An Overview of the Conative Domain

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Conation is defined as the mental process that activates and/or directs behavior and action. Various terms used to represent some aspect of conation include intrinsic motivation, goal-orientation, volition, will, self-direction, and self-regulation. This paper provides an overview of conation and describes some of the significant aspects of its development. Issues are discussed related to various activities and strategies that parents and educators can use to assist children and youth in their development as well as assessments of conation and its subcomponents.

Psychology has traditionally identified and studied three components of mind: cognition, affect, and conation (Hilgard, 1980; Huitt, 1996; Tallon, 1997). Cognition refers to the process of coming to know and understand; of encoding, perceiving, storing, processing, and retrieving information. It is generally associated with the question of "what" (e.g., what happened, what is going on now, what is the meaning of that information.)

Affect refers to the emotional interpretation of perceptions, information, or knowledge. It is generally associated with one's attachment (positive or negative) to people, objects, ideas, etc. and is associated with the question "How do I feel about this knowledge or information?"

Conation refers to the connection of knowledge and affect to behavior and is associated with the issue of "why." It is the personal, intentional, planful, deliberate, goal-oriented, or striving component of motivation, the proactive (as opposed to reactive or habitual) aspect of behavior (Baumeister, Bratslavsky, Muraven & Tice, 1998; Emmons, 1986). Atman (1987) defined conation as "vectored energy: i.e., personal energy that has both direction and magnitude" (p. 15). It is closely associated with the concepts of intrinsic motivation, volition, agency, self-direction, and self-regulation (Kane, 1985; Mischel, 1996).

Some of the conative issues one faces daily are:

- What is my life's purpose and are my actions congruent with that purpose?
- What are my aspirations, intentions, and goals?
- On what ideas, objects, events, etc. should I focus my attention?
- What am I going to do, what actions am I going to take, what investments am I going to make?
- How well am I accomplishing what I set out to do?

At the beginning of modern psychology, both emotion and conation were considered central to the field; however, interest in these topics declined as overt behavior and cognition received more attention (Amsel, 1992; Ford, 1987). While desired outcomes associated with these latter domains are deeply enmeshed in attempts to prepare children and youth for adulthood (e.g., basic skills, critical thinking), the Brilliant Star framework (Huitt, 2004) advocates this list be expanded.

Many researchers believe volition, defined as the use of will, or the freedom to make choices about what to do, is an essential element of voluntary human behavior and human behavior cannot be explained fully without it (e.g., Bandura, 1997; Donagan, 1987; Hershberger, 1988). Campbell (1999) suggested that human beings should be viewed primarily as agents who possess a power to "get things done" (p. 15), to transform themselves and/or their environments in conflict to behavioral resistance from their own conditioning or environmental resistance. Both Bagozzi (1992) and Miller (1991) proposed that conation, a term that includes volition, but also includes additional aspects such as planning and perseverance, is especially important when addressing issues of human learning and that failure to adequately predict behavior was because the construct of conation had been omitted. Therefore, helping students develop the conative attitudes and skills associated with self-direction and personal efficacy is one of the most critical tasks presently facing parents and educators (Barell, 1995).

Developing knowledge, attitudes, and skills associated with conation, especially self-regulated learning skills, will be increasingly important to success as the 21st century continues (Huitt, 1999). Educators, who frequently insist that students strive to be their very best, must be aware of the volitional strategies students need to be able to reach their potential. McMahon and Luca (2001) point out that the movement to the information age and the subsequent availability of employment opportunities through the Internet requires children and adults to use self-regulated learning skills in an unprecedented frequency and manner. They also need to be aware that the use of these conative skills requires energy and subsequent behavior is prone to deteriorate when volition is activated (Baumeister et al., 1998).

The purpose of this paper is to briefly review some of the research in the area of conation, volition, and self-regulation , giving examples of how these issues can be addressed in the learning process.

Overview

The study of intentionality is common to the behavior of both animals and human beings. However, Frankfurt (1982) proposed that human intentionality is different from animal intentionality in that human beings can desire to contravene their conditioning. Bandura (1997, 2001b) suggested this is possible because of the singularly human ability of self-reflective evaluation and that studying human learning without considering human agency is unproductive. In the last several decades the terms executive function (Baumeister et al., 1998) and self-regulation (e.g., Bandura, 1991; Schunk & Zimmerman, 1994) have often been used as synonyms for conation, adding an additional dimension to the study of self (e.g., self-concept, self-esteem, self-reflection, self-determination, self-control).

One reason the study of conation has lagged behind the study of cognition, emotion, and behavior is that it is intertwined with the study of these other domains and often difficult to separate (Snow, 1989). Conative components are often considered when measuring cognition or emotion. For example, the Wechsler scales of intelligence include a conative component (Cooper, 1997; Gregory, 1998); Goleman's (1995) construct of emotional intelligence includes both affective (e.g., empathy, optimism, managing emotions) and conative (e.g., setting goals, self-regulation) components. Likewise, considerations of conation have included cognitive and affective, as well as volitional, components (e.g., Gollwitzer, 1990; Snow & Swanson, 1992).

One of the critical factors in the successful use of volition, conation, or self-regulation is to realize that one has the ability and the freedom to choose and control one's thoughts and

behavior (Kivinen, 1997). Volition has two subcomponents: (1) covert—referring to the controlling of one's own actions, and (2) overt—referring to the controlling of the environment that impacts one's actions (Corno, 1986, 1993). Conway (1975) suggested that, at a minimum, volition includes the processes of attention, goal-setting, and will. Glasser (1998) stated that in order to fully exercise one's autonomy it is important to direct volitional processes: (1) to control and regulate one's own behavior and (2) to select environments that are congruent with one's choices. Huitt (2004) added that it is equally important to influence the development of those aspects of the environment that nurture one's own development as well as that of others (often referred to as developing social capital).

A variety of researchers who believe that volition ought to be the cornerstone of the psychological study of human behavior suggest that while animals are controlled mainly by instincts and reflexes, the impact of these processes is greatly reduced in human beings through learning and choice (e.g., Ford, 1987; Hershberger, 1987; Howard & Conway, 1987). This allows human beings greater latitude in their range of behaviors, which can allow behavior that is both more adaptive and less adaptive, more moral and less moral (Vessels & Huitt, 2004). Lacking the relatively restricting boundaries of animal instincts, individual choice, along with widely adopted social and cultural mores, become the chief protection against degradation in human behavior and provide the opportunity for creativity and ingenuity. This situation elevates the importance of volition, especially in an increasingly chaotic social and cultural milieu (Huitt, 1999).

There are a variety of ways to discuss the domain of conation. One is to describe the preferred approaches of putting thought into action or interacting with the environment. Kolbe (1990b) describes this as one's conative style. This approach can be compared to the study of temperament or personality type that attempts to identify general patterns of thinking, feeling, and behavior or to learning style (e.g., Huitt, 1988; Keirsey, 1998; McFarland, 1997; Myers, 1980). This perspective will be discussed in more detail below.

A second approach is to describe a taxonomy of the conative domain (Atman, 1987). She proposed five conative stages:

1. Perception: an openness to multiple forms of sensory and intuitive stimuli. It is important at this stage for the individual to be able to perceive relationships and flow among phenomena.
2. Focus: the ability to distinguish a particular stimuli or pattern from the background. This is the stage at which the individual establishes a goal or desired end result.
3. Engagement: the individual begins to more closely examine the goal and its features, beginning to develop an action plan as to how the goal can be accomplished.
4. Involvement: the individual begins to implement the action plan. Depending upon the level of attention shown in each of the previous stages, this involvement can range from minimal to absorbed.
5. Transcendence: the individual is completely immersed in the task "in such a manner that the mind/body/task become one" (p. 18). A variety of researchers such as Maslow, Assagioli, and Csikszentmihaly have described this stage as *peak experience*; *joyous, transpersonal will*; and *flow*, respectively.

The major benefit of describing conation in terms of taxonomy is the potential to describe the specific skills associated with each stage, thereby providing a foundation by which educators can facilitate the development of conation.

A third approach to the study of conation is to describe the processes of conation as an approach to the study of internal motivation. A major benefit of this approach is to distinguish internal from external motivation, again as a guide to facilitate the development of competencies necessary to successfully develop conation. The following discussion presents research findings on conation related to each of the three aspects of motivation: directing, energizing, and persisting.

Directing

Research has identified at least five separate components of the directing aspect of conation: (1) defining one's purpose; (2) identifying human needs; (3) aspirations, visions, and dreams of one's possible futures; (4) making choices and setting goals; and (5) developing an action plan.

One of the principal issues related to the purposeful directing of one's energies is to consider one's life purpose, both in relationship to a general purpose of a human life and a specific purpose of one's own life, given a set of strengths and the particular requirements of the time and culture in which one is living (Millman, 1993). No issue calls into question one's philosophy or worldview more than when one considers one's life purpose. A materialistic or naturalistic worldview may lead one to focus on contributing to the DNA pool and acquiring possessions. A humanistic worldview may lead one to authenticity (Irvine, 2003) or focusing on developing one's personal strengths (Seligman, 2002). A pantheistic worldview may lead one to get in touch with one's intuition and to become aware of moments of synchronicity (Adrienne, 1998). A theistic view is likely to lead one to get in line with God's purpose for humankind (Hickman, 2003; Warren, 2002). Whatever the case, it is safe to say that one must address one's worldview, either previous to or simultaneous with, one's statement of personal purpose. There is no more significant issue in Becoming a Brilliant Star than this task, as every perception, thought, feeling, commitment, or action will be influenced by one's belief about the purpose of one's life.

A second aspect of volition is to become aware of one's human needs (Franken, 1997). Maslow's (1954) hierarchy of human needs, with its categorization of deficiency needs (physiological, security, belongingness, esteem) and growth needs (self-actualization, transcendence), is probably one of the most well-known approaches. Although not supported by empirical research, it is hard to argue that individuals do not have these needs, even if they are not arranged in the hierarchical order hypothesized by Maslow (Huitt, 2001). There are other specific formulations of human needs that have been the focus of research such as the need for optimal arousal or flow (Csikszentimihali, 1991), the need for achievement (McClelland, 1992), the need for cognitive balance (Festinger, 1957), the need to find meaning in life (Frankl, 1997, 1998), the need for power (Murray, 1938), and the need for social affiliation (Sullivan, 1968). The perspective of the Brilliant Star framework is that there are needs within each of the identified core elements and domains that develop simultaneously and interactively. That is, physical does not come first, followed by social, and growth needs; rather spiritual, moral, perceptual, cognitive, affective, conative, and social needs exist at birth and develop interactively throughout life. Development is defined as the increasing differentiation and integration of these

needs in an ever-increasing complexity that generalizes over a growing number of situations. However, certain components are more important for a specific individual at a specific time because of temperament, personality, strengths, etc. Therefore, it is necessary to provide experiences designed to help the individual identify what is important to him or her as one of the first and recurring steps in the development of conation.

A third aspect of direction is to become aware of the "possible self." Markus & Nurius (1986) suggested that the perception of this possible self provides the bridge to action; without something being considered as possible for the individual, goals will not be set and plans will not be made. Levenson (1978) suggested that aspirations, visions, and dreams define and expand the possible self. However, these long-term, often vague statements must be turned into goals (short-term, specific, personal statements) if they are to impact immediate behavior (Markus & Nurius). Additionally, Epstein (1990) stated that aspirations and goals must have visual and emotional components in order to be effective.

A fourth aspect of the direction component of conation is the setting of goals for the aspirations or dreams that have been chosen. Dweck (1991) differentiated two types of goals: (1) mastery goals that focus on developing competence or on the process of learning, and (2) performance goals that focus on the outcome, winning, or attaining credentials. Urdan and Maehr (1995) suggested a third alternative: (3) social goals that focus on performance of the group or the individual fitting in with others. The importance of working in groups in the modern era (e.g., Bridges, 1994; Toffler & Toffler, 1995) highlights the importance of the ability to set and achieve social goals. Prawat (1985) demonstrated that affective goals should be included as an additional type of goal, at least in elementary classrooms. Goleman (1995) cited an extensive literature showing that the ability to manage one's emotions is as important, or perhaps even more important, than one's cognitive ability to acquire and process information quickly. Therefore, children and youth must develop the ability to set goals in all these areas if they are going to be adequately prepared for adulthood in the modern era.

Ames (1988, 1992) showed that in school settings students with mastery goals outperformed students with performance goals. However, it must be considered that in the highly-structured school setting, goals are largely chosen by the system. It is the individual's adoption of the importance of those goals that is reflected in a mastery orientation. In the less structured environment outside the school, it is likely that one must focus on both process (mastery) and outcome (performance) goals if one is to be successful. In fact, Dweck (1986) suggested that mastery and performance goals are two ends of an ellipse that students recycle through on a continuous basis. Mastery goals relate to the development of competence, whereas performance goals relate to the confirmation of that competence. Both types of goals must be used; each pertains to a different stage of the learning and evaluation process. Mastery goals are more related to the process of learning and formative evaluation; performance goals are more related to the product of learning and summative evaluation.

There are several important issues to consider when setting goals. First, goals must be difficult, but attainable (Franken, 1997). Following the Yerkes-Dodson law (Yerkes & Dodson, 1908), moderate amounts of difficulty lead to optimal performance. Setting goals that are perceived as too easy or too difficult does not increase appropriate behavior. Second, goals must be in agreement (or at least not in conflict) with one's principles and personal vision (Conway & McCullough, 1981; Waitley, 1996). An individual will simply not persist in a behavior that is in conflict with deeply held values. Third, the emotional state of an individual can influence the setting of goals. Higher goals are set when the individual is emotionally aroused (Lazarus, 1991)

and lower goals are set when the individual is depressed (Beck, 1967). Likewise, individuals with increased levels of optimism (which grow out of a person's explanatory style) set higher goals (Seligman, 1990) as do individuals with increased levels of self-efficacy (Franken, 1997). The spiraling connection of goals and self-efficacy are demonstrated by research that shows higher levels of self-efficacy are obtained when mastery goals are met (Bandura, 1997). Like the setting of goals, self-efficacy can also be impacted by mood (Kavanaugh & Bower, 1985).

A fifth aspect of successful self-direction is to develop action plans that can turn aspirations, visions, dreams, and goals into reality (Herman, 1990). Plans must be written and specific, starting with a clear description of desired outcomes. Two activities are very useful in this process: backwards planning and task analysis (see Huitt, 1992). In backwards planning, one starts with the desired end results and then identifies the most immediate state and required procedures to meet that result (i.e., if I am here and do this, then these results will be obtained.) To be successful, backwards planning must be accompanied by a task analysis that will identify the skills and knowledge that are prerequisite to learning and are required to learn or perform a specific task. By systematically completing a task analysis as one works backwards from the desired end results, one arrives at the starting point with a clearly delineated plan for obtaining them.

Energizing

Energizing behavior towards established goals is a complicated matter involving a wide variety of factors. Most importantly, minds and bodies have a natural tendency towards equilibrium or homeostasis (e.g., cognitive consistency, Festinger, 1957; the development of intelligence, Piaget, 1972; emotion, Solomon, 1980; and eating, Woods & Schwartz, 2000). When moving in new directions, there is always some discomfort involved because of the unfamiliarity of the new thoughts and behaviors. In general, if inertia is to be overcome and action taken, the potential for pleasure resulting from striving and obtaining dreams, desires, and goals must outweigh the discomfort of change or fear of failure (Corno, 1993). Goals that are in one's self interest (Sansone & Harackiewicz, 1996) or are congruent with self-identified personal convictions (Brunstein & Gollwitzer, 1996) have the strongest impact because these are most integral to a definition of self.

McCombs and Whisler (1989) proposed that human beings have an innate need for self-development and self-determination which can be enhanced or thwarted by one's self-concept and self-esteem, or, as stated above, one's possible self (Markus & Nurius, 1986). It is therefore important to consider developmental and environmental factors that can enhance, or at least not inhibit, this natural predisposition.

The domains and core elements of the Brilliant Star framework provide a way to categorize the various factors that can impact one's energy levels (Huitt, 2004). For example, being physically fit produces energy to engage in demanding tasks. Focusing attention on aspirations and goals while managing thoughts and emotions are essential elements of the energizing component of conation (Conway, 1981). Putting oneself in a position to perceive positive thoughts and emotions, such as reading positive books, listening to positive messages, and engaging in positive self-talk can be important daily activities that prepare one to expend energy on new tasks. Social interactions with family and friends can also be powerful sources of energy (Bandura, 2001a).

Persisting

Persistence is increasingly recognized as an important component of conation, as well as for success. For example, Goodyear (1997), in a review of literature regarding the success of professional psychologists, found that while there are "threshold levels" of intellectual and interpersonal skills, motivation and persistence were even more important in predicting levels of expertise. There are a number of skills associated with persistence such as engaging in daily self-renewal activities; monitoring one's thoughts, emotions, and behaviors; self-evaluation based on the monitoring data collected; reflection on progress made; and the completion of tasks.

Although it is true that certain personal characteristics such as level of achievement motivation (McClelland, 1985), expectations for success (Atkinson & Birch, 1978; Hayamizu & Weiner, 1991), and level of self-esteem (Tafarodi & Vu, 1997), as well as environmental factors such as amount of failure experiences (Miller & Hom, 1990), being praised for effort rather than ability (Brophy, 1981; Mueller & Dweck, 1998), the public display of summative, but not formative, assessments (Seijts, Meertens & Kok, 1997), and the use of variable reinforcement schedules (Plaud, Plaud & von Duvillard, 1999) can impact task persistence, the student's use of self-regulation processes can mediate these influences when the learner does not possess the desired characteristics or is not in a conducive environment (Bandura, 1991; Koonce, 1996). For example, learners who matched goals to enduring interests and values (Sheldon & Elliott, 1999) or who perceived tasks to be important (Seijts, Meertens & Kok) persisted longer. Miller, Greene, Montalvo, Ravindrann and Nichols (1996) reported that students who had learning goals, desires to obtain future consequences, and wanted to please the teacher persisted longer in academic work. Students who were able to produce well-elaborated, specific, vivid pictures of possible future selves persisted more and had higher levels of achievement than those who did not (Leondari, Syngollitou & Kiosseoglou, 1998).

In summary, the appropriate use of conation, volition, and self-regulation require the individual to take personal responsibility for his or her own motivation (i.e., directing, energizing, and persevering toward self-selected aspirations and goals.) There is significant overlap among the conative domain and the other core elements and domains of the Brilliant Star framework. However, it deserves to be considered as a separate domain because of its importance in self-direction and self-regulation. All of the other domains can develop and operate effectively, but if the person does not display competence in the conative domain he or she will always be controlled by the circumstances of the situation or environment. This would be a significant omission in the actualization of one's full potential.

The Development of Conation

While there is a dearth of research on the development of the specific term "conation," there is an abundance of research on related concepts such as intrinsic motivation, volition, self-regulated learning, and self-direction. For example, Bronson (2000) compares the numerous theories concerning the development of self-regulation in early childhood. According to the psychoanalytic theory, self-regulation comes from the ego as the individual learns to deal with the environment. Behavioral theorists propose that self-regulation is learned through experiencing consequences in interactions with the environment. The information processing theory purports an interest in problem-solving as the reason for self-regulation, and adds the desire to be in control. Piagetians support the theory that the cognitive abilities of the individual

allow logic to determine the level of self-regulation. Neo-Piagetians believe interest and ability are the primary qualities used to solve problems. According to the Vygotskian theory, intrinsic independent curiosity leads to self-regulation. Social learning theorists believe self-regulation is realized through self-evaluation of personally established standards. The reality is that the conative domain is so intertwined with the cognitive, affective, and psychomotor domains that it is difficult to separately analyze it.

Self-regulated learning represents one area in which conation has been studied relative to the learning process. Ponton and Carr (2000) identified two categorizations of self-directed learning: (1) the process perspective and (2) the character perspective. Process researchers focus on topics such as setting goals, establishing strategies, using resources, and monitoring progress. This has been the focus of the literature review for this paper. However, the character perspective suggests that an important human need related to conation is a desire for autonomy, defined by Chene (cited by Ponton & Carr) as "independence based upon an individual's personal will to learn something of perceived value that results in the learner's discretion of how to best accomplish the desired level of learning" (p. 273). Attributes that lead to becoming autonomous and self-directed include initiative, resourcefulness, and persistence based on the individual's own desires will be successful.

Kolbe (1990a, 1990b) provides additional information on the character perspective of self-regulation. As stated above she believes that each individual has a biological, instinctive approach to putting energy into action which she labels one's modus operandi (MO). Kolbe (1990b) developed the Kolbe Conative Index (KCI), which identifies the level of intensity in which one operates in each of four Action Modes; Fact Finder, Follow Thru, Quick Start, and Implementer. Although each person is endowed with conation, many are unaware of the importance of learning how to channel the conative energy as they strive to become successful in their lives (Kolbe, 1990a). According to Kolbe, participants are unable to predict their results 50% of the time. However, participants are in agreement with the results of the KCI 98% of the time. Results do not change significantly with additional administrations of the KCI, within 5% margin of error.

Kolbe (1990a) is adamant in urging people to use the information gained through the KCI to channel their conative energy to be more productive, rather than trying to change their orientations. Parents are urged to assist their children in identifying conative instincts and then committing to use those talents to realize goals. According to Kolbe, conative bias often prevents children from realizing their natural potential because parents try to change and mold children to fit a preconceived image or pattern. Children need the opportunities to be individuals who are allowed to accomplish tasks through their own designs in order to maximize their conative talents. Parents and teachers often prevent children from developing and using their conative instincts by expecting the same results through the same processes that work for them. Adults also often fail to recognize that insisting that a child go against instinctive conative nature is unnecessary and potentially damaging to the child. Lack of skills and values can be limitations in realizing conative goals even after the MO is realized. Other factors that may lead to interference in using conative potential are monetary limitations, dependency, and stereotypes. Children may be denied use of their conative instincts based on the perceptions that opportunities are not available. Kolbe suggests mentors as guidance and encouragement for the child who may have a conative nature that is incompatible with the parent(s). However, there is some controversy over whether providing materials congruent with one's conative style actually improves learing (Wongchai, 2003).

Alternatively, other theorists support the theory that managing one's conative energy is a learned behavior, operating through processes of self-regulation. As mentioned earlier, Bandura (1986) believes self-evaluation is a basic component of self-regulation. Effects of behaviors are observed as the individual gains insights as to which behaviors lead to internal or external desired or undesired consequences. Self-regulation is then an intrinsically learned behavior based on the individual's established standards regarding appropriate action in specific situations or contexts. The ability to practice self-regulated behaviors enables the individual to develop self-guided activities. This involves monitoring the cognitive, affective, and social processes involved in interacting with the environment (Kerlin, 1992). Barkley (as cited in Bronson, 2000) proposed that self-regulation is not taught, but learned through the interaction of the neurological abilities of the brain and the environment. He stated that a child is born with a self-regulatory process, memory, internal self-regulatory language, motivational system, and a behavior analysis process. Environmental factors then influence the individual's ability to self-regulate, but self-regulation is instinctive due to the genetic composition of the neurological system.

In summary, a diverse set of specific characteristics or skills of conation and self-regulation have been identified by a wide variety of researchers. Among these are having an achievement orientation, developing autonomy and curiosity, setting goals and strategies for success, self-monitoring and self-evaluation, and being persistent. While there is some discussion as to whether conative abilities are innate or learned, there is ample evidence to suggest that both views have merit and parents and teachers need to monitor children and youth from both perspectives as they develop during the school years. While it may not be practical or reasonable to develop a single index of conation, parents and educators can certainly make some holistic judgments about a student's preferred pattern for energy use and progress on the process attributes.

Activities to Promote Conation

While specific perceptual, cognitive, affective, and volitional components of goal-oriented motivation have personal style and maturational influences, they can also be impacted via the social environment (Heckhausen & Dweck, 1998). It is important that parents, educators, and other individuals concerned with the development of children and youth work towards developing the conative components of mind that enhance self-direction, self-determination, and self-regulation. Specifically, young people need to imagine possibilities in their lives, set attainable goals, plan routes to those goals, systematically and consistently put goals and plans into actions, practice self-observation, reflect on results, and manage emotions. These need to be addressed in a spiraled curriculum because of the developmental aspects of their successful utilization.

The relationship between intrinsic motivation and conation plays an important role in the educational life of a child. Lumsden (1994) attributed a child's primary attitude toward learning to the influences from the home and school environments. She encouraged questioning, exploration, and exposure to resources as ways to nurture the child's feelings of self-worth, competence, autonomy, and self-efficacy. White (cited in Bronson, 2000) found that young children develop feelings of competence when given opportunities to explore and investigate their environment. Competence leads to motivation, in which the child gains internal rewards through self-efficacy. Corno (1992) suggested that allowing the child to engage in interesting activities without formal evaluation is one way that teachers and parents can encourage student responsibility for learning. Deci and Ryan (1985) described the development of autonomy as an

important component of this exploration. Autonomy can be defined as the initiation and regulation of behaviors based on experiences with the environment and people who have this ability use information and experiences to make choices and become self-regulated.

Covey, Merrill, and Merrill (1994) suggested the development of a mission statement as one way to help think about one's priorities. Developing this statement provides an opportunity for the individual to explicitly consider and state important values and beliefs. In addition, Waitley (1996) advised imagining what one's life would be like if time and money were not a limiting factor. That is, what would you do this week, this month, next month, if you had all the money and time you needed and were secure that both would be available again next year. Developing vivid, specific images of these and then relating them back to the important values in one's mission statement can impact one's commitment and persistence toward those desired end results.

Seligman (1995) suggested children be taught to "capture" their automatic thoughts, which are often negative, evaluate them for accuracy, and replace them with more positive and optimistic thoughts (similar to Cognitive Therapy, e.g., Alford & Beck, 1998). Helmstetter (1995) and Ziglar (1994) proposed adults adopt a more proactive approach and teach the use of self-talk techniques. In this approach, statements are developed specifically for an individual and/or situation and the learner recites the self-talk statement at regular intervals (see the following URL for an example: http://teach.valdosta.edu/whuitt/brilstar/affstate.pdf).

As previously stated, self-efficacy is an important influence on conation. Bandura (1986, 1997), in his social cognitive theory, suggested that providing mastery experiences is one of the best ways to help students develop self-efficacy. In turn, self-efficacy predicts future success in tasks related to that mastery. Corno (1992) suggested that providing students the opportunity to revise work allows students the ability to move towards mastery through successive iterations. Parents and educators can also use social persuasion, being careful to praise the effort and striving, not the learner's ability (Brophy, 1981; Mueller & Dweck, 1998). Providing opportunities for learners to experience success vicariously through the success of others (perhaps thorough peers) is also important, as it can impact a learner's perceptions of what is possible.

Lumsden (1994) stated that the classroom environment must be supportive and every member must feel valued and respected in order to benefit fully and create and maintain a high degree of motivation to learn. While teachers may be tempted to use external rewards, Lumsden warns that the expectancy of external rewards may decrease instinctive intrinsic motivation. Deci and Ryan (1985) stated that external rewards may interfere with higher-level thinking due to emotional stress. These researchers found intrinsic motivation was promoted when students are given the opportunity to choose to participate in activities that develop competence.

Unfortunately, in today's school environment, there is not a lot of opportunity for student choice if students are required to show content mastery via a standardized test of basic skills. One way that may be productive in addressing both issues is to develop teaching strategies that allow students to be responsible for and to control their own learning through setting goals, planning, acting on the plans, and evaluating progress (Bandura, 1986). When given the freedom to make choices about their learning, to set individual goals based on a prescribed curriculum and held to standards, children receive intrinsic rewards and become self-regulated learners. Lepper (1988) suggested using challenging, yet achievable, tasks that are relevant to the learners and implementing multiple teaching styles to accommodate a variety of learning modalities. However, Baumeister, et al. (1998) suggested that adults need to be careful regarding how much

volition they require individuals to use—expending energy for volitional activities depletes the resources necessary to make those decisions. For example, resisting the temptation to eat a piece of chocolate reduces the energy available to make similar decisions. Considering this research, it may be important to balance constructivistic (Lutz & Huitt, 2004) and direct instruction (Huitt, Monetti & Hummel, in process) lessons during the learning process.

Jones, Valdez, Nowakowski, and Rasmussen (1995) recommended a four-step process in putting these suggestions into practice. The first step is to gain the commitment from administrators and the school district to allow students to be more responsible for their own learning. Second, parents must be informed about the process and benefits of self-regulated learning. The third phase is to ensure that teachers give students the opportunity to participate in controlling their learning by allowing them to set goals and monitor their individual progress. Finally, students must take advantage of their ability to have some degree of control of their own learning through implementation of strategies, setting goals, monitoring, reflection, and evaluation.

Specific activities for helping students become more self-directed include the use of class discussions, reflection journals, graphic organizers, personal portfolios, reciprocal teaching, and KWHL (What do I **K**now? **W**hat should I learn? **H**ow will I learn it? What did I **L**earn?) strategies. The KWHL strategy is often referred to as a metacognitive strategy (Blakely & Spence, 1990). Additional metacognitive strategies include discussing the processes used when thinking, journaling, planning, reflecting on how the thinking process led to the outcome, and self-evaluation.

Reflection journals enable the student to develop and assess the cognitive processes used during problem-solving. Personal portfolios are not only a collective way of displaying a student's work, but when the student is allowed to evaluate pieces of the portfolio and instructed to give evidence for choosing certain items as their best work, self-directed skills are used. Using graphic organizers allows students to visualize the whole situation at one glance before beginning to focus on problem solving strategies. Through reciprocal teaching, the student and the teacher reverse roles periodically and the student is given opportunities to practice higher-level skills by summarizing, posing questions, and predicting. KWHL strategies promote higher level thinking. Through this method, students reflect upon and share prior knowledge, making valuable connections with the new knowledge gained.

Assessing Conation

Studies and information on instruments that measure multiple aspects of conation are rare. Rather, there is a tendency to focus on one aspect of conation (e.g., intrinsic motivation, goal-setting, volition). Likewise, most studies do not focus exclusively on conation; they combine measurement of one aspect of conation with one aspect of cognition, affect, or behavior.

As previously mentioned, the Kolbe Instinct Index (Kolbe, 1990a) measures individual's innate predispositions to activate behavior. Participants respond to thirty-six questions by marking their most likely and least likely reaction to various situations; results are reported in narrative and graphic form. The index has been administered to thousands of people world-wide and Kolbe found that even though cultural, economic, and political factors influence or limit opportunities for the individuals, the index is a genuine indicator of the drive and talents of individuals in the global community.

Several instruments are available which measure volition, self-regulation, motivation, and self-directed learning skills and strategies. Concerned about the lack of knowledge of volitional strategies when faced with academic problems in adolescence, Johnson and Husman (2001) conducted a study using a modified version of the Academic Volitional Strategies Inventory (AVSI). Questions were divided into three areas of strategies; thoughts involving negative consequences, stress reduction behaviors, and the use of positive motivational behaviors. Results indicate adolescents most frequently use strategies considering the consequences of behavior when faced with academic obstacles. This instrument could be used as a pre- and post-measure for programs that focus on improving students becoming more consistently responsible for their own learning.

In a study by Kivinen (2000, 2003), the Motivated Strategies for Learning Questionnaire (MSLQ) was administered to both European and University of Michigan students in an effort to find correlations between motivation and self-regulated learning skills. Three types of behaviors were determined to be associated with volition: practicing attention control, self-instruction, and self-helping strategies. The results supported Kivinen's proposal that self-regulated learning incorporates motivation, cognitive learning, and resource management when performing academically. Additionally, Kivinen showed that the volitional skills of attention control, self-instruction, and self-helping strategies could be reliably and validly assessed. [see the following URL for a quick version of the MSLG: http://www.ulc.arizona.edu/quick_mslq.html]

Self-regulation may be assessed with several instruments including the Connell-Ryan self-report questionnaire (Deci and Ryan, 1985). The scale, developed for 8-to-12 year olds, is designed to identify reasons for students' performance in school. The questions distinguish between external motivational reasons (e.g., potential for praise, guilt-avoidance behaviors, and knowledge acquisition) and internal factors (e.g., performing based on the belief that school assignments are fun.) After administrating the questionnaire in a study of fourth through sixth grade students, Connell and Ryan (as cited in Deci & Ryan) found a negative relationship between external motivation factors and mastery motivation. Students who were more extrinsically motivated felt less confidence in their intellectual abilities, learned material on a lower level, and had lower achievement scores. The results of the study indicated a relationship between the ability to use positive coping skills and self-esteem, confidence in personal cognitive abilities, and mastery motivation.

McMahon and Luca (2001) reported that The Learning and Study Strategies Inventory (LASSI) is used by 2000 institutions world-wide to assess students' learning strategies. Available to be taken on-line, the LASSI consists of three domains; effort, goal orientation, and cognition with ten scales measuring attitude, motivation, time management, anxiety, concentration, information processing, selecting main ideas, study aids, self-testing, and test strategies. Immediate feedback of the LASSI includes suggestions for interventions in addition to scores.

The Intentional Learning Orientation Questionnaire (ILOQ) contains assessments of cognitive, affective, conative, and social processes (Bunderson, Martinez, and McBride, 1998). Five factors determine learning performance: (1) beliefs about learning, (2) control over learning, (3) enjoyment of learning, (4) effort to learn through planning and strategies, and (5) intentions to learn. Originally designed for adults to identify an individual's approach to learning through four major learning orientations (intentional, performing, conforming, and resistant), the ILOQ also describes how the individual uses cognition, affect, and conation when learning. Bunderson et al. adapted the ILOQ to assess children's conation during reading. Teachers were able to

classify students as displaying one of the four learning orientations, and the results indicate that although students enter school with conative instincts, instruction in strategies for improving intentional learning are needed.

In summary, while there is not an extensive array of available instruments to measure various components of conation, there are enough to get started. Simultaneously collecting data on multiple aspects of conation will likely provide the most valuable information. For example, Kivinen (2003) collected both quantitative and qualitative data on 18 strategies that students used in learning academic material. The most often used strategies (motivation regulation, time management, and affect regulation; used by 51.0%, 37.9%, and 36.9%, respectively) did not predict either high or low grades. Rather high grades were predicted by two conative strategies (encoding control and attention control) and four cognitive and metacognitive learning strategies (rehearsal, elaboration, organization, and critical thinking). The organization, critical thinking and encoding control strategies were used by a small percentage of students (11.6%, 9.1%, and 8.1%, respectively), yet were effective in predicting high performers.

Summary and Conclusions

Conation, although often overlooked as a significant factor in an individual's success, has a significant role in the development of educational process. As discussed in this paper, there are a wide variety of knowledge, attitudes, and skills that comprise the conative domain (see Table 1). Among these are having an achievement orientation, establishing a life vision, setting goals, and regulating one's behavior. Each of these has a developmental sequence or an appropriate level of expectations given the age and/or experience of the individual. Educators must have a long-term program that addresses the various aspects of conation if children and youth are to develop successfully in this domain.

Parents, as a child's first teachers, must be made aware of the importance of acknowledgement and acceptance of their child's conative nature. Schools must provide opportunities for students to learn intrinsic motivational, volitional, and self-regulatory skills through experiences in which they are given choices and options. Teachers are in need of staff development focusing on the strategies that are needed to assist students in becoming more self-directed. At each level, the importance of goal development, commitment, and action must be stressed in order for students to realize their conative potential. Additionally, human beings are "happiest when they are striving for 'something larger' than themselves (Sheldon & Schmuck, 2001), especially when using personal strengths to do so (Seligman, 2002).

In today's unstructured and chaotic environment, children and youth will need the conative skills discussed in this presentation if they are to be successful as adults. Recognizing that there is limited time in the school day, educators must stack activities that can develop these attitudes and skills into an already crowded curriculum. While this may be a Herculean task, to not attempt to do so is to send our youth into the 21st century woefully ill-prepared.

Table 1. Considering different aspects of conation, volition, and self-regulation

Conative Style	Fact Finder	Gathers data and probes for more information; "most oriented to activities that encompass defining, calculating, formalizing, and researching"
	Follow Thru	Seeks patterns for known information; "most oriented to such acts as arranging, coordinating, integrating, and implementing"
	Quick Start	Seeks to be creative and innovate; "most oriented to activities that involve brainstorming, intuiting, inventing, and risk taking"
	Implementer	Desires to demonstrate knowledge and skills: "most oriented to such acts as building, crafting, forming, and repairing"
Phases of Process	Directing	1. Defining one's purpose 2. Identifying human needs 3. Aspirations, visions, and dreams of one's possible futures 4. Making choices and setting goals 5. Developing an action plan
	Energizing	1. Overcoming inertia 2. High self-esteem 3. Physical fitness, high physical energy 4. Focus attention 5. Positive self-talk 6. Ability to manage emotions (arouse and dampen) 7. Gets started, initiates task 8. Positive social interactions with family and friends
	Persevering	1. Engaging in daily self-renewal 2. Monitoring thoughts, emotions, and behavior 3. Self-evaluation using data collected in the monitoring process 4. Reflection on progress 5. Completing tasks

References

Adrienne, C. (1998). *The purpose of your life*. New York: Eagle Book.

Alford, B., & Beck, A. (1998). *The integrative power of cognitive therapy*. New York: Guilford Press.

Ames, C. (1988). Achievement goals in the classroom: Students' learning strategies and motivation processes. *Journal of Educational Psychology; 80*(3), 260-267.

Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*(3), 261-271.

Amsel, A. (1992). Confessions of a neobehaviorist. *Integrative Physiological and Behavioral Science, 27*(4), 336-346.

Atkinson, J., & Birch, D. (1978). *An introduction to motivation* (Rev. ed.). New York: Van Nostrand.

Atman, K. (1987). The role of conation (striving) in the distance learning enterprise. *The American Journal of Distance Education, 1*(1), 14-28.

Bagozzi, R. (1992). The self-regulation of attitudes, intentions, and behavior. *Social Psychology Quarterly, 55*(2), 178-204.

Bandura, A. (1986). *Social foundations of thought and action: A social-cognitive theory*. Upper Saddle River, NJ: Prentice-Hall.

Bandura, A. (1991). Self-regulation of motivation through anticipatory and self reactive mechanisms. In R. A. Dienstbier (Ed.), *Perspectives on motivation. Nebraska Symposium on Motivation*. Lincoln University of Nebraska Press.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.

Bandura, A. (2001a). Social cognitive theory of mass communications. In J. Bryant, & D. Zillman (Eds.). *Media effects: Advances in theory and research* (2nd ed., 121-153). Hillsdale, NJ: Lawrence Erlbaum.

Bandura, A. (2001b). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52*, 1-26.

Barell, J. (1995). *Critical issue: Working toward student self-direction and personal efficacy as educational goals*. Oak Brook, IL: North Central Regional Educational Laboratory. Retrieved May 2002, from http://www.ncrel.org/ncrel/sdrs/areas/issues/students/learning/lr200.htm

Baumeister, R., Bratslavsky, E., Muraven, M., & Tice, D. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology, 74*(5), 1252-1265.

Beck, A. (1976). *Cognitive theory and emotional disorders*. New York: International Universities Press.

Blakey, E., & Spence, S. (1990). *Developing metacognition*. ERIC Digest Retrieved July 2002, from http://www.ed.gov/databases/ERIC_Digests/ed327218.html

Bridges, W. (1994). *JobShift: How to prosper in a workplace without jobs*. Reading, MA: Addison-Wesley.

Bronson, M. (2000). *Self-regulation in early childhood: Nature and nurture*. New York: Guilford Press.

Brophy, J. (1981) Teacher praise: A functional analysis. *Review of Educational Research, 51*, 5-32. Retrieved July 18, 2002, from http://www.utexas.edu/courses/svinicki/ald320/praise.html

Brunstein, J., & Gollwitzer, P. (1996). Effects of failure on subsequent performance: The importance of self-defining goals. *Journal of Personality and Social Psychology, 70*, 395-407.

Bunderson, C., Martinez, M., & McBride, R. (1999*). The measurement of ettle in college students and initial readers.* Retrieved July 17, 2002, from http://mse.byu.edu/projects/elc/ilprojects.html

Campbell, C. (1999). Action as will power. *The Sociological Review, 47*(1), 48-61.

Conway, P. (1975). Volitional competence and the process curriculum of the Anisa model. In P. Conway (Ed.), *Development of volitional competence: Selected readings*. New York: MSS Information Corporation. Retrieved July 2005, from http://teach.valdosta.edu/anisa/development/volitional_competence.pdf

Conway, P. (1981). Volitional competence: Attention. In D. Jordan (Ed.), *The Anisa process curriculum (Vol. I)*. Escondido, CA: Anisa Publications. Retrieved July 2005, from http://teach.valdosta.edu/anisa/curriculum/process_volition_attention.pdf

Conway, P., & McCullough, L. (1981). Volitional competence: Goal setting. In D. Jordan (Ed.), *The Anisa process curriculum (Vol. I)*. Escondido, CA: Anisa Publications. Retrieved July 2005, from http://teach.valdosta.edu/anisa/curriculum/process_volition_goals.pdf

Cooper, S. (1997). *The clinical use and interpretation of the Wechsler Intelligence Scale for children* (3rd ed.). Springfield, IL: Charles C. Thomas Publisher.

Corno, L. (1989) Self-regulated learning: A volitional analysis. In J. Zimmerman and D. Schunk (Eds.), *Self-regulated learning and academic achievement: Theory, research and practice*. New York: Spinger-Verlag.

Corno , L. (1992). Encouraging students to take responsibility for learning and performance. *Elementary School Journal, 93*(1), 69-83.

Corno, L. (1993). The best-laid plans: Modern conceptions of volition and educational research. *Educational Researcher, 22*, 14-22.

Covey, S., Merrill, A. R., & Merrill, R. (1994). *First things first: To live, to love, to learn, to leave a legacy*. New York: Simon & Schuster.

Csikszentimihali, M. (1991). *Flow: The psychology of optimal experience*. New York: HarperCollins.

Deci, E., & Ryan, R. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.

Donagan, A. (1987). *Choice, the essential element in human action*. London: Routledge & Kegan Paul.

Dweck, C. (1991). Self-theories and goals: Their role in motivation, personality, and development. In R. A. Dienstbier (Ed.), *Perspectives on motivation*. Nebraska Symposium on Motivation. Lincoln University of Nebraska Press.

Emmons, R. (1986). Personal strivings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology, 51*, 1058-1068.

Epstein, S. (1990). Cognitive-experiential self-theory. In L. Pervin (Ed.), *Handbook of personality: Theory and research* (165-191). New York: Guilford Press.

Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston, IL: Row, Peterson.

Ford, J. (1987, November). Whither volition? *American Psychologist*, 1030-1032.

Franken, R. (1997). *Human motivation* (4th ed.). Pacific Grove, CA: Brooks/Cole.

Frankfurt, H. (1982). Freedom of the will and the concept of a person. In G. Watson (Ed.), *Free will* [96-110]. Oxford: Oxford University Press.

Frankl, V. (1997). *Man's search for ultimate meaning*. New York: Insight Books.

Frankl, V. (1998). *Man's search for meaning* (Rev. ed.). New York: Washington Square Press.
Glasser, W. (1998). *Choice theory: A new psychology of personal freedom*. New York: HarperCollins.
Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ for character, health and lifelong achievement*. New York: Bantam.
Gollwitzer, P. (1990). Action phases and mind-sets. In E. Higgins & R. Sorrentino (Eds.), *Handbook of motivation and cognition* (Vol 2, pp. 53-92). New York: Guilford Press.
Goodyear, R. (1997). Psychological expertise and the role of individual differences: An exploration of issues. *Educational Psychology Review, 9*(3), 251-265.
Gregory, R. (1998). *Foundations of intellectual assessment: The Wais-III and other tests in clinical practice*. Boston: Allyn & Bacon.
Hayamizu, T. & Weiner, B. (1991) A test of Dweck's model of achievement goals as related to perceptions of ability. *Journal of Experimental Education, 59*, 226-234.
Heckhausen, J., & Dweck, C. (Eds.). (1998). *Motivation and self-regulation across the life span*. New York: Cambridge University Press.
Helmstetter, S. (1995). What is self-talk. *The Self-Talk Solution*. Retrieved May 2002, from http://www.selftalk.com/index.html
Herman, J. (1990). Action plans to make your vision a reality. *NASSP Bulletin, 74*(523). 14-17.
Hershberger, W. (1987, November). Of course there can be an empirical science of volitional action. *American Psychologist, 42*, 1032-1033.
Hershberger, W. (1988). Psychology as a conative science. *American Psychologist, 43*(10), 823-824.
Hickman, C. (2003). *Live on purpose*. Enumclaw, WA: Pleasant Word.
Hilgard, E. R. (1980). The trilogy of mind: Cognition, affection, and conation. *Journal of the History of the Behavioral Sciences, 16*, 107-117.
Howard, G., & Conway, C. (1987, November). The next step toward a science of agency. *American Psychologist*, 1034-1036.
Huitt, W. (1988). Personality differences between Navajo and non-Indian college students: Implications for instruction. *Equity & Excellence, 24*(1), 71-74. Retrieved May 2002, from http://chiron.valdosta.edu/whuitt/files/mbtinav.html
Huitt, W. (1992). Problem solving and decision making: Consideration of individual differences using the Myers-Briggs Type Indicator. *Journal of Psychological Type, 24*, 33-44. Retrieved May 2002, from http://chiron.valdosta.edu/whuitt/files/prbsmbti.html
Huitt, W. (1996). The mind. *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University. Retrieved May 2002, from http://chiron.valdosta.edu/whuitt/champion/mind.html
Huitt, W. (1999**).** Success in the information age: A paradigm shift. *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University. Retrieved May 2002, from http://chiron.valdosta.edu/whuitt/col/context/infoage.html
Huitt, W. (2001). Motivation to learn: An overview. *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University. Retrieved August 2005, from http://chiron.valdosta.edu/whuitt/col/motivation/motivate.html
Huitt, W. (2004). *Becoming a Brilliant Star: An introduction*. Paper prepared for the Forum on Integrated Education and Educational Reform, Santa Cruz, CA, October 29-31, 2004, sponsored by the Center for Global Integrated Education. Retrieved August 2004, from http://chiron.valdosta.edu/whuitt/brilstar/chapters/intro.doc

Huitt, W., Moneti, D., & Hummel, J. (in process). Designing direct instruction. Submitted for inclusion in C. Reigeluth and A. Carr-Chellman, *Instructional-Design Theories and Models: Volume III, Building a Common Knowledgebase*. Mahwah, NJ: Lawrence Erlbaum Associates.

Irvine, D. (2003). *Becoming real, journey to authenticity*. Stanford, FL: DC Press.

Johnson, E., & Husman, J. (2001). *Early adolescent use of volitional strategies: A true measurement.* Retrieved July 12, 2002, from http://tigersystem.net/aera2002/viewproposaltext.asp?propID=5216

Jones, B., Valdez, G., Nowakowski, J., & Rasmussen, C. (1995). *Plugging in: Choosing and using educational technology*. Washington, DC: Council for Educational Development and Research, and North Central Regional Educational Laboratory. Retrieved July 2002, from http://www.ncrel.org/sdrs/edtalk/toc.htm

Kane, R. (1985). *Free will and values*. Albany: State University of New York Press.

Kavanaugh, D., & Bower, G. (1985). Mood and self-efficacy: Impact of job and sadness on perceived capabilities. *Cognitive Therapy and Research, 9*, 507-525.

Keirsey, D. (1998). *Please understand me II: Temperament, character, intelligence*. Del Mar, CA: Prometheus Books. Retrieved May 2002, from http://www.keirsey.com/

Kerlin, B. (1992). *Cognitive engagement style, self-regulated learning and cooperative learning.* Retrieved July 2002, from http://www.lhbe.edu.on.ca/teach2000/onramp/srl/self_reg_learn.html on

Kivinen, K. (1997). *Volitional processes and strategies*. Tampere, Finland: University of Tampere. Retrieved May 2002, from http://www.uta.fi/~kk16628/academ.html

Kivinen, K. (2000). *The volitional aspects of learning.* Retrieved June 2002, from http://www.uta.fi/~kk16628/licentiateabstract.html

Kivinen, K. (2003). *Assessing motivation and the use of learning strategies by secondary school students in three international schools*. [Dissertation]. Tampere, Finland: University of Tampere. Retrieved August 2004, from http://acta.uta.fi/pdf/951-44-5556-8.pdf

Kolbe, K. (1990a). *The Kolbe concept*. Retrieved June 2005, from http://www.kolbe.com

Kolbe, K. (1990b). *The conative connection*. Reading, MA: Addison-Wesley Publishing Company, Inc.

Koonce, R. (1996). Emotional IQ, a new secret of success? *Training & Development, 50*(2), 19.

Lazarus, A. (1991). Cognition and motivation in emotion. *American Psychologist, 46*, 352-367.

Lepper, M. (1988). Motivational considerations in the study of instruction. *Cognition and Instruction*, 5, 289-309.

Leondari, A. Syngollitou, E., & Kiosseoglou, G. (1998). Academic achievement, motivation and future selves. *Educational Studies, 24*(2), 153-163.

Levenson, D. (1978). *The seasons of a man's life*. New York: Ballantine.

Lumsden, L. (1994). *Student motivation to learn.* Retrieved June 2002, from http://chiron.valdosta.edu/whuitt/files/stdtmotv.html

Lutz, S., & Huitt, W. (2004). Connecting cognitive development and constructivism: Implications from theory for instruction and assessment. *Constructivism in the Human Sciences,9*(1), 67-90.

Markus, H., & Nurius, P. (1986). Possible selves. *American Psychologist, 41*, 954-969.

Maslow, A. (1954). *Motivation and personality*. New York: Harper.

McClelland, D. (1985). *Human motivation*. Glenview, IL: Scott, Foresman.

McClelland, D. (1992). *Achievement motive*. New York: Irvington Publishers.

McCombs, B., & Whisler, J. (1989). The role of affective variables in autonomous learning. *Educational Psychologist, 24*(3), 277-306.
McFarland, R. (1997). An overview of the adult technology-based learning environment. *Assessment and Accountability Forum, 7*(2).
McMahon, M., & Luca, J. (2001). *Assessing students' self-regulatory skills*. Retrieved June 2002, from http://www.medfac.unimelb.edu.au/ascilite2001/pdf/papers/mcmahonm.pdf
Miller, A. (1991). Personality types, learning styles and educational goals. *Educational Psychology, 11*(3-4), 217-238.
Miller, A., & Hom, H., Jr. (1990). Influence of extrinsic and ego incentive value on persistence after failure and continuing motivation. *Journal of Educational Psychology, 82*(3), 539-545.
Miller, R., Greene, B., Montalvo, G., Ravindran, B., & Nichols, J. (1996). Engagement in academic work: The role of learning goals, future consequences, pleasing others, and perceived ability. *Contemporary Educational Psychology, 21*(4), 388- 422.
Millman, D. (1993). *The life you were born to live: A guide to finding your life purpose*. Tiburon, CA: H J Kramer.
Mischel, W. (1996). From good intentions to willpower. In P. Gollwitzer & J. Bargh (Eds.), *The psychology of action* [197-218]. New York: Guilford Press.
Mueller, C., & Dweck, C. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of Personality & Social Psychology, 75*(1), 33-52.
Murray, H. A. (1938). *Explorations in personality*. New York: Oxford University Press.
Myers, I. (1980). *Gifts differing*. Palo Alto, CA: Consulting Psychologists Press.
Piaget, J. (1972). *The psychology of intelligence*. Totowa, NJ: Littlefield, Adams.
Plaud, J., Plaud, D., & von Duvillard, S. (1999). Human behavioral momentum in a sample of older adults. *Journal of General Psychology, 126*(2), 165-175.
Ponton, M., & Carr, P. (2000). Understanding and promoting autonomy in self-directed learning. *Current Research in Social Psychology, 5*(19), 281-284. Retrieved July 2002, from http://www.uiowa.edu/~grpproc/crisp/crisp.5.19.htm
Prawat, R. (1985). Affective versus cognitive goal orientations in elementary teachers. *American Educational Research Journal, 22*(4), 587-604.
Sansone, C., & Harackiewicz, J. (1996). "I don't feel like it"; The function of self interest in self-regulation. In L. Martin & A. Tesser (Eds.), *Striving and feeling: Interactions among goals, affect, and self regulation* (203-228). Mahwah, NJ: Erlbaum.
Schunk, D., & Zimmerman, B. (Ed.). (1994). *Self-regulation of learning and performance: Issues and educational applications*. Hillsdale, NJ: Erlbaum.
Seijts, G., Meertens, R., & Kok, G. (1997). The effects of task importance and publicness on the relation between goal difficulty and performance. *Canadian Journal of Behavioural Science, 29*(1), 54-62.
Seligman, M. (1990). *Learned optimism*. New York: Alfred A. Knopf.
Seligman, M. (1995). *The optimistic child*. Boston: Houghton Mifflin.
Seligman, M. (2002). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. New York: Free Press.
Sheldon, K., & Elliot, A. (1999). Goal striving, need satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology, 76*(3), 482-497.

Sheldon, K., & Schmuck, P. (2001). Suggestions for healthy goal striving. In P. Schmuck and K. Sheldon (Eds.), *Life goals and well-being: Towards a positive psychology of human striving*. Seattle: Hogrefe & Huber Publishers.

Snow, R. (1989). Toward assessment of cognitive and conative structures in learning. *Educational Researcher, 18*(9), 8-14.

Snow, R., & Swanson, J. (1992). Instructional psychology: Aptitude, adaptation, and assessment. *Annual Review of Psychology, 43*, 583-626.

Solomon, R. (1980). The opponent-process theory of acquired motivation: The costs of pleasure and the benefits of pain. *American Psychologist, 8*, 691-712.

Sullivan, H. S. (1968). *The interpersonal theory of psychiatry*. New York: W. W. Norton.

Tafarodi, R., & Vu, C. (1997). Two-dimensional self-esteem and reaction to success and failure. *Personality & Social Psychology Bulletin, 23*(6), 626-635.

Tallon, A. (1997). *Head and heart: Affection, cognition, volition as triune consciousness*. New York: Fordham University.

Toffler, A.,& Toffler, H. (1995). *Creating a new civilization*. New York: Turner Publishing.

Urdan, T., & Maehr, M. (1995). Beyond a two-goal theory of motivation and achievement: A case for social goals. *Review of Educational Research, 65*(3), 213-243.

Vessels, G., & Huitt, W. (2004). Moral character development. *Educational Psychology Interactive.* Valdosta, GA: Valdosta State University. Retrieved August 2004, from http://chiron.valdosta.edu/whuitt/brilstar/chapters/chardev.doc

Waitley, D. (1996). *The new dynamics of goal setting: Flextactics for a fast-changing world*. New York: William Morrow.

Warren, R. (2002). *The purpose-driven life: What on earth am I here for?* Grand Rapids, MI: Zondervan.

Hayamizu, T. & Weiner, B. (1991) A test of Dweck's model of achievement goals as related to perceptions of ability. *Journal of Experimental Education, 59*, 226-234.

Wongchai, S. (2003). *The ability of the Kolbe A index action modes to predict learners' attitudes and achievements within a web-based training context*. [Dissertation]. College Station, TX: Texas A & M University. Retrieved August 2005, from http://txspace.tamu.edu/bitstream/1969.1/558/1/etd-tamu-2003C-EHRD-Wongchai-1.pdf

Woods, S., & Schwartz, M. (2000). Food intake and the regulation of body weight. *Annual Review of Psychology, 51*, 255-277.

Yerkes, R., & Dodson, J. (1908). The relation of strength of stimulus to rapidity of habit formation. *Journal of Comparative Neurology and Psychology, 18*, 459-482.

Ziglar, Z. (1994). *Over the top: Moving from survival to stability, from stability to success, from success to significance*. Nashville, TN: Thomas Nelson Publishers.