LEADERSHIP DEVELOPMENT FROM A COMPLEXITY PERSPECTIVE

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To stimulate sustained leadership development, a holistic model is described that incorporates emotional and neuroendocrine aspects of learning, as well as behavioral change. Intentional change theory, developed over 20 years utilizing longitudinal studies of competency development and complexity theory, can expand our impact on leadership development.

Keywords: leadership development, competency development, complexity, intentional change

Intentional change theory (ICT)\(^1\) explains sustainable leadership development in terms of the essential components of behavior, thoughts, feelings, and perceptions related to leadership effectiveness as a complex system (Boyatzis, 2001, 2006a, 2006b). This article reviews previous studies and expands the interpretation using complexity theory concepts focused on leadership development.

Sustained, desired change represents a metamorphosis in actions, habits, or competencies associated with leadership effectiveness. It may be in dreams or aspirations. It may be in the way someone acts in certain situations. A person may refine her sensitivity to others (Boyatzis, in press), become more optimistic (Seligman & Csikszentmihalyi, 2000), or learn how to articulate a shared vision for those in her organization (Bennis & Nanus, 1985). These changes are desired in that the person thinks, feels, or acts in a specified manner. They are sustainable in that they endure. A sustained, desired change may also include the wish to maintain a current state, relationship, or habit, but maintaining the current state appears to require an investment of energy. In either situation, it requires intentional effort.

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\(^1\) For years, this was known as self-directed learning (Boyatzis, 2001; Goleman, Boyatzis, & McKee, 2002; Kolb & Boyatzis, 1970).
Desired Change and Discontinuity

Sustained, desired change often appears discontinuous over time, which can hinder empirical testing of behavior, feelings, or perceptions (Boyatzis, 2006a, 2006b). Although, to an observer, it appears as emergent or catastrophic change (Casti, 1994), it is more likely experienced as an epiphany or discovery (Boyatzis, 1982).

In team development, Gersick (1991) labeled such change occurrences *punctuated equilibrium*. In complexity theory terms, they are moments of phase transition, like the sudden conversion of liquid water into gas when it hits a specific temperature. Golembiewski (1986) contended that bifurcations in organizational development will not be experienced or viewed by the participants with the same worldview nor necessarily with concepts with which they had viewed the organization previously. Fredrickson and Losada (2005) and Gottman et al. (2002) suggested that a surge of positive emotion often accompanies a desired change in team activities and marriages, respectively. Being conscious of such shifts, however, is often not observed until the shift is quite dramatic.

Awareness of the social world around us seems inversely proportionate to the degree of discovery (Boyatzis & McKee, 2005). That is, for the self-aware person, change occurs as a set of smooth transitions. To a person who is less self-aware, the changes will seem surprising. Similarly, a lack of sensitivity may result in not noticing small changes in someone else’s behavior. Leaders face heavy demands that may smother their ability to sense subtle alterations in themselves and others (Sapolsky, 2004). As a result, many leaders do not recognize changes as they are happening. When finally noticed, they often appear discontinuous.

The same forces may result in the changes being nonlinear, which presents the first feature of ICT as a complex system. The leadership development process often appears nonlinear and discontinuous, being experienced as a set of discoveries. They are emergent phenomena.

Leadership development research often uses statistical procedures that assume continuity. There are exceptions, such as the graphical analysis available from polynomial regression. The top journals not only expect multivariate analysis but also favor those studies that reveal interesting interactions. These interactions are a way to begin to address the discontinuity of the phenomena being studied.

For example, in trying to predict performance from individual characteristics, studies have often overlooked the *tipping point* concept (Holland, 1995). A tipping, or trigger, point is the point at which emergence, or a discovery, occurs. It is a transition event. For example, a person may verbally encourage collaboration in an organization with no effect on performance. There may come a moment when one act of collaboration invokes a change in others’ behavior. They notice it and follow a perceived induction. At this moment, a small behavioral shift produced a dramatic change in effective leadership behavior (Boyatzis, 2006a, 2006b; McClelland, 1998).

Other Concepts From Complexity Theory

So far, two aspects of complexity theory have been presented that influence leadership development—discontinuity and tipping points. Before mentioning others, some explanation of complexity theory is in order. This article explores three features of complex systems: (a) nonlinear and discontinuous dynamic systems, including tipping points and catastrophic change; (b) self-organizing patterns of equilibrium or disequilibrium in which
emergent events start a new dynamic through the pull of specific attractors; and (c) “multilevelness” (the application of this theory at all levels of social organization) and the interaction among these levels through leadership and reference groups.

A complex system is a combination of systems that behave independently of their components (Complexity Forum, 2001–2003). Although not specifically applied to leadership development, many of these concepts have been applied earlier to organizational development and change. Hazy, Goldstein, and Lichtenstein (2007) reviewed early ideas and studies applying complexity concepts to leadership of organizational effectiveness. At the organizational level, there are Golembiewski’s (1986) concepts of alpha, beta, and gamma organizational development and the efforts at analysis focused on gamma-level change (Golembiewski, Billingsley, & Yeager, 1976). At the team level, there is Fredrickson and Losada’s (2005) work on positivity and negativity. In the third case, Gottman et al. (2002) focused on dyads—in particular, marriage. In each case, the researchers portray change as potentially nonlinear and discontinuous. They use complexity theory to examine the effects of change. Each of these empirical studies and scholars used innovative statistical methods for analysis.

Theories of change may involve an analogous problem in that they may hide or ignore emergent dynamics. For example, Lewin’s unfreezing–change–refreezing theory of human change (Cummings & Worley, 2004) described the process but did not tell us why the change occurred. This and other theories of change, such as those of Prochaska, DiClemente, and Norcross (1992); McClelland (1965); and Golembiewski (1986), pose two dilemmas for leadership development. First, they do not address leadership development specifically. Second, the actual change process remains the black box. In other words, how the change is engaged and proceeds is left unclear as the inputs and outputs are explained in detail.

In pre–post change research, two problems occur. First, the effect is often limited to one posttest. Second, the time gaps between assessments are often a function of a time framework convenient or possible rather than a time series to observe the dynamics of the change process over multiple time periods (Cherniss & Adler, 2000; Goleman, Boyatzis, & McKee, 2002).

Desire as the Driver

The earlier description claimed that sustained, desired change is at the heart of leadership development. The concept of sustained change was explained, but desired change was left implicit. The studies reviewed in the next section show that adults will only develop characteristics of effective leaders if they want to be leaders. Many people engage in developmental activities to satisfy other people’s desires, not their own. For instance, some pursue an MBA program to get the certificate of completion, not to change how they act. Some people are pushed into leadership, whereas others are seduced by the social desirability or they assume they should move up to advance their career.

In such cases, skills acquired temporarily (e.g., for a test) are soon forgotten (Specht & Sandlin, 1991). Students, children, patients, clients, or subordinates may be making efforts to change, but they are just going through the motions and not truly committed to change. The desired endstate is compliance or approval, not necessarily change. This does not apply to changes induced, willingly or not, by chemical or hormonal factors. However, even in such cases, the subsequent behavior will be affected by the person’s will, values, and motivations. In this way, it appears that most sustainable, behavioral change is
intentional, as has been shown in cognitive and conceptual development (Sinatra & Pintrich, 2003).

The dilemma with leadership development is that a person may want to be a leader without investing the energy and time needed to achieve the required emotional, social, or cognitive competencies (Boyatzis, 2001, 2006a, 2006b; Goleman et al., 2002). It may take a wake-up call to bring him to the process of intentional change (Goleman, Boyatzis, & McKee, 2002).

Leadership Development Outcomes

Much of the training in organizations and MBA programs is designed to produce leaders or at least people who can act the way effective leaders act. This often means producing the emotional, social, and cognitive intelligence competencies that have been shown to predict effective leadership (Boyatzis, 1982; Goleman et al., 2002; Howard & Bray, 1988; Luthans, Hodgetts, & Rosenkrantz, 1988; Spencer & Spencer, 1993).

Behavior change does occur, as we know from research in fields as disparate as psychotherapy and education (Barlow, 1988; Hubble, Duncan, & Miller, 1999; Kanfer & Goldstein, 1991; Morrow, Jarrett, & Rupinski, 1997; Pascarella & Terenzini, 1991; Winter, McClelland, & Stewart, 1981). A dilemma is that most studies test one characteristic, such as communications skills, or one outcome, such as job attainment.

When studied systematically, the impact of leadership development training has been shown to be relatively short lived (Campbell, Dunnette, Lawler, & Weick, 1970). The bounce seen in people returning from leadership development programs has been called the “honeymoon effect” (McClelland, 1985). Campbell et al. (1970) showed that there is often an immediate impact of the training. Within months, the new behavior exhausts or atrophies. The Consortium on Research on Emotional Intelligence in Organizations examined available literature on longitudinal studies of training and education on emotional intelligence and found only 15 programs showing some positive impact on emotional intelligence related to leadership and management effectiveness. Cherniss and Adler (2000) reported that most of the programs had an impact on job outcomes, such as the number of businesses started, or on life outcomes such as finding a job (Cherniss & Adler, 2000). This exclusive focus on job and life outcomes may confuse how the change occurred. Furthermore, typically, the studies used relatively brief follow-up time periods.

Goleman et al. (2002) reported that those studies showed an improvement of 11% in emotional and social intelligence up to 18 months after training (Hand, Richards, & Slocum, 1973; Latham & Saari, 1979; Noe & Schmitt, 1986; Wexley & Memeroff, 1975; Young & Dixon, 1996). Boyatzis (2006a) claimed that, “Recent meta-analytic studies confirm that significant changes can occur, but these changes lack the impact that the amount of investment might indicate” (p. 611; see also Baldwin & Ford, 1988; Burke & Day, 1986; Morrow, Jarrett, & Rupinski, 1997).

The results are no better from standard MBA programs, in which there’s often no attempt to enhance these competencies. The best data here come from research by the American Assembly of Collegiate Schools of Business (AACSB). The AACSB found that graduating students from two highly ranked business schools showed only 2% improvement in emotional intelligence, compared with when they began their MBA training (Boyatzis, Stubbs, & Taylor, 2002). Students from four other high-ranking MBA programs, assessed on a range of behavioral measures, showed a 4% gain in self-awareness
and self-management abilities but a 3% decrease in social awareness and relationship management skills (Boyatzis, Cowen, & Kolb, 1995).

This honeymoon effect may blind practitioners and scholars to the “sleeper effect,” in which sustainable change in behavior, thought patterns, or emotional reactions does not appear until maybe a year after completion of the change effort (McClelland, 1985). Because the effect appears disconnected to intervention, it is easily overlooked or misattributed to other factors.

Longitudinal studies at the Weatherhead School of Management at Case Western Reserve University have shown that people can improve the emotional, social, and cognitive intelligence competencies that distinguish outstanding leaders. A required course was designed with ICT to help MBAs develop their leadership competencies. The results were reported on two cadres (graduating classes) of full-time MBAs (average age at entry of 28 with 5+ years of full-time work experience) and two cadres of part-time MBAs (average age at entry of 28 with 5+ years of full-time work experience and currently working) before the course was introduced, then eight cadres of full-time and three cadres of part-time MBAs (similar in age and experience to the earlier cadres) after the course was introduced (Boyatzis & Saactioglu, 2008; Boyatzis, Stubbs, & Taylor, 2002). A further analysis was conducted on two cadres of the part-time MBAs 2 years after graduation (Wheeler, 2008), as shown in Figure 1.

These MBA students showed dramatic changes on videotaped and audiotaped behavioral samples and questionnaires as a result of the competency-based, outcome-oriented MBA program implemented in 1990 (Boyatzis, Leonard, Rhee, & Wheeler, 1996; Boyatzis & Saactcioglu, 2008; Boyatzis et al., 2002). Four cadres of full-time MBA students

![Graph showing improvement in emotional and social intelligence competencies over time](image)

**Figure 1.** Percentage of improvement of emotional and social intelligence competencies of different groups of MBA graduates taking the intentional change course. Large dashed line indicates impact of company and government training programs 3–18 months after training on multiple emotional intelligence competencies; small dashed line indicates impact of a variety of above average MBA programs. From *Primal Leadership: Realizing the Power of Emotional Intelligence*, by D. Goleman, R. E. Boyatzis, & A. McKee, 2002, Boston: Harvard Business School Press. Copyright 2002 by Harvard Business School Press. Adapted with permission.
graduating in 1992, 1993, 1994, and 1995 showed 47% improvement on self-awareness competencies such as self-confidence and on self-management competencies such as adaptability and the drive to achieve in the 1 to 2 years to graduation, compared with when they entered. On social awareness and relationship management skills, improvements were even greater: 75% on competencies such as empathy and team leadership.

With the part-time MBA students graduating in 1994, 1995, and 1996, similar dramatic improvement was found. These students, who typically take 3 to 5 years to graduate, showed 67% improvement in self-awareness and self-management and 40% improvement in social awareness and social skills by the end of their MBA program.

In her follow-up study, Wheeler (2008) tracked two graduating classes of these part-timers 2 years after they graduated, and they still showed improvements in the same range: 63% on self-awareness and self-management and 45% on social awareness and relationship management. This is in contrast to the baseline comparison groups of Weatherhead graduates of the 1988 and 1989 traditional full-time and part-time MBA program who showed improvement in far fewer of the competencies.

The course being based on ICT is one explanation for these results. Other factors probably included shared belief in the concepts of faculty and program staff. The faculty members were predominantly the same through most of the years studied, and the admissions criteria were essentially unchanged (Boyatzis et al., 1996).

The positive effects of this program were not limited to MBAs. In a longitudinal study of four classes completing the Weatherhead professional fellows program, Ballou, Bowers, Boyatzis, and Kolb (1999) showed that these 45- to 55-year-old executives improved in self-confidence, leadership, helping, goal setting, and action skills—67% of the emotional intelligence competencies assessed in the study.

For development in context, Van Oosten (2006) reported dramatic improvement in leadership and organizational effectiveness in a program using ICT at the individual and organization levels. While the emotional and social intelligence competency program was going on, managers and executives also engaged in appreciative inquiry to develop the culture and organizational systems.

Five Discoveries of ICT

Leadership development involves emergence of nonlinear and often discontinuous experiences in an iterative cycle: Boyatzis (2006a, 2006b) observed that the moments of emergence are (a) the ideal self; (b) the real self; (c) a learning agenda; (d) practice; and (e) trusting relationships that facilitate openness to the moments of emergence, as shown in Figure 2.

First Emergence: Seeing His/Her Desired Future

The starting point in leadership development is the discovery of who the person wants to be. This occurs through a moment of emergence of a new awareness into the person’s consciousness. Boyatzis and Akrivou (2006) reported that a person’s vision appears in many forms in practice. Theoretically, they contend that it needs three major components to emerge from a person’s ideal self. Like other strength-based approaches (Roberts, Dutton, Spreitzer, Heaphy, & Quinn, 2006), it needs an awareness of the person’s strengths. Boyatzis and Akrivou (2006) call this a person’s core identity. They further add that a person also needs an image of the desired future and a sense of hope that it is attainable.
Positive visioning is an important technique for creating new neural circuits that help to guide future behavior, as shown in sports psychology (Bennis & Nanus, 1985; Carter et al., 2000; Loehr & Schwartz, 2003; Meister et al., 2004; Roffe, Schmidt, & Ernst, 2005). Creating a positive visioning seems to arouse hope (Curry, Snyder, Cook, Ruby, & Rehm, 1997; Groopman, 2004), which in turn stimulates the parasympathetic nervous system (PSNS) with a resultant increase in openness, cognitive power, and flexibility. In this state, a person can grow new neural tissue, a process called neurogenesis (Erikson et al., 1998), and benefit from the healing powers of an engaged immune system (Manniz, Chadukar, Rybicki, Tusek, & Solomon, 1999).

Ironically, teachers, coaches, and trainers know the importance of the ideal self, yet they often do not take the time to articulate its formulation. When parents, spouses, or bosses tell a person something should be different, they are describing the person they want. This is called the ought self and often causes conflict with the ideal self (Higgins, 1987). As a result of these factors, people often get anesthetized to their dreams and lose sight of their deeply felt ideal self.

It is also clear from this framework that strengths-based approaches to development, such as those described by Roberts et al. (2006), will probably work better than current methods but fall short of what the person can achieve (Boyatzis & Akrivou, 2006). In focusing on established strengths, such approaches develop the core identity component of the ideal self as a driver of change but fail to capture the energy inherent in new possibilities, as well as the emotional driver of hope.

With awareness of this component of ICT, a faculty member, coach, trainer, or consultant should ensure that the prospective leaders in question have a well-articulated ideal self and personal vision. Exercises in this area are not new, but the insistence that a person use them to craft a personal vision is often overlooked. In such a case, the client

or student may feel that certain changes are expected, thus contributing to the ought self. Each client or student should write his or her vision for the future and then talk about it with trusted others.

Insight into the ideal self can be elusive. An obstacle can be eagerness to forecast the future by merely extrapolating a trend from the present instead of envisioning a desired future. Various tests can reveal aspirations (Boyatzis & McKee, 2005; McKee, Boyatzis, & Johnston, 2008), and talking with close friends or mentors can help. These explorations should take place in psychologically safe surroundings.

Second Emergence: How Does the Person Act With Others?

Awareness of the current self—the person others see—is elusive. The human psyche protects itself from the automatic intake of information, but this ego defense mechanism can confuse us into an image of who we are. This can feed on itself and become dysfunctional (Goleman, 1985).

The greatest challenge to an accurate self-image is for the person to see himself or herself as others do. Several factors contribute to false positives. First, others around the person may not let him or her see a change. They may not give him or her accurate feedback, and they also may be unaware of their own behavior. Second, those who forgive the change, are frightened of it, or do not care may allow it to pass unnoticed.

Before a person can change, he or she must know what he or she wants to maintain. Acknowledging discrepancies between the real self and the ideal self can be a powerful motivator for change. However, as Higgins (1987) shows, the distinction between the person’s ideal self and his ought self can become an important additional discovery.

People often explore growth by focusing on deficiencies or are encouraged to do so. Organization-based leadership training programs and managers conducting annual reviews often make this mistake. They “leave well enough alone” and focus on the areas that need work. It is no wonder that many of the procedures intended to help a person result in his or her feeling defensive under stress, with the resulting decrease in cognitive ability.

The second discovery can be achieved by using multiple sources for feedback about the real self (Taylor, 2006). One method is 360-degree feedback, which is fashionable in organizations today. Insight also may come from behavioral feedback (i.e., videotaped or audiotaped interactions, such as those collected in assessment centers). Psychological tests can help determine explicit aspects of the real self, such as values, philosophy, traits, and motives.

Third Emergence: Developing a Learning Agenda

The third emergence is the articulation of a way to get to the desired self, using strengths and building on some weaknesses. The most critical element of this emergence is that it is a type of plan for things the person wants to try and explore. The openness to new activities and experiences is in contrast to the often felt obligatory nature of fulfilling to-do lists or complying with an agenda for the future that a person’s boss, spouse, or others want for him or her. A learning agenda focuses on development. The stream of literature in industrial and organizational psychology on learning and performance goal orientations helps to clarify this difference. As Chen, Gully, Whaiteman, and Kilcullen (2000) showed and Seijts, Latham, Tasa, and Latham (2004) clarified, a learning orientation seems to arouse a positive belief in one’s capability and the hope of improvement,
with the result that people set personal standards of performance, rather than normative standards that merely mimic what others have done. Meanwhile, a performance orientation can evoke anxiety about whether we really can change. In the longitudinal studies cited earlier, Leonard (2008) showed that MBAs who set goals for change on certain competencies improved more than on those competencies than did other MBAs. His work extended the orientation literature into the development arena.

Strange Attractors

Leadership development produces sustainable, desirable change as an iterative, cyclical process. As a complex system, it engages the cycle through the self-organizing properties of the human organism. The positive emotional attractor (PEA) and the negative emotional attractor (NEA) determine the context of the self-organizing process and whether it is an adaptation to existing conditions or to emergent conditions. A self-organizing system is inherently homeostatic, with the possibility of some form of deterioration if it is not perfectly efficient (which humans do not appear to be; Ferber, 1999). The attractors are Lorenz attractors that pull people, individually or in groups, toward them (Mackenzie, 2005).

Just like the properties in a closed system moving toward maximum entropy, as predicted from the second law of thermodynamics, dissonance occurs in our social organizations unless there is intentional investment. Over time, deterioration occurs. This is because the human organism is not a closed system. We need social interaction for our “open-loop” emotional system to function (Goleman et al., 2002). Life and career cycles are also dramatic in their destabilizing effect. Whether dealing with the so-called 7-year itch or with a life cycle of varying periodicity described by Sheehy (1995) and Levinson and Levinson (1996), a person occasionally seeks novelty and change.

Boyatzis (2006a) explained that intentional change theory fosters a disequilibrium. The person is likely to seek readjustment as a new self-organized system. Boyatzis, Smith, and Blaize (2006) documented evidence from medical studies and attribute it to the PEA becoming the destabilizing force as it pulls the person toward his or her ideal self. By focusing on possibilities, a person’s parasympathetic nervous systems (i.e., PSNS) is aroused. In this PSNS state, the person is calm, and his or her immune system functions at its relative best—the body is renewed. In this state, the person experiences neurogenesis (i.e., the conversion of hippocampal stem cells into new neurons; Erikson et al., 1998). The growth of new neural tissue allows for more spines to grow on the neurons, creating more space for neurotransmitters and neuroreceptors, which are the basis for learning. Howard (2006) suggested that changes initiated during this stage are more successful. This is similar to the concept of positivity that Fredrickson and Losada (2005) applied to team development, but they only focused on the emotions experienced and expressed. It is closer to Gottman et al.’s concept (2002) of the PEA in their work on marriages, with the physiological components added.

The NEA is also involved. It arouses the sympathetic nervous system (SNS) and helps human beings deal with threats. In a threatening environment, the NEA pulls a person toward defensive protection. The body shunts blood to the large muscle groups, closes nonessential neural circuits, suspends the immune system, and produces the chemical cortisol (Sapolsky, 2004). Cortisol inhibits neurogenesis and overexcites older neurons, rendering them useless (Boyatzis et al., 2006).

Intentional change becomes critical to a person’s adaptation, because provoking a new desired state that is self-organizing will not likely occur by chance. Sustaining change is
challenging. Boyatzis (2006a) claimed that, “The change must be driven by a powerful force. Articulation and awareness of the Ideal Self activates the energy of the PEA” (p. 616). Fredrickson and Losada’s (2005) emphasis on positivity rather than negativity for team effectiveness is an illustration of the work of these attractors. It is also why they claimed that there is likely an upper limit to the effectiveness of positivity by itself.

To try new behavior, a person often needs a type of permission to let go of old habits and try new ones. This permission typically comes from interacting with trusted others. Clients or students must spend sufficient time in the PEA to be ready for their time in the NEA and the stress of adaptation. In this way, the consultant, coach, or faculty member is simultaneously a cheerleader (predominantly positive), guide (conscious of the person’s state and progress), and provocateur (pushing, pulling, cajoling the client or student into the PEA or NEA when appropriate).

Fourth Emergence: Experimenting With New Habits

The next emergent awareness in leadership development comes in the form of experimenting and practicing behavior characteristics of effective leaders. This may be reinforcing some behavioral habits that have been effective in the past or trying new ones. The experimentation and testing of the new behavior must be followed by a period of practicing them until they become second nature or unconsciously enacted. Barlow (1988) described how cognitive–behavior therapy has shown dramatic results by encouraging people to practice first in a safe setting and then in actual work and home settings. The practice period can complement work settings, but a person may have to find activities outside of work in which they can be in leadership roles. Dreyfus (2008) studied managers of scientists and engineers who were considered superior performers. She showed that the effective ones had tried their team-building skills in sports and clubs in high school and college. When they were “bench scientists,” they worked in relative isolation. To keep their new talent alive and refine it, they volunteered for leadership positions in community organizations and professional associations.

Both of these examples illustrate an important feature of the experimentation and practice phase of leadership development. Kolb and Boyatzis (1970) showed that the person needs flexibility to experiment, possibly fail, and then succeed with the new behavior. Eventually, he needs to have the emergent awareness of his own ability to use the new behavior well. He needs to see himself using it in real settings. For this sequence to occur and for the person to have the time and space to have the emergence occur, Kolb and Boyatzis (1970) showed why he needs safe settings. The consultant, coach, or faculty member should help the person find safe settings in which to practice the characteristics of an effective leader.

Fifth Emergence: Others Helping Us

Boyatzis (2006a, 2006b) explained how sustained, desired change for individuals needs others to help, guide, support, and sometimes coax us along the process and through the emergent moments. Such relationships provide a sense of identity. He explained how they “create a context within which people interpret progress on desired changes, the utility of new learning, and even contribute significant input to formulation of the Ideal Self” (Boyatzis, 2006a, p. 617; see also Kram, 1996).

Helping relationships work through the trust a person experiences and the safety from that trust. Coaches, teachers, consultants, and even friends can be mediators; moderators; interpreters; and sources of feedback, support, and permission for change.
and learning. Through their observations and feedback, but mostly through their support, a person develops a sensitivity to cues that signal a possible relapse. As mentioned earlier, Wheeler (2008) showed that MBA graduates who worked on their goals in multiple “life spheres” (e.g., work, family, recreational groups) improved the most on the leadership competencies.

Ballou et al. (1999) showed that a similar series of emergent changes occurred and were sustained in a leadership development program for people in their 40s and 50s. In a year-long executive development program for doctors, lawyers, professors, and engineers mentioned earlier, Ballou et al. (1999) found that:

Participants gained self-confidence. Even at the beginning of the program, others found the participants high in self-confidence. In follow-up questions, the graduates attributed the increase in self-confidence to an increase in the confidence to change. Their existing reference groups (i.e., family, colleagues, community groups) had a desire for them to stay the same. The professional fellows program enabled them to develop a new reference group that encouraged change. (Ballou et al., p. 346)

Isomorphic Leadership Development and Interaction Among the Levels

According to the theory, sustained, desired change occurs at any level of human and social organization through the same ICT process. This proposes that sustainable change at any one level must involve developmental work at the levels below and above it (Hitt, Beamish, Jackson, & Mathieu, 2007). Although not a new idea, the combination of ICT and complexity theory helps explain why this is so important. These other levels, in order of increasing social size, are as follows: individual; dyad or couple (including boss, subordinate relationships); team, group, or family; organization; community; country/culture; and global.

For example, sustainable change within a family, team, or small group occurs through the cyclical “group-level definition” of the five discoveries. The ideal self becomes a shared vision of the group’s future. What does the group want to be, and what can it be? Similarly, sustainable organizational change occurs through the five ICT discoveries at the organizational level, and so on at the community, country, and global level.

Akrivou, Boyatzis, and McLeod (2006) and Boyatzis (in press) examined ICT at the group level. They observed that a sports team cannot succeed without a leader, the captain who keeps people working together. He or she is the link between the individual and the team change. Meanwhile, the coach is the person who links the team with management. The owner or general manager operates between the organization and its fans, the press, and the community. Effective team development requires effort at the individual level, among various dyads, and at the organization and community levels. It takes effective leadership on many levels to effect sustainable change.

Bidirectionality of information is necessary within levels of a complex system to ensure the isomorphic process. An agent must carry the contagion of emotional and other messages back and forth among the levels. ICT holds that effective leadership does this among the individual, dyadic, team, and organization levels (Boyatzis, 2006a, 2006b). For interaction with larger levels—community, country, global—effective leadership and social identity groups (often in the form of coalitions) are also needed for sustained change.

Thus leadership is a primary feature of the complex system focused on sustained, desired change. Besides creating “teleos” and purpose within a level, effective leadership
enables interaction among the levels, and that interaction in turn produces adaptive behavior. The first degree of interaction among the individual, dyad, small-group, and organization levels of ICT is effective leadership. The second degree of interaction, which in addition to resonant leadership enables interaction among all levels of ICT, is through the formation and use of social identity groups. Many of the organizational or small-group conditions may have been present for a long time, but when a capable leader appears, magic happens—or more accurately, ICT happens (Howard & Coombe, 2006; Van Oosten, 2006).

Once the social organization gets larger than the number of people who can comfortably sit around a table, campfire, or circle, coalitions begin to play a critical role. The specific coalitions are those formed around a theme, which is often defined in terms of values (what is good or bad) and becomes an identity-forming group. It is then up to the leadership (again, the first degree of interaction appears critical) to synthesize this into the needed experience for most of the people in the social group at that level (Smith, 2006).

A consultant or coach attempting to facilitate sustained, desired change will need effective leadership relationships at dyadic and larger system levels. This raises the question: Just who is the client? If a consultant’s effectiveness in an organization development project depends on possessing leadership at community level, but the organization is paying him or her for their work, then he or she must expand the scope of the project and gain support for addressing community issues. Similarly, faculty or coaches working to help people develop as leaders face the dilemma of working on their critical dyads (boss–subordinate relationships both upward and downward in the organization, as well as spouse–partner relationships) and working with organizational teams.

Concluding Thoughts

Leaders can be developed, or more accurately, they can learn behavioral habits of effective leaders. They can change in desired ways but not without effort and intent. By extension, teams, organizations, communities, and even countries can change in desired ways, but again, without purposeful desire, the changes may be slow or result in unwanted consequences. Such unintended effects may engender a shared hopelessness. Various segments of this article explored the emergent discoveries of intentional change to assist a consultant, coach, or faculty member in designing and executing change efforts.2

ICT helps us examine leadership development and see how individuals, groups, and organizations can create leaders and bring about desired changes in a sustainable manner. Complexity theory provides many concepts useful to understanding sustainable change. With these sets of observations and results from research, those of us in helping roles can reignite individual and collective will to make the world a better place.

\[2\] See McKee et al. (2008), for exercises to assist a consultant, coach, or faculty member in creating the discoveries of intentional change.

References


Complexity Forum. (2001–2003). Faculty seminar at Case Western Reserve University (M. D. Mesarovic, Chair). Cleveland, OH.


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**Correction to Mahoney et al. (2008)**


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