessary and appropriate (pp. 7-8).

The author also describes some of the characteristics and skills of a motivating instructor, which include offering expertise, having empathy, showing enthusiasm, and demonstrating clarity. The paper provides a useful catalogue and summary of andragogical principles, yet supplies little in the way of new information.

Udoh, B. O. (2000). *Cultural adjustment of foreign students in an institution of higher education.* Unpublished doctoral dissertation, Louisiana State University. (ERIC Document Reproduction Service No. ED464560)

Udoh based this dissertation on the premise that foreign students frequently encounter problems adjusting to new social environments while attending institutions of higher education. The purpose of this study was to describe the level of social difficulty experienced by foreign students from different regions of the world while studying in the United States, specifically at Louisiana State University.

The target population for this study consisted of 748 undergraduate foreign students enrolled at Louisiana State University (LSU) in the spring of 2000. The sample consisted of 178 of such students enrolled in English classes during the spring 2000 semester. The number of actual participants was 105, which represented 59% of the sample. The instrument used in this study was a Social Situation Questionnaire.

The study concluded that undergraduate foreign students at LSU experience low levels of social difficulty. The areas witnessing the largest levels of social distress included “making friends your own age” and “appearing in front of an audience” (p. 83). To address this finding, the author recommended that the university international center should provide more opportunities for cross-cultural interactions.

The dissertation provided an interesting look at research methodology, and was remarkably candid in the conclusions that contradicted the foundational premise described above. As the local institutional culture at LSU is not necessarily reflective of other campuses in the United States, it would be risky to extrapolate to great of significance to the conclusions.

Wonacott, M. E. (2002). *Blending face-to-face and distance learning methods in adult and career-technical education. Practice application brief No. 23.* (ERIC Document Reproduction Service No. ED470783)

For this short article (two pages), the abstract itself covers the most salient aspects of the report. The author observes that, in theory, the advantages of face-to-face and distance learning methods complement each other; however in practice, both face-to-face and technology-based distance programs often rely on *transmissionist* teacher-centered provision of information rather than on interactive, student-centered construction of knowledge, and "students may end up receiving passively both online and in the classroom" (p. 1).

As educators consider hybrid mixes of face-to-face and computer mediated learning, these two themes clearly emerge as the most frequently cited strengths of blended approaches: the personal contact allowed by face-to-face classroom learning and the flexibility allowed by distance learning (p.1). This may be accomplished through means including a "judicious use of technology" such as web-based multimedia virtual tours, course websites storing assignments and video teaching presentations, and timely communication between the instructor and students through emails.

The author concludes that "perhaps the best of both worlds comes from observing the classic precept of sound instruction design that the choice of any learning method should be driven by the needs of the learner, the nature of the content, and the interactions needed for learning" (p. 2).

Knowledge Area Module 5

Theories of Intelligence, Learning, and Motivation

Application Component

EDUC 8530: Professional Practice Using Distance Learning Theories

Professional Practice Using Distance Learning Theories

This Application component will incorporate the research and findings from Breadth and Depth, as well as additional relevant materials, in the evaluation of design and delivery for online courses and content I have developed and taught through Antioch University Santa Barbara, and the MBA program at Cardean University. Cardean University employed a proprietary, costly high-tech platform with multiple forms of interactivity—video clips, audio, graphics, self-tests. The Cardean program entails almost no real-time interaction with the students, beyond a rare phone conversation. Antioch University used a low-tech text based platform (FirstClass), offering little more than an exchange of messages and links. However, the Antioch program entailed a low-residency requirement, where instructors and students for each course met once a month on campus in a three-hour session. The two systems are compared to provide a contrast on how learning theories and praxis may be applied to polar extremes of high and low technological interface in a learning platform. This component will consider how both the Antioch and Cardean programs incorporate various practices, policies, theories, and guiding principles, which acknowledge and employ andragogical perspectives, diverse learning styles, multiple intelligences, problem-based learning, and multicultural resonance.

Connecting with the Class

Much of the preceding Breadth and Depth components featured consideration of ways to connect with students through their learning styles, intelligence modes, cultural foundations, and so on. Both the Antioch and Cardean programs emphasize a strong

student orientation in the relationship between the instructor and student. This may pose particular challenges in a virtual online learning environment, where instructor and student are separated not only by distance, but also by a technological interface mediating the relationship.

Antioch University in particular mandates that student-centered instructors in principle dedicate themselves and their courses to the personal and social as well as academic development of their students, helping them to "acquire key intellectual tools designed to increase personal awareness, foster individual and social creativity, and encourage professional development and socially responsible thought and action" (Antioch, 2001, p. 38). Indeed, at Antioch, the subject matter studied may appear secondary to the contextual purpose of the studies, where the institution's core purposes "are infused throughout the academic curriculum, reflecting the intention of the faculty to provide a broad, meaningful and well-balanced education":

- The development of critical thinking and an ability to analyze and integrate ideas, concepts, and experiences from a multi-dimensional, multi-cultural, and global perspective;
- The ability to apply critical and creative thinking skills to contemporary life conditions, concrete social situations, decision making, and the ethical resolution of complex problems and issues;
- Increased awareness of the personal and societal influences upon one's self and others, including cognitive, emotional, spiritual, socio-economic and environmental influences;
- The ability to examine and articulate a variety of values in order to be comfortable with and take responsibility for one's own values;
- Commitment to social justice through personal and professional competency. (Antioch, 2001, p. 38)

Cardean University as well employs a strong student-centered approach learning. Though perhaps not as well-steeped in Antioch's emphasis on social change, nonetheless Cardean focuses "first and foremost on the student and the learning community" with a goal to foster a "learning experience that can be applied not only to solve problems, but also to approach one's work—and one's life—with a dedicated purpose and the intention to improve anything that becomes one's responsibility" (Cardean, 2000, p. A 1).

Applying these concepts of a student focus poses challenges for an online instructor, to overcome the isolated and solitary experience some learners may experience in a virtual classroom (Oliver & McLoughlin, 2001). "Contemporary practices in online learning tend to provide few meaningful and worthwhile opportunities for learners to interact and communicate with others in the learning process" (p. 158). One of the first issues to overcome in this environment—which may be exacerbated by a student's unfamiliarity with the mechanics of online learning—is creating an engaging, supportive, and safe setting for the students.

The Depth component addressed the importance of safety in a successful learning experience, empowering a student's will and eagerness to discover new knowledge (pages 34-35). Among the primary factors in enhancing a student's comfort level is establishing trust in the competence of the course instructor, where the instructor's expertise should be established, and interwoven throughout the course so a student feels confidently guided through the course safe within the instructor's capable and qualified care. Cardean University promotes the renown of course content providers, where the university partners "with the premiere business schools in the world in developing our courses because they are the leaders in their field and can provide cutting edge focus and

insights into the issues in the field" (Cardean, 2000, pp. G 3-4). A Cardean instructor facilitates the student's learning experience through the course, though the content is prepared by content developers, typically professors employed by one of the partnering institutions (e.g., Columbia Business School, Stanford University, University of Chicago Graduate School of Business, Carnegie Mellon University, and the London School of Economics and Political Science). Each of the Cardean courses utilize video clips of the course developer speaking directly to the student throughout the course, explaining various aspects of a lesson's subject matter, as demonstrated in figure 1 (note the play controls are not active within this sample).

What are consumers buying when they purchase a car? The professor explores the various meanings of *car* to different groups of buyers.

Figure 1. Linked video clip of professor explaining course concepts.

Antioch University's online courses as well seek to establish and fortify student perceptions of instructor competency within its online courses. The expression of instructor expertise may fortify the safety factor of the online students, as well as further establish the academic relationship between the instructor and student. This may be enhanced by the placement of an instructor's profile and biographical data prominently linked within the course content, providing information establishing subject expertise. Figure 2 demonstrates an instructor profile posted on the website for an Antioch University course in Global Economics.

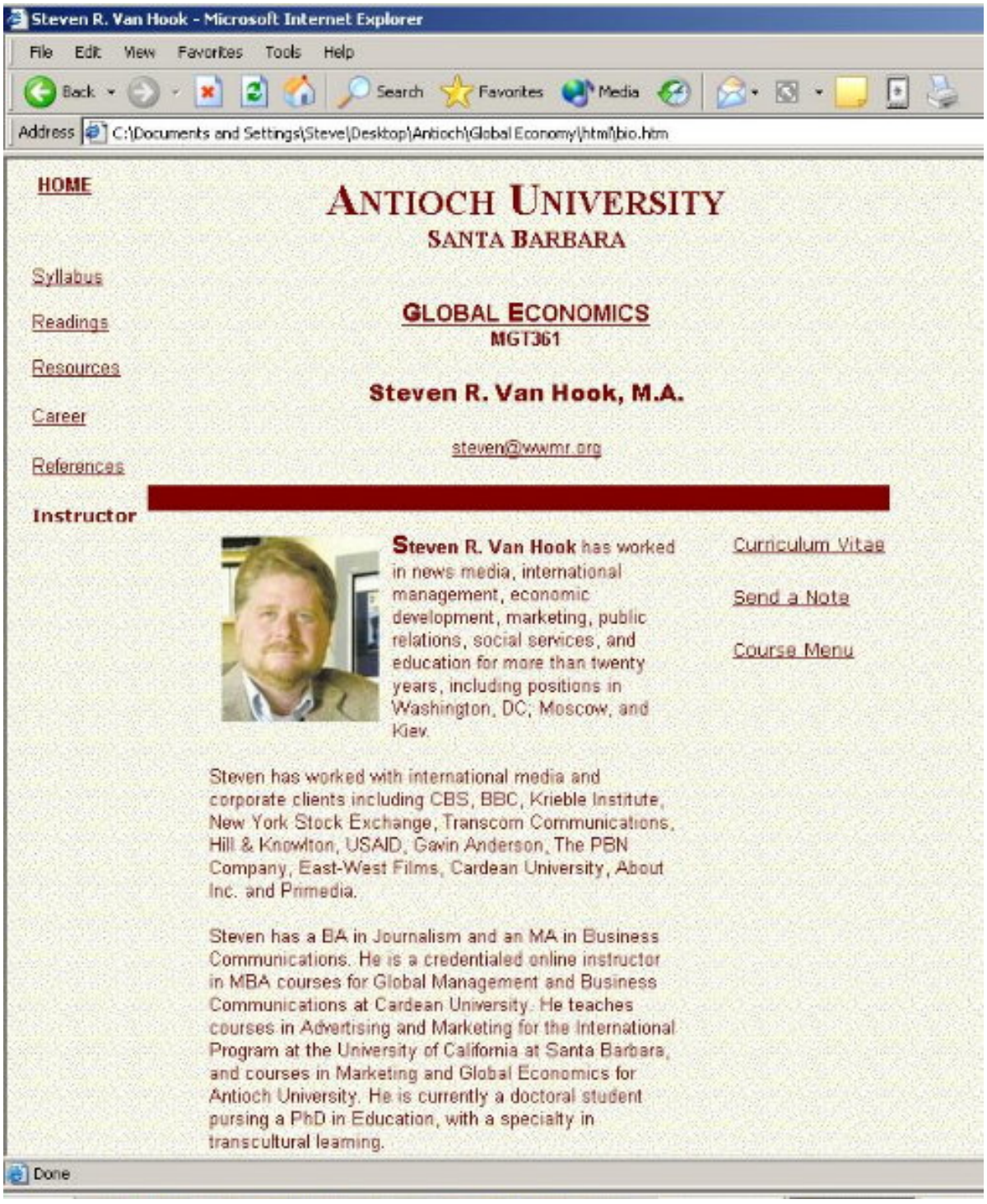


Figure 2. Online instructor profile for Antioch University course in Global Economics.

Andragogical Practices Applied

The Breadth component considered the value of problem-centered learning as a value tool in andragogical approaches to education (e.g., page 39). The application of problem solving can be an effective form of both student engagement and learning enhancement. Problems may be presented through interactive technologies in various ways, including logical, algorithmic, story-based, rule-using, decision-making, troubleshooting, diagnosis-solution, tactical-strategic performance, case-systems analysis, design, and dilemmas, as detailed above (pages 32-33).

Freire (1973) suggested that the process of employing problems in learning situations engages both the instructor and the student in a way that "it would be impossible for anyone to begin it without becoming involved in it. No one can present something to someone else as a problem and at the same time remain a mere spectator of the process" (p. 153). Cardean (2000) proposed that a focus on the solution of problems not only has heuristic value, but also provides immediate practical benefits as well.

> We believe that the knowledge gained through our problem-centered learning coursework serves and immediate and tangible purpose that can be used productively in the workplace … subject matter comes alive when taught with reference and application to the real world. (Cardean, 2000, p. A 1)

As well as an emphasis on the principle of problem-base instruction in the Cardean training manual, the university also makes problem-posing ability a core skill prerequisite in the expected competencies for Cardean adjunct faculty. These instructional competencies require that an instructor be able to:

1. Lead students through Problem Based Learning experience by doing the following: asking open-ended questions, bringing real world examples into the discussions, offering examples and guidance to students without telling them what to do, cultivating self-management in learners and helping them take responsibility for their own learning, motivating students.

2. Tailor instruction to support student-centered learning by doing the following: guiding and supporting slower students, providing enhancement-type questions for more advanced students, helping students with course mechanics, monitoring individual student progress, setting expectations for students while also being flexible and responsive to individual needs, suggesting strategies for improvement without providing solutions.

3. Stimulate and guide learners in online interactions by doing the following: actively building an online learning community, getting students to respond to the ideas of others, encouraging students to ask each other questions, giving students time to talk to each other, not evaluating each student comment, using student names and linking names with ideas, asking open-ended, probing questions, fostering student collaboration, modeling responsive communication through summarizing and paraphrasing student ideas.

4. Provide feedback that is timely, relevant, and understandable by doing the following: responding to student requests and deliverables within 24 hours, managing personal time effectively, getting students to clarify their thinking on the subject-content-task, helping students understand the materials building on their current understandings using the rubrics to grade student assignments.

5. Demonstrate reflective teaching by dong the following: contributing to the faculty forum, looking analytically at their own teaching, identifying difficulties and challenges and ways to become more effective in the Cardean environment, writing reflective journals.

6. Help build a community of educators by doing the following: participating in the faculty forum, posing interesting problems for peers, offering advice and ideas to colleagues in the faulty forum, discussing news and real world examples and information. (Cardean, 2000, p. F 1).

Cardean courses often pose problems to students in the form of project scenarios, where the student assumes the role of a corporate executive or other decision maker, and devises a solution to an assigned task. Figure 3 presents such a scenario, where a student is directed to determine a solution to a marketing problem.

Figure 3. Cardean problem scenario.

Narrator: Blaine, Vice President of Marketing, at Cartledge, has just lost her project manager and you have been assigned to work with her.

Blaine: Well, in short, our goal is to produce a new backhoe loader and get it to market next year, but we have a bit of a crisis. The Cartledge team did a good job of identifying the new product—all the background is in the screening report and gap analysis I've given you—but we need your expertise to move the concept through the first stages of the development process so we can bring the new backhoe loader to market successfully. …

Blaine: Here is what we need from you: The first phase is to develop a customer profile that Cartledge can later use to create a product definition. The second phase will be to assess the market demand for the new product and its effect on Cartledge's product portfolio. The third phase will be to assess the current Cartledge distribution channels. Your work will help us get this product to market on a timely basis, thus keeping our reputation for customer service, quality, and innovation.

This problem based learning approach is used extensively throughout the andragogical philosophy and organization of Cardean course materials, so that "learning is driven by learning outcomes linked to an authentic 'problem' or project" (Cardean, 2000, p. G 3). Cardean proposes a number of guiding principles the course developers as well as the capable online instructor should employ to ensure successful student learning.

1. Real world relevance. Students begin a course by encountering a scenario of an authentic workplace event where a problem is encountered that requires analysis of a situation. They are a player in that event and are responsible for undertaking the analysis. Thus, the problem is the central stimulus for learning.

2. Learning by doing. Students do not simply study a text to pass a test. We know this results in inert knowledge—knowledge that is primarily available in the context of the course. Rather, learning is a tool to support action. Thus, it becomes usable knowledge that is readily transferred to the workplace.

3. Nonlinear learning paths. It is only in school that learning is seen as a linear process, represented by progress through a text. In authentic learning environments, learners move between the need for learning (a problem they have encountered) and use of various resources to help them develop solutions. It is an iterative process and it is nonlinear. The problem based learning approach in the Cardean courses promotes this nonlinear, authentic learning process.

4. Integration through reflection. After any learning experience it is important to reflect or debrief on that experience. It is through this reflection what we integrate the learning, explore issues at a deeper level, and look at how the learning transfers to new situations. When a student completes a task, we ask him or her 'what if' questions, that is, questions that ask how their answer would change if circumstances change. This strategy promotes a deep understanding of the concepts and skills in the course materials.

5. Collaboration. Collaboration among students provides opportunities for peer coaching, considering alternative points of view, and developing skills of working in a team, all important components of the learning process.

6. Just in time learning guidance. While we challenge the students through real world problem solving tasks, we also want to support them in structuring their work and in understanding the concepts, principles and skills required in their work on the problem. (Cardean, 2000, pp. G 3-4)

In the Breadth component, the andragogical experience was further defined to include a focus on the student's experiences, which each adult student brings to the learning environment (page 31). These experiences also allow learners to engage in *reflection* and c*onstruct meaning*, both essential aspects of effective adult learning. Students in this process should be encouraged to interact with one another, share their experience and expertise, find avenues through online discussions for reflection on the learnings, and to better construct meaning from them.

One of the characterizations of online classrooms is their ability to employ computer conferencing in a discussion-oriented and project-based inquiry, which is authentic and collaborative (Berge & Muilenburg, 2002). The discussion process may be encouraged by instructors presenting discussion questions that are strategically formulated and phrased. "In

this type of learning environment, it is usually more important for the instructor to ask the 'right questions' than to give the 'right answers.' … The right questions are those that foster learner engagement in the learning process" (p. 184). Questions may be evaluated along the range of thinking processes the questions engage.

> *Knowledge (remembering).* The instruction processes are commonly repetition and memorization, with keywords within such questions as *define, list, name, recite, describe,* and *identify*. 'What is the definition of constructivism?'
>
> *Comprehension (understanding).* Instructional processes are usually explanation and illustration, with keywords such as *summarize, paraphrase, convert, explain, extend*, and *rephrase*. 'Can you tell me, in your own words, what Martin Luther King Jr. said in his 'I have a dream' speech?
>
> *Application (transferring).* Processes are usually practice and transfer, and keywords are apply, use, demonstrate, operate, solve, and employ. 'Can you post a lesson plan using the criteria listed on page 45 of your textbook?'
>
> *Analysis (relating).* Processes are most often induction and deduction, with keyword indicators including *relate, distinguish, point out, break down, support*, and *differentiate*. 'What factors distinguish communism from socialism?'
>
> *Synthesis (creating).* Instructional processes involve divergence and generalization, with keywords such as formulate, compare, create, predict, devise, and produce. 'What would an economic system be like that combines the salient characteristics of capitalism and socialism?'
>
> *Evaluation (judging).* Processes involve discrimination and inference, with keywords being appraise, decide, assess, defend, judge, and justify. 'Using evidence that you select, take a position and defend it regarding whether capitalist or socialist countries have a higher standard of living.'
> (Berge & Muilenburg, 2002, pp. 184-185)

Conscientious instructors should beware of posting question simply for the sake of encouraging discussion, without deliberate consideration of the learning opportunity the questions may (or may not) present (Oliver & McLoughlin, 2001). The improper use of questions may not only be devoid of a valid learning experience, but may even detract from the student's efforts in more productive avenues of learning.

> There may be a tendency to design online environments in ways which increase student-teacher communication through e-mail and bulletin boards. The implementation of this form of dialogue may result in volumes of communication which become time consuming and unproductive. … By creating settings where learners communicate with peers, we can reduce the expectation of learners to communicate directly with the teacher while still maintaining the level of support required for meaningful learning." (Oliver & McLoughlin, 2001, p. 158)

As considered above, questions may be evaluated according to the range of thought processes they may engage. There are as well numerous tactics for effectively phrasing a question to engage a student's interest and effort.

> *Interest getting and attention getting.* 'If you awakened in the year 2399, what is the first thing you would notice?'
>
> *Diagnosing and checking.* 'Does anyone know Senge's five principles of a learning organization?'
>
> *Recall of specific facts or information.* 'Who can name the main characters in Moby Dick?'
>
> *Managerial.* 'Did you request an extension on the assignment due date?'
>
> *Encourage higher-level thought processes.* 'Considering what you have read, and what was discussed in the posts this past week, can you summarize all the ways there are to overcome obstacles to effective teamwork?'
>
> *Structure and redirect learning.* 'Now that we have discussed the advantages and limitations to formative evaluation, who can do the same for summative evaluation?'
>
> *Allow expression of affect.* 'How did you feel about our online guest's list of ten things trainers do to shoot themselves in the foot?'
> (Berge & Muilenburg, 2002, p. 186)

The online courses through Antioch University are solely text-based, which requires a particular focus on the design and effectiveness of discussion postings. Figure 4 provides some examples of discussion questions employed in an online Antioch course on marketing, which incorporate tactics and phrasing encouraging responses that employ

cognitive processes and abilities of remembering, understanding, transferring, relating, creating, judging, and so on, as described above (page 80).

Figure 4. Antioch University online course discussion questions.

CONFERENCE: 1.2 TOPIC 2
SUBJECT: IS ALL FAIR?

After you've read the online article on the "Cola Wars in Schools," what are your thoughts on a marketer's duty: is it to push a product into any viable market? Should marketers consider deeper social issues? If so, how and why? Go to the conference Topic 2 and post your response.

CONFERENCE: 2.2 TOPIC 2
SUBJECT: SEGMENTATION OR SEGREGATION?

Does market segmentation rely on and perpetuate stereotypes, or is it an essential aspect of effective marketing? Do you have any new market segments to suggest?

CONFERENCE: 5.1 TOPIC 1
SUBJECT: CUSTOMER ACQUSITION

What are customer acquisition costs? How might this concept be applicable to other areas beyond simple commerce, such as social marketing or issue advocacy?

CONFERENCE: 6.4 TOPIC 4
SUBJECT: DIMENSIONS & SEGMENTS

Do and how might Hofstede's cultural dimensions correlate to marketing segments? Would you devise additional dimensions?

CONFERENCE: 9.1 TOPIC 1
SUBJECT: THE VOICE OF REASON

Professionals in marketing, advertising, public relations, and other communications positions play a powerful role in an organization: they are frequently the direct interface -- or the friction point -- between the organization and the public. Because of this, marketers et al. can have a powerful voice in helping to shape an organization's message and policy foundations. As you reviewed the Center for the Study of Ethics posted codes of conduct, did you find one that especially resonated with you? What rules and principles would you like to inject into your own organization's marketing efforts?

Since discussions are such a prominent feature of the online learning experience, and given how they are especially effective learning tools in an andragogical approach, it is worth considering even further how discussions and discussion questions may most effectively be employed. Berge and Muilenburg (2002) provide a bullet list of valuable tips:

- Essentially, online questions are the same as offline. However you must take care in making sure the question is clearly stated. Questions, and just about everything else done online, are more easily misunderstood.
- One of the easiest ways to *stifle* discussion is for the instructor to post a long, well-articulated post on the subject at hand. Our experience is that learners tend to thank, 'that's the last word,' and end their contributions to that topic after that, even when topic closure is not the instructor's intent.
- The more diverse the group of learners, and the more complex and divergent the question, the more diverse the responses may be. You should expect unusual answers, either correct or incorrect, and make sure that the instructor or other participants respond in an appropriate and reasoned, ethical manner that matches the cultural norms or expectations for each of the participants.
- Humor and sarcasm often are mistaken online. Similarly, learners should not be embarrassed or punished through the use of questions, or any other methods, for that matter. (pp. 186-187)

Beyond the initial posting of a discussion item, online instructors should be considerate of when and how much of a role to play in the discussion process. If the instructor becomes too involved, the students may defer to the *expert's* opinion, and be discouraged from considering alternative viewpoints. It the instructor is involved too little, the discussion may wane and fizzle through what the students perceive as disengagement. Berge and Muilenburg (2002) recommend Savage's list that suggests probing follow-up questions instructors might consider and employ as necessary (p. 188):

- What reasons do you have for saying that?
- Why do you agree (or disagree) on that point?
- How are you defining the term that you just used?
- Is what you are saying consistent with what you said before?
- Could you clarify that remark?
- What alternatives are there to such a formulation?

Along with their remarkable capacity for facilitating discussions, various forms of online learning technology also provide diverse interactive methods for presenting new information to students. These technologies may be especially suited in providing various choices to engage the diversity of students learning styles, as well as presenting numerous options for the application of resonant themes and a contextual relevance to the materials. The Breadth component considered aspects of multiple intelligences, and examined how the various intelligences may be addressed and engaged within a successful learning experience (pages 8-9). As already demonstrated (e.g., figure 3 on page 38), the content of Cardean University courses employ a variety of visually and aurally appealing tools supporting interactive problem-based exercises, logical-mathematical tables, spatial graphs and charts, as well as interpersonal and intrapersonal communications through reflective discussion postings. Figure 5 demonstrates a spatially graphic presentation, while figure 6 may be more suited for a mathematically oriented intelligence.

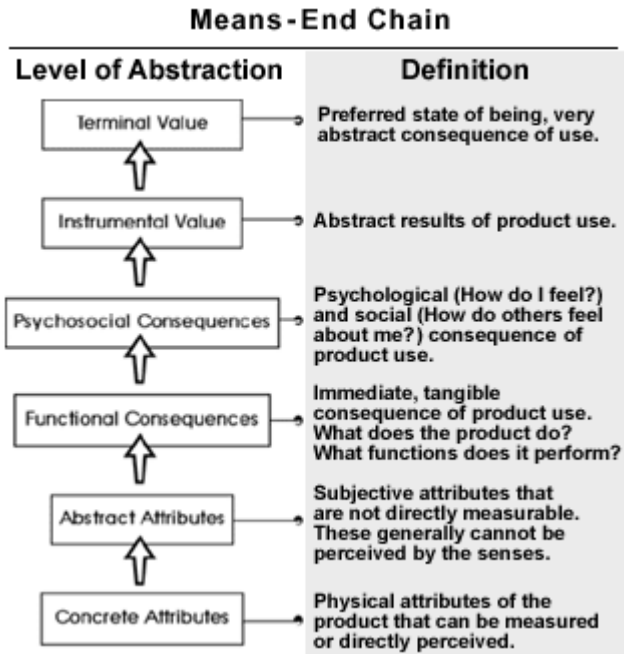


Figure 5. Cardean University marketing course flow chart.

Product situation

	1998	**1999**	**2000**	**2001**
Industry Sales	1,700,000	1,800,000	4,200,000	5,700,000
Company Share	0%	0%	10%	17%
Average Unit Price	300	310	375	350
Variable Cost	150	175	200	200
Gross Contribution Margin/Unit	150	135	175	150
Sales Volume	$ -	$ -	$420,000	$969,000
Sales Revenue	$ -	$ -	$157,500,000	$339,150,000
Gross Contribution Margin	$ -	$ -	$73,500,000	$145,350,000
Overhead	$ -	$ -	$3,500,000	$3,500,000
Net Contribution Margin	$ -	$ -	$70,000,000	$141,850,000
Advertising and Promotion	$ -	$ -	$20,000,000	$15,000,000
Sales Force and Distribution	$ -	$ -	$10,000,000	$15,000,000
Marketing Research	$ -	$10,000,000	$10,000,000	$7,000,000
Net Operating Profit	$ -	$10,000,000	$30,000,000	$104,850,000

Figure 6. Cardean University marketing course data table.

As described earlier, Antioch University's online courses employ a text-based platform, which prohibits the introduction of the richer and more interactive multimedia technologies employed by Cardean University. However, Antioch's highly interactive face-to-face weekend residencies provide a rich opportunity to address some of the students' diverse learning styles and intelligences. The students in both the weekend residencies as well as the regular program enjoy and respond well to the multimedia offerings within the instructor's PowerPoint presentations. Figure 7 below demonstrates a slide that engages the students through a graphic and oral presentation of a story on how a Masai tribe donated cows to the United States following the September 11 terrorist attack on the World Trade Center. Figure 8 demonstrates how a video clip provides a dramatic performance of the contrast between collectivist and individualist forms of interaction.

Masai Give Cows to Aid USA

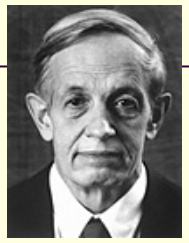
- Kenya: Where 9/11 News Is Late, but Aid Is Swift

Figure 7. A report on the Masai "economic support" for the United States

John Nash (1928-)

"Nash's Equilibrium" 27-page dissertation

Nobel Prize in Economics, 1994



A Beautiful Mind
By Sylvia Nasar
Universal Pictures 2001

"Adam Smith Was Wrong"
3:00

Figure 8. A video clip dramatizing John Nash's theory of Economic Equilibrium.

A Unified Classroom Culture

The Depth component considered how transformational technologies are empowering the rise of global universities, which are able to transcend national borders and draw together a wide range of student diversity in a virtual classroom setting (page 42). The most successful institutions to thrive in this trend will be the ones who can respond with speed and quality to the demands of a global multicultural student body. Educators will need to find ways of developing a classroom—whether onground or online—that serves a common goal of learning even in the absence of common community or cultural reference points (Shapiro & Hughes, 2002). The new learning environment must be accommodating, inclusive, embracing, responsive, and evolving as needs warrant.

> Students, faculty, and administrators come together with a multiplicity of beliefs and values about what kind of culture, and what kind of community, is real, desirable, or possible. Consequently, culture and community must be built or developed, and not simply in one fell swoop but rather as an ongoing process. (Shapiro & Hughes, 2002, p. 93)

Some educators may praise the benefits of an online text-based learning environment where differences of race, gender, economic status, and so on are irrelevant in the faceless pure exchange of ideas. Nevertheless, "most available research shows that existing social differentiations, such as those of race and power, persist in online communities" (Shapiro & Hughes, 2002, p. 104). Even though the online course players may interact in relatively removed settings, they are still engaged in "educational environments where students and faculty participate as major ongoing activities, [and] they are present with major aspects of their preexisting selves, including identities, social group memberships and backgrounds, and biases" (pp. 103-104). Rather than ignoring

these differences, educators might embrace them and incorporate the diversity of opinions, cultures, belief systems, and lifestyles as a tool to stimulate discussion, interaction, and mutual respect. Cardean University integrates multinational case studies and cultural sensitivities within its business courses targeted at an international audience. This emphasis may be observed even in the diverse faces of races and genders portrayed in the fictional interactive exercises, as exampled in figure 9.

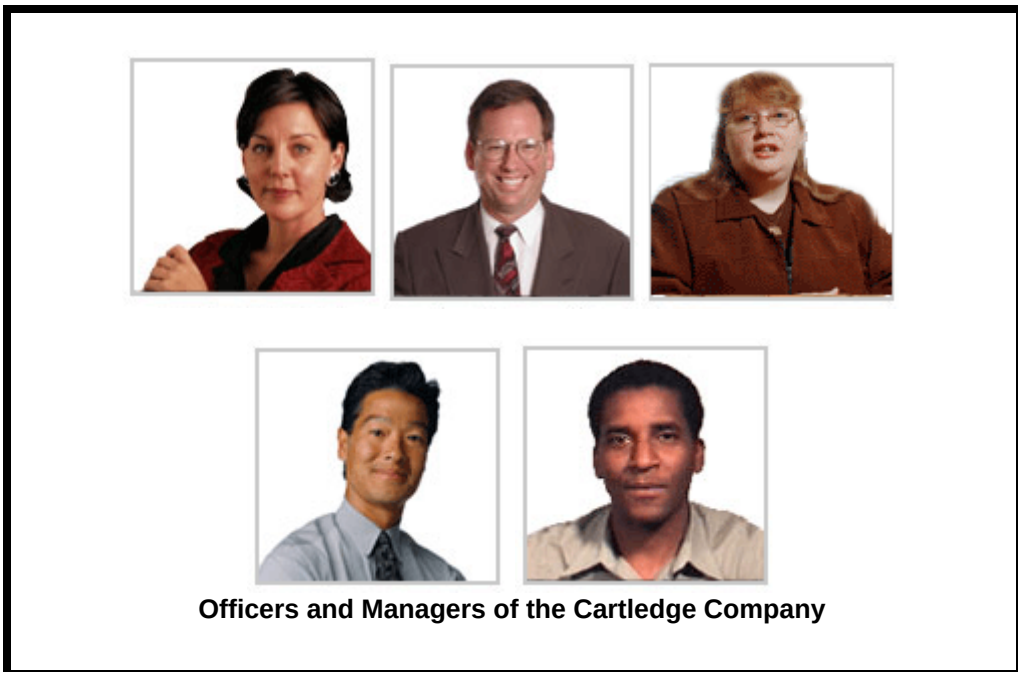


Figure 9. Case interviews with fictional company officers representing diversity in races and genders.

A phenomenon of online education is that it can be far-reaching and largely scaleable. Course instructors may find they have a classroom of twenty or more students globally dispersed, expecting personalized and responsive attention spread through time zones around the world. This challenge may be mitigated through course *scaffolding* that can help instructors cope with the high level of interactivity and technology-mediated communications that might otherwise prove unsustainable (Oliver & McLoughlin, 2001).

> One form of scaffolding that is extremely appropriate to online and flexible learning programs is the support provided among the learners themselves. In most online environments, learners are connected through a variety of means and through astute planning and design of the learning activities, and can act in support of the learning of their peers by collaborating, giving comments and feedback on the drafts, and by offering alternative perspectives. (Oliver & McLoughlin, 2001, pp. 151-152)

Through the introduction of such scaffolding, student interaction may encourage the andragogically-appropriate placement of classroom support on one another, helping to relieve some of the demands on the instructor, while also increasing the number of culturally resonant options for students to work within the course (Calloway-Thomas, Cooper, & Blake, 1999). Teachers in multicultural settings "should use a variety of teaching methods—discussion, simulations, role-plays, lectures, active, hands-on experiences. … In addition, teachers should provide opportunities for students to work cooperatively as well as individually; to stress cooperation as well as competition" (p. 205).

Effective instructors should provide a wealth of offerings and resources that may appeal on many cultural and learning-style preferences—as well as present various options for ways students may interact with one another and perform their assigned tasks—to engage students and ensure learning success within the globally based virtual classroom. Antioch courses have been well served with international and multicultural offering of readings (figure 10) and research resources (figure 11), which may provide appropriately resonant resources and articles that connect with the multicultural and multinational classroom, suitably enabled by the transforming technologies that have brought us all together in the first place.

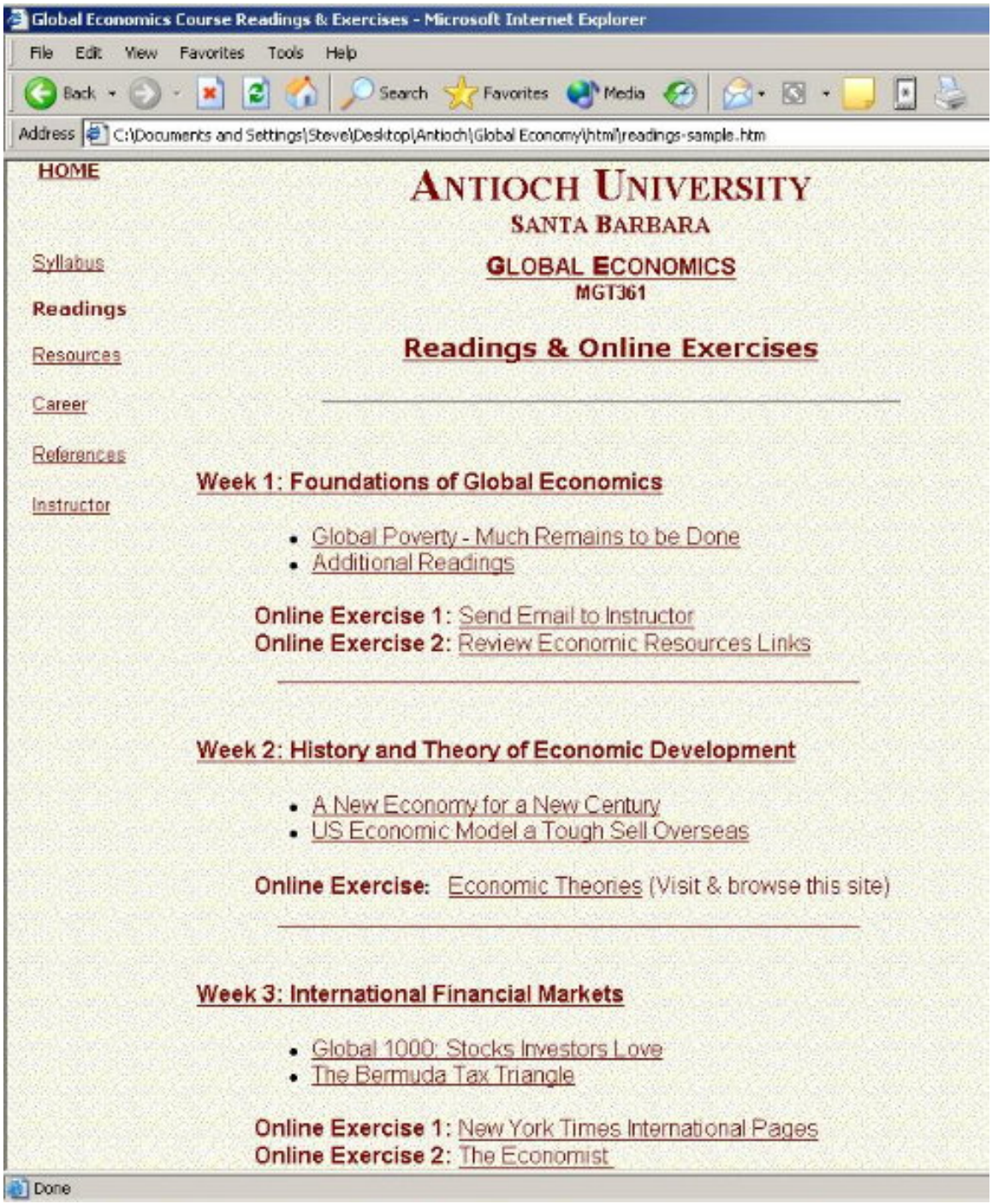


Figure 10. Antioch University online course assignment page with globally themed readings.

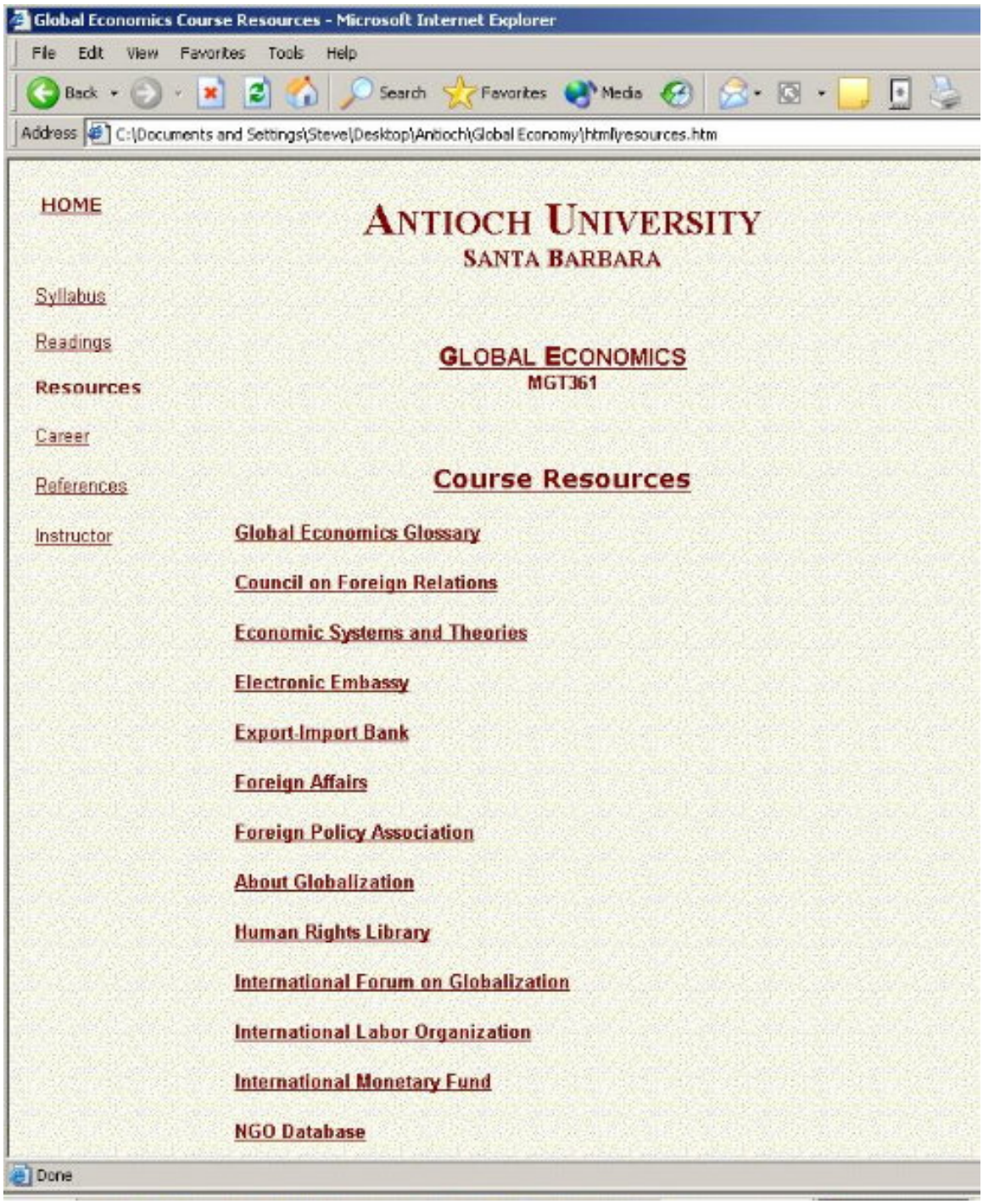


Figure 11. Antioch University online course resource page with internationally relevant links.

Application References

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