

46

Change Agency

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CONTENTS

Defining Change Agency	620
Theoretical Foundations of Change Agency	620
Individual/Organizational Change Theories	620
Developmental Change Theories	621
Diffusion Theory	621
Empirical Studies of Change Agency	622
K–12 Change Agency	622
Change Agents Connect Organizations to Their Environment	622
K–12 Change Is Wholly Dependent on Teacher Change	624
Change Agents Are Vision Builders, Not Technicians	625
Get Leadership Approval and Participation	626
Creation of Community and Individual Professional Development	626
Individual Differences Matter	627
Change Agency in Non-K–12 Contexts	627
Government Change Agency	627
Corporate Change Agency	628
Healthcare Change Agency	629
Conclusion	630
References	630

ABSTRACT

This chapter presents theoretical foundations and empirical findings of the construct of change agency in order to aid change agents and scholars in effecting substantive organizational or educational change. Familiarity with this literature gives credibility to those of us in the educational communications and technol-

ogy field seeking to effect significant change through collaborative efforts. We begin by defining change agency and focusing on the theoretical foundations of change theories, agency theories, and diffusion theories. After this consideration of theoretical constructs, we turn to an examination of the empirical findings in research studies associated with K–12 school contexts, government organizations, corporations, and the health-

care industry. Our findings indicate three core ideas central to change agency: (1) connecting an organization to its environment is important, (2) flexibly adaptive change may be a desired goal, and (3) local leaders as well as external supports are needed to support any successful change effort.

KEYWORDS

Change agency: The activity of facilitating change.

Lethal adaptation: An alteration to an innovation that undermines the expected benefits of the innovation.

Loose coupling: An organizational arrangement characterized by significant freedom between levels in the hierarchy.

Mutual adaptation: The coevolution of both an innovation and the environment in which it is implemented.

Perturbances: Events that cause a small disruption in organizational function; useful for encouraging reflection on an organization's purposes.

Punctuated equilibrium: A view of organizational change characterized by long periods of stasis and short periods of change.

Reculturing: Changes that involve examining the assumptions and purposes of an organization.

Restructuring: Changes that involve organizational structure, new work patterns, or new functions.

DEFINING CHANGE AGENCY

Suchan (2005, p. 17) defines change as "a planned activity whose goal is to realign the organization with its environment." Within instructional technology we keep hoping that whatever new or improved technologies we have to offer will revolutionize our classrooms and our organizations; yet, this has rarely been the case (Cuban, 1986). Instead, we have seen one wave after another of relatively incremental but minor changes with very little substantive impact of any technologies on the system of the school or organization. This has led the field of instructional technology to take very seriously the importance of understanding and facilitating change (Ellsworth, 2000; Ely, 1976). We have come to understand that to best create the effective *use* of our excellently designed human learning environments we must first figure out *how* to get people to use our designs rather than resisting, battling, refusing, or sabotaging our efforts. Although a good design is only as good as its actual implementation, we must recognize that our innovations exist in immensely complex webs of rela-

tionships and that *understanding*, not manipulation, must feature prominently in any discussion of change agency. Indeed, we define change agency as those activities of education and facilitation through which organizational stakeholders inhabit a new state *of their own design*. Now, this last, as we will see in this chapter, is not part of the traditional understanding of change agency but more a part of user-design (Banathy, 1991; Carr-Chellman, 2007); however, we feel that true change agency is, in fact, centered on facilitation of communities, organizations, and stakeholders.

THEORETICAL FOUNDATIONS OF CHANGE AGENCY

This facilitation process is grounded in a number of theoretical approaches to change. Van de Ven and Poole (1995) offered a typology of four change theories including life-cycle theories, teleological theories, dialectical theories, and evolutionary theories. Although we find this typology useful, a more process-oriented distinction is used here as we describe individual and organizational change theories, developmental change theories, and diffusion theories. Within this we include what little there is on agency theories that is relevant.

Individual/Organizational Change Theories

Individual and organizational change theories are perhaps the most complicated set of theories associated with change agency and surely the most relevant. Among these, one of the earliest is Lewin's (1951) planned change theories, which have given us the typically understood unfreeze-change-refreeze cycle. Lewin's work has been debated and criticized, in part due to the recent phenomenon of increasingly rapid cycles of freezing and unfreezing which leave organizations in a state of constant change.

A less cyclical theory of change was posited by Burke and Schmidt (1971), who argued that the group is the proper level of analysis for organizational change. Within such organizational change theories there are distinctions between episodic change (Abernathy and Utterback, 1978) and continuous change (Weick and Quinn, 1999). There is a traditional view of change in which longer periods of small, incremental changes are interrupted by brief periods of discontinuous and radical change (Brown and Eisenhardt, 1997). This episodic view of change has been termed *punctuated equilibrium* (Abernathy and Utterback, 1978) and produces the image of a

rational organization that works according to plan unless dramatic external events (economic shifts, social conditions) force the organization to change. Change agents working in this episodic paradigm are primary actors in the overall change process as they generate responses to external events, build management support, and manage implementation (Weick and Quinn, 1999).

This view is contrasted with *continuous* change in which organizations act in unpredictable ways that are based on the actions of individual group members seeking to satisfy their social and professional needs. Weick and Quinn (1999, p. 375) described continuous change as that in which “small continuous adjustments, made continuously across units, can cumulate and create substantial change.” This much more decentralized view of the change process, influenced by chaos and complexity theories and elements of complex system dynamics, requires a different role for change agents. Change agency becomes more about responsiveness and facilitation as opposed to goal setting and motivating others. The differences between these two views of change, episodic and continuous, will have great implications on the role of change agents.

French and Raven (1959) described change with their social influence theory. According to the Evidenced-Based Intervention Work Group (EBIWG) at the University of Wisconsin–Madison, this theory focuses on “the power of one individual to change the beliefs, attitudes, or behaviors of another” (EBIWG, 2005, p. 476). Models of social influence have been developed that contain such components as physical attractiveness, position in the organizational hierarchy, interpersonal social history, and the perceived ability to distribute rewards or punishments (Cialdini, 2001; French and Raven, 1959; Yukl, 1994). Individuals who possess certain characteristics are more likely to be change agents than individuals without them. Social influence theory informs our discussion of change agency by emphasizing the importance of the *people* who introduce and implement reforms. This theoretical framework shows that if an unpopular leader presents a proposed change to an organization, the reform may be instantly undermined by the leader’s lack of social influence. An approach that might minimize the negative effect of unpopular individuals is to create a social space in which *groups* of individuals can examine data about current organizational performance and participate in dialog about improving performance. Such a process would likely be more time consuming than management-driven change, but it would also be likely to increase stakeholder commitment and decrease resistance.

Developmental Change Theories

Developmental change takes the traditional notions of change beyond the focus on individual pieces to a wider, broader notion of how change occurs across an entire system. Systemic change theories bring to the foreground the *ripple effects* that cause disruptions far from the site of the initial change, much like occurs in a pond when a stone is thrown into it. When change happens in one part of a system, interdependencies cause the rest of the system to react (Hutchins, 1996). The application of these ideas to K–12 schooling has been undertaken by Banathy (1991), Squire and Reigeluth (2000), and Jenlink et al. (1998).

Another theory that views change as a developmental process is the Concerns-Based Adoption Model (CBAM), for which Hall and Hord (1987) identified seven *stages of concern* that characterize the *attitudes* of potential adopters toward a given innovation. These stages range from no knowledge of the innovation to concerns about how the innovation might fit into existing structures to adapting the innovation to serve functions beyond its original intention. The focus here is on understanding the attitudes of stakeholders who, in their roles as *street-level bureaucrats* (Weatherly and Lipsky, 1977) ultimately decide the fate of a change effort.

The focus on the use of the innovation makes CBAM more appropriate with first-order (*morphostasis*) as opposed to second-order change (*morphogenesis*) (Mink et al., 1993). First-order changes that do not alter the core process of an organization (such as utilizing computers instead of textbooks for reading instruction) are easily observed with the “levels of use” checklist; however, second-order changes that more fundamentally alter practice (establishing a community relations office) are not quickly or easily measured by an outside observer. The need for dialog and overall mindset change required for second-order changes is not accommodated in CBAM; however, its utility for the implementation of first-order changes has been well established empirically (Ellsworth, 2000). Work in this area of special interest to educational technologists is that of Caffarella (2000).

Diffusion Theory

Diffusion theory focuses on the rather unpredictable path that an innovation will follow from its conception to the divergent endpoints of implementation or rejection. Although theorists have sought to describe the many paths a given innovation might take along the way, it must be said that the number of forces at play in any social organization make prediction a nearly

impossible task. In relation to the change theories discussed earlier, these diffusion theories keep the innovation at the center of the frame and deal with cultural, environmental, and individual forces as bumps along the road to adoption. Any serious discussion of diffusion begins with the seminal work of Rogers (2003) and his studies of the diffusion of hybrid corn among farmers in the United States. Based on his theories and research, he identified five perceived attributes of an innovation that influence its rate of adoption:

- *Relative advantage*—How well the innovation outperforms the current methods. The more potential adopters view the innovation as better than their current method, the more quickly diffusion will take place.
- *Compatibility*—How well the innovation can peacefully coexist with the work environment in which it is to be adopted. If the environment cannot accept the innovation, it will not diffuse widely.
- *Complexity*—Adopters are more likely to utilize an innovation that they understand and that does not take excessive effort to learn.
- *Trialability*—The extent to which an innovation can be test driven before a wholesale adoption takes place. Users are more likely to try out, and thus adopt, an innovation if it does not cost them anything to do so.
- *Observability*—An innovation is more likely to diffuse rapidly if the benefits to early adopters can be seen by those still hesitant about the innovation.

It has been long expressed that diffusion research is often biased toward successful innovation (Ellsworth, 2000; Rogers, 2003), and this point is not argued here nor is the point that Rogers original works were, relatively speaking, colonialist in nature. But, the frameworks for thinking about change and the vocabulary given to change research by Rogers are invaluable gifts.

EMPIRICAL STUDIES OF CHANGE AGENCY

K–12 Change Agency

Perhaps the largest body of empirical work is that of change agency in K–12 (kindergarten to twelfth grade) schools. Empirical work focused on change agents in K–12 environments is fairly widespread and shows the

difficulty of changing the deeply ingrained social institution of school. With regard to school change, Fullan (2000, p. 581) wrote that “there has been strong adoption and implementation, but not strong institutionalization.” In other words, although school reforms have been dreamed up and tried out regularly, few of them seem to stick, and the result is little fundamental change in schooling practices. With several decades of mostly failed school reforms behind us (Fullan, 2001; Sarason, 1990), attention is being focused on what processes, actions, and mindsets are most helpful in getting meaningful changes to sustain themselves within schools. In this research, many things or people may serve as change agents: governmental policies (Borko et al., 2003), district leaders (Spillane, 2002), school principals (Avissar et al., 2003), classroom teachers (Olsen and Kirtman, 2002), student teachers (Lane et al., 2003), community groups (Arriaza, 2004), K–12 and university partnerships (Fishman et al., 2004; Rust and Freidus, 2001), K–12 and business partnerships (Corcoran and Lawrence, 2003), and even students themselves (Fielding, 2001). Despite this vast array of “stuff” that can fit under the title of change agent, there are some common characteristics that appear in the empirical research.

Change Agents Connect Organizations to Their Environment

The first clear message from the research on K–12 change is that change agents must connect organizations to their environment. The people, resources, new ideas, feedback, and political support that school systems can receive from this reaching out process are vital to any successful change effort. Despite the many potential benefits to forging strong connections with the environment, however, there are risks as well. Fullan (2000) termed this phase of school change the *inside-out story*, in which, paradoxically, “most outside forces that have moved inside threaten schools in some way, but they are also necessary for success” (p. 582). In other words, these forces demand that schools take those uncomfortable glances in the mirror that often lead to positive change within the institution.

In their survey study of 110 Israeli elementary school principals, Avissar et al. (2003) examined the inclusion of Israeli special education students in regular education classes and found that the passage of a national law in 1998 had a significant impact on the number of principals who implemented the reform. This instance of policy as change agent demonstrates the influence a system’s environment can have on how changes are implemented. While policies do not translate directly into predictable cause-and-effect responses

in schools, they do exert considerable influence on the change process. Similarly, in an exploratory study of a local parent group organizing to put pressure on the school system to better accommodate the growing number of Spanish-speaking families, Arriaza (2004, p. 10) noted “that school reform initiatives have higher chances of becoming institutionalized when the community actively participates as an empowered change agent.” Through analysis of historical documents, interviews with participants in the movement, and interviews with current educators, Arriaza traced one example of a community exerting tremendous force on schooling practices. Although the community as change agent featured in his study was not invited by the school to help facilitate the change process, they were nonetheless able to exert enough environmental pressure to create lasting changes in their school system.

Two-way lines of communication between a community and its schools undoubtedly lead to a healthier system in terms of getting community support and meeting community needs, but there is also a heightened state of uncertainty because changes in the economic, social, or political landscape can put unwanted pressure on schools. Reaching out into the environment presents some danger in that schools will be working with groups (parents, businesses, universities, funding agencies, etc.) who might have very different views of what education can, and should, be. Change agents will face difficulty in reconciling these diverse views in pursuit of a successful reform effort (EBIWG, 2005). Fishman et al. (2004, p. 67) described a project in Tennessee where “local politics created unforeseen challenges to a project that was otherwise successful.” Change efforts are always subject to environmental pressures, so a wise reformer keeps a close eye on environmental trends that might impact an ongoing change. As Fullan (2000, p. 583) noted:

Schools need the outside to get the job done. These external forces, however, do not come in helpful packages; they are an amalgam of complex and uncoordinated phenomena. The work of the school is to figure out how to make its relationship with them a productive one.

Schools that actively seek energy for change from their environment can turn a contentious relationship between a school and its community into a productive one. In her interpretive case study of a school considered a high implementer of information technology, Tearle (2003) concluded that schools that proactively search their surroundings for potential changes may be more likely to implement information technology reform than those schools who do not. She found that a “recognised

model commonly adopted in the school for implementation of a ‘project’ or curriculum development” (Tearle, 2003, p. 574) was a sign that a school was regularly interfacing with its environment and poised to take advantage of opportunities that came along.

The strength of the school–community relationship has led some to support the use of intermediary organizations to buffer specific change efforts from the constantly changing environment in which it exists. Corcoran and Lawrence (2003) described a K–12 and corporate partnership that worked with four school districts to improve science teaching. Their longitudinal evaluation study combined survey, interview, and observational data with student test scores in science. The authors were positive about the role of the external nonprofit organization that sponsored the program, saying that (Corcoran and Lawrence, 2003, p. 34):

Reform support organizations can help school districts stay focused. They can legitimate strategies and policies, build public support, and buy the time to make them work... Intermediaries often are able to shape the stakeholders’ definition of the “problem” and build a more stable reform agenda. Unlike schools and districts, they are not subject to direct political authority and are more focused in their aims.

Although change agency should include connecting an organization with its environment as a top priority, there must also be an awareness that some protections, such as partnering with supportive organizations, must be created to prevent the reform effort from collapsing under the turbulence of daily life (Bodilly et al., 2004).

Additional research has also supported the use of external change facilitators to increase the success of a change effort (Goldenberg, 2003; Jenlink et al., 1998; Lane et al., 2003). In a unique case, Lane and colleagues (2003) describe the influences that change-oriented student teachers had on their mentor teachers while student teaching in the Los Angeles Unified School District. Their study analyzed written student teacher reflections as well as mentor teacher interviews to examine the impact that preservice teachers could have when trained to be critical practitioners. This case of student teacher as change-agent emphasizes the understanding that, whereas we generally view institutional power and the ability to cause change as being highly correlated, those with little official power are also able to create positive change. The external supports these student teachers received from the university (emotional support, critical dialog in courses, etc.) are shown to have been important parts of their ability to act as change agents in their placement schools.

An organization's environment is also an important source for well-designed theories of change. These theories can guide a facilitator along the process (Reigeluth, 2004). These theories can connect change facilitators with each other and lead to refinements in the reform process. Just a sampling of school change theories includes the Guidance System for Transforming Education (GSTE) (Jenlink et al., 1998), Step-Up-to-Excellence (Duffy, 2006), the professional development approach (Caine, 2006), user-design (Carr-Chellman and Almeida, 2006), and chaos theory (Reigeluth, 2004). When schools and change agents are cognizant of the theories that seek to describe and predict change, they have a scaffold that can support them toward seeing the process through to completion.

K–12 Change Is Wholly Dependent on Teacher Change

Traditional planned change often seeks to take the scientifically validated “right” way to do schooling and transplant it uniformly into a diverse collection of schooling environments; however, current views of change tend to identify the source of change in the day-to-day teaching choices made by teachers in our classrooms, rather than the policy decisions made by reformers at a distance. Fullan (2001, p. 115) noted that “educational change depends on what teachers think and do—it’s as simple and as complex as that.” Similarly, it has been said that in effecting change, “challenging teachers’ current thinking and guiding them toward new understandings was central” (Spillane, 2002, p. 396). If teachers and their thoughts and actions are the center of school change, then how can change agents work toward engaging these overworked and practice-oriented professionals in reform efforts? Strategies for centering change on teachers will guide this section.

It is now taken as fact that the “specificity of context (within which an innovation is tried out) plays a fundamental role for change to be embraced first by individuals, then groups and, eventually, large numbers of people” (Arriaza, 2004, p. 14). A study by Olsen and Kirtman (2002) involving interviews with a variety of stakeholders from 36 California schools showed that the importance of a teacher’s context is ignored at the peril of any proposed change effort. Once classroom doors are closed, “regardless of a school’s efforts, teachers *will* mediate school reforms in various—and identifiable—ways; schools may wish to appropriate this force for constructive means rather than observe its occurrence passively from the sidelines” (Olsen and Kirtman, 2002, p. 318). So, change agency in this implementation-centered mindset must be informed by the classroom conditions in which a reform is to be

implemented. If the change effort is the seed that will yield a better school, then we must pay as much attention to the soil as we do to the type of seed.

In the RAND change agent studies of the 1970s, the concept of *mutual adaptation* was developed to explain the process in which a school would alter an external reform idea to meet its own local needs (Berman and McLaughlin, 1975). In their examination of observational and survey data from 293 reform projects in U.S. schools, they concluded that both the reform *and* the school itself would change during the process of implementation. Given this idea, high fidelity with the original design did not necessarily contribute to a successful change effort. This notion “recognizes the importance of local re-invention of innovations in order to better match the norms (and capacity) of the adopting organization” (Fishman et al., 2004, p. 66). Given the rationalist roots of the study of change, the term *lethal adaptation* (Bron and Campione, 1994) entered our language to describe innovations that are altered locally in a way that their original purposes are not met. Researchers in the field have said that “we faced an inherent challenge of this [mutual adaptation] approach—variations that cause innovations to become very different than originally envisioned, potentially weakening the impact of the innovation” (Fishman et al., 2004, p. 66). As an example, Fishman and his colleagues (2004) found that experienced teachers were so comfortable in deviating from the planned technology innovation that they left out the technology component altogether, which, from the researcher’s perspective, sabotaged the entire project.

Change agents must also recognize that teachers are socialized to take instructional ideas from others and adapt them to the needs of their students. In this sense, teachers have always been experts in mutual adaptation. If certain elements of an innovation are crucial to its success, teachers must be given a rationale, space to discuss it with colleagues, and time to experiment for themselves. Fostering the view of teachers “as active agents in their own learning” (Spillane, 2002, p. 391) is a central task of modern change agents. The example of student teacher as change agent given by Lane and colleagues (2003) is a good example of this mindset. Listening to training delivered by “experts” and reading memos drafted from administrators will rarely be sufficient to significantly change teacher practice (Cuban, 2001). For teachers to change their practice in the classroom, they must be given both autonomy and support.

This shift in focus from developing *good programs* to enacting *good implementations* has led to increased attention on the process of implementing reforms in particular schools. As the RAND change agent study concluded (Berman and McLaughlin, 1975, p. 83):

... many project evaluations focus on educational treatments in an attempt to relate them to student outcomes. These efforts may be misguided. Educational treatments, defined solely in terms of their technology or method, were only weakly related to implementation outcomes, because other elements of project design had stronger effects. The analysis showed that a project's implementation strategy affected implementation.

Change agents can influence mutual adaptation (and project success) by their choice of implementation strategy. One approach is through the involvement of teachers in a dialog with each other about a planned change effort. Professional development that allows for regular teacher-consultant contact and delves into the specific issues of classroom implementation were found to increase a project's success (Berman and McLaughlin, 1975).

Communicating reforms in ways that are meaningful to teachers' daily practice is also a relevant strategy. Borko et al. (2003) described this strategy in their case study of six schools considered exemplary models of standards-based reform in Washington state. Building on initial successes, focusing on implementable pieces of a larger reform, and "grafting of reform ideas onto familiar practices" (Knapp, 1997, as cited in Borko et al., 2003, p. 195) are suggested methods of implementing reforms in teacher-friendly ways. Another strategy to assist reform-weary teachers is to ensure that all reforms undertaken are "sustained, innovative efforts" (Borko et al., 2003, p. 199). This long-term commitment to a change effort can be reassuring to teachers who are unfortunately accustomed to losing support when funding cycles or leadership tenures are cut short (Fishman et al., 2004).

Change Agents Are Vision Builders, Not Technicians

Organizational climate was one of three factors that heavily influenced change in the RAND change agent studies of the 1970s. As McLaughlin (1990, p. 12) later stated: "The local expertise, organizational routines, and resources available to support planned change efforts generate fundamental differences in the ability of practitioners to plan, execute, or sustain an innovative effort." Expertise and routines are deep structures that often implicitly guide the work of people in complex organizations such as schools. To address these deep structures, change agents must guide teachers to ask some fundamental questions of themselves: What is the purpose of our school? What are some unmet needs of our students? Is the community benefiting from our efforts? Change agents undertaking these types of questions are not merely working as techni-

cians, but are acting as facilitators in guiding teachers toward a dialog about where their organization needs to go.

Researchers have distinguished the differences between *restructuring* (Schlechty, 1990) and *reculturing* (Fullan, 2000). Restructuring involves creating new procedures or practices based on someone's new understanding of how schools should work, whereas reculturing involves digging slightly deeper to explicitly address the underlying assumptions that guide everyday teaching practices. Our conception of change agency aligns more closely with the notion of reculturing. We find that "being a change agent includes both vision (driven by perceptions) and actions taken" (Avissar et al., 2003, p. 362). A "receptive school culture" (Newmann and Welhage, 1995, p. 57) is not one in which passive teachers do as they are told, but one in which professional learning is a value held in esteem. This is a value that is clearly not yet present in all schools, but Cochran-Smith (1991) found such a professional community among preservice teachers and certainly many school staffs exhibit similar characteristics. See the section on individual differences below for more of this discussion.

Change agents are also responsible for the cultivation of a common vision of reform amongst multiple stakeholders. Establishing this vision takes investments in time and capacity building (Jenlink et al., 1998), but change agents who do this will find that teachers will "persevere despite the vicissitudes of the change process" (Corcoran and Lawrence, 2003, p. 34). Vision development need not be the sole responsibility of administrators or outside consultants, however. In their study of school technology coordinators in New Zealand, Lai and Pratt (2004) found that important aspects of their job included visioning and planning to meet that vision. The most important aspect of creating a vision is not where it comes from but that it is communicated and accepted by a wide variety of stakeholders.

Although the creation of a vision is essential, one of the defining characteristics of a vision is that an individual or school can take multiple pathways to meet this vision. As an example of this loose coupling, Newmann and Welhage (1995, p. 37) studied schools in which "the mission for learning was powerful enough to guide instruction, but also flexible enough to encourage debate, discussion, and experimentation within the framework." Their meta-study of school reform research involving four separate studies and over 1000 U.S. schools concluded that reforms were likely to be successful when teachers were encouraged to find their own pathways while still adhering to an overarching vision.

Get Leadership Approval and Participation

Another nearly universal characteristic of effective change is getting the support of leadership. Borko and colleagues (2003, p. 191) noted in their study of school change in Washington state that “the primary grade facilitator for literacy characterized her [the principal’s] leadership as ‘very strong’ and noted that it was an ‘extraordinarily important’ factor in the school’s success in attaining its reform goals.” Although principal leadership and participation are important for the success of a reform effort, their study showed that teacher leadership is important as well (Borko et al., 2003, p.196):

Leadership—both principal leadership and distributed leadership—was a key factor in the success of both schools’ reform efforts. In fact, it was perhaps the most important factor because of its impact on the other five dimensions of school capacity. [italics in original]

Other researchers have described the benefits of the participation of teacher leaders in change (Fishman et al., 2004; Lai and Pratt, 2004; Olsen and Kirtman, 2002; Tearle, 2003), of principal participation in change (Goldenberg, 2003), and of central office participation in change (Corcoran and Lawrence, 2003). Strong leadership and the allocation of resources and time are likely signals to teachers that a particular reform effort is a legitimate one. Such leadership is clearly not yet present in all schools (Newmann and Welhage, 1995).

Creation of Community and Individual Professional Development

It has been stated that classrooms of the 21st century look strikingly similar to classrooms of the late 19th century in terms of curriculum, pedagogy, and assessment and that this industrial-age paradigm of schooling based on sorting and ranking students does not meet the needs of our current information-age society (Reigeluth, 1999). If schools are to change to meet the demands of current society, then teachers must learn new ways of doing their work. Honing these new methods will require dialog and experimentation to find instructional practices that work for particular students in particular classrooms; therefore, the creation of a professional community that serves to build both individual and collective capacity is a key element of K–12 change agency (Corcoran and Lawrence, 2003; Fullan, 2001). The importance of addressing local capacity has been identified as especially important in young reform efforts (Borko et al., 2003). Understandably, even extremely high levels of internal or external pres-

sure for change will not be successful if the teachers do not know how to do what is being asked of them.

Delivering new teaching methods under the training paradigm of professional development has had a suspect history, but “what does make a difference is reculturing: the process of developing professional learning communities in the school. ... Structures can block or facilitate this process, but the development of a professional community must become the key driver of improvement” (Fullan, 2000, p. 582). Professional learning communities are groups of teachers and school leaders who critically examine their teaching practice and seek new ways to address unmet student needs. McLaughlin (1990) identified the Bay Area Writing Project, the Puget Sound Consortium, and the Urban Math Collaborative as groups that capitalized on existing teacher-led communities to foster change in teaching practice. The reculturing that fosters the growth of professional communities allows teachers, often dismissed as mere technicians in the change process, to have considerable influence on the design and implementation of classroom reforms. In their study of student teachers in Los Angeles area schools, Lane et al. (2003) found that the expertise that mentor teachers were accorded by their student teachers actually fostered the critical dialog that led to reflective practice and professional growth. Because the mentors were not threatened by their student teachers, they were perhaps more willing to enter into this important process. Corcoran and Lawrence (2003, p. 26) noted in their study of a science reform program in New Jersey and Pennsylvania schools:

The increased respect shown for the clinical expertise of teachers and the expectation that they should be consulted in the design of policies and programs and changes in district leaders’ perceptions of how teachers learn have contributed to these cultural changes. So too, have the collegial cultures of the summer workshops and the study groups fostered by MISE.

Many reforms have been upended by the fact that teachers are not supported (structurally or socially) in improving their practice with others. Changing this situation and creating the possibility for teachers to develop a professional community may have a positive effect on both the adoption rate of reforms and the quality of implementation.

Ignoring professional development can sidetrack a change effort (Lai and Pratt, 2004), as can doggedly pursuing the appearance of a professional community without allocating adequate time, physical space, and material resources (Fishman et al., 2004). Schools that wish to change should see the professional community as a key component in their preparation for change,

for it can both weed out reforms that are unlikely to succeed as well as build support for those that have potential for improving teaching and learning in the local context.

In their study of restructuring in 36 California schools, Olsen and Kirtman (2002) found that the school-wide climate was a primary influence on whether or not individual teachers took reform ideas and used them to change their classroom practice. Supporting this view, Tearle (2003), in her case study of a school with high implementation of information technology, found that the existence of a professional community aided the adoption of the innovation. The school's professional community provided a framework for trying out experimental practices as well as a cadre of leaders who would take the innovation back to their departments and aid in diffusion.

Individual Differences Matter

It is fitting that this discussion of K–12 change agency ends with the admission that all of the general topics mentioned above, although supported by empirical evidence, are subject to the immense variety of individual characteristics that help to define a specific reform effort at a specific school. These unique characteristics have led research away from the fidelity perspective of systematic implementation to an “implementation perspective” (McLaughlin, 1990) that highlights the negotiation involved in any change process. As McLaughlin (1990, p. 13) stated, “variability ... signals a healthy system, one that is shaping and integrating policy in ways best suited to local resources, traditions, and clientele” (p. 13). These individual quirks that define a local system are absolutely critical in the decisions made in the process of change. A brief examination of some of the individual differences that were uncovered in K–12 change research will illustrate this point.

In their study of Israeli school principals' views and practices concerning a state-mandated special education innovation, Avissar et al. (2003) found that the age of the school principal had an important influence in how this particular reform was interpreted and implemented. Their survey research of 110 elementary school principals found that the older a principal, the less likely he or she was to implement the full-inclusion practices mandated by the government. Fishman et al. (2004) identified comfort with technology and comfort level in deviating from a lesson plan as teacher characteristics that greatly influenced their technology-based change efforts. Also making reference to individual characteristics is the warning of Jenlink et al. (1998) that internal change facilitators, no matter

how talented, may carry political baggage that can upset the reform process. Awareness of early adopters who generate interest and resisters who disagree with the goals of reform is an essential aspect of a successful K–12 reform.

Change Agency in Non-K–12 Contexts

Although the majority of the empirical work presented in this chapter is on K–12 change, valuable research from other fields has examined change agency in areas such as government, business, and healthcare. A brief examination of this research both confirms findings from the K–12 research and adds additional insights into the discussion of change agency which can be very enlightening for educational technologists and others interested in changing human learning.

Government Change Agency

In their case study involving a dozen U.K. civil servants working together over 15 months, Kakabadse and Kakabadse (2003) concluded that cultural change was more important than structural change when institutionalization is the goal. Their intensive work on the process of collaborative inquiry (CI) was initiated with the development of shared values that served as springboards for a critique of current practice. They also discussed the importance of perseverance in the difficult task of uncovering unexamined values and critiquing deeply held personal assumptions (Kakabadse and Kakabadse, 2003, p. 379):

CI is a challenging experience as the process of inquiry confronts the underlying assumptions, values, power base and established ways of working within any situation. CI requires time, resources, social skills, and the ability to share personal experiential knowledge with the group.

As in the K–12 context, it is important to have these conversations and to allow for the appropriate amount of time and supports to complete the process.

In a large-scale survey study conducted by Simmons and Simmons (2004), it was concluded that governmental change is a complicated process that encompasses nearly every issue imaginable. The researchers found racial and educational differences to be at the heart of many of the differences, but they state that, “no single contextual, political, or institutional theory we considered explains all the conflict over government form” (p. 386). The complexities of change on the scale of city government are so great that no single theory can explain it all. The importance of individual differences and supporting open dialog are echoed here.

Corporate Change Agency

Since the early operations research work by Ackoff (1974), business environments have regularly utilized change agents, often referring to them as *external consultants* (Bennis, 1969, as cited in Kendra and Taplin, 2004). This definition of a consultant is narrower than our definition of change agency described at the outset of this chapter, but a brief examination of these consultants should help in developing a fuller sense what a change agent is.

These external change agents have been valued for their “ability to affect the organization’s power structure in ways that employees as change agents cannot and because they are less subject than employees to implicit and explicit organizational rewards and punishments” (Kendra and Taplin, 2004, p. 21). This view is very much influenced by the work of French and Raven (1959). External consultants have the ability to openly criticize people and practices without sacrificing their careers, potentially providing a less biased view of change efforts. Internal change agents, although likely to have better knowledge of the change context and the key stakeholders, may be influenced by their vested interests in the organization, leading to a corruption of the change process. This is a tradeoff that must be made by organizations when selecting people to act as change agents.

So, what are the qualities that researchers have found useful in these external consultants? There seems to be relative agreement from business research on three characteristics of successful change agents: excellent communication skills, the ability to function with loose coupling between management and employees, and the ability to cause perturbances in organizational practice.

Communications skills appear most often in the literature as an important characteristic of successful change consultants (Suchan, 1995; Weick and Quinn, 1999). Their work can be thought of as that of a translator who brings an idea of change into fruition. This requires that communication, both formal and informal, take place between the consultant and stakeholders. Sumner (1999), in her comparative case study of seven corporations implementing large-scale information technology systems, found that in five of the seven cases communication played a key role in the success of the innovation. Similarly, a survey study of cell phone adoption by Vishwanath and Goldhaber (2003) of 225 non-users of cell phones showed that, for late adopters, contact between customers and change agents (salespeople) was an important variable in the adoption process. The notion of speaking *differently*, not just arguing better, contributes to an understanding

of the complexities of communication for consultants (Rorty, 1989, as cited in Weick and Quinn, 1999). The communication between potential adopters and cell phone salespeople decreased the perceived complexity of the innovation, which, according to Rogers’ diffusion theory (2003), increases the likelihood of adoption.

Business-oriented researchers have also noted the importance of a change agent’s ability to foster loose coupling between management and employees (Orton and Weick, 1990; Weick, 1976). As described in the previous section on the creation of vision in K–12 schools, loose coupling is predicated on the creation of a shared organizational vision that guides the actions and intentions of all members. Under this umbrella of guidance, workers are given freedom to seek multiple pathways to pursue the organizational vision. In their study of the work relationships of Hollywood film actors, Faulkner and Anderson (1987) concluded that the loosely coupled organization of directors, producers, actors, and technicians led to the creation of small niches in which previously successful workers worked together repeatedly, ensuring future prosperity. The result is more movies that sell a lot of tickets and fewer flops.

In a multiple-case study of six companies in the information technology industry, Brown and Eisenhardt (1997) used interviews, observations, and environmental analysis to determine factors related to the success of multiple-product innovations. They concluded that loose coupling is one of three characteristics seen most often in companies successful in implementing multiple product innovations. By contrast, Dubois and Gadde (2002) argued, based on their previous research, that the loosely coupled nature of the construction business, although beneficial in terms of optimizing the time and costs of projects, may hurt innovation in the field. Loose coupling does encourage local experimentation and innovation, but without formal bonds by which successful innovations might be shared the construction field as a whole is slow to develop. The lesson from these conflicting viewpoints may be that change agents should encourage loose coupling between management and workers while insisting on regular communication so cross-pollination can occur.

A final characteristic of change agents/consultants in the literature on corporate change is the ability to cause perturbations in daily practice that can help initiate change. Suchan (2005, p. 18) gave a clear rationale for why this is an important change agent quality:

To overcome inertia, at least initially, a disruption is needed that can open a space to infuse new energy into the organizational system (Pfeifer, 1997). The source of that disruption could be a new technology, a major

organizational opportunity (e.g., a merger or acquisition), an organizational crisis or potential crisis, or even the setting of goals that may be virtually impossible to attain.

Change agents are constantly bumping against the inertia of everyday activities within the organization. Successful change consultants are able to disrupt this hypnotic flow of events in ways that do not cause excessive stress on individual members but encourage a critical self-examination of daily practices. In a health study with implications for the disruption of habitual processes, Prochaska and Norcross (2001) examined smokers and weight-loss candidates. They found that individuals went through six phases during the behavior change process: precontemplation, contemplation, preparation, action, maintenance, and termination. It is noteworthy that only in one of the six phases are individuals actually engaged in behavioral change—and the rest is preparation and maintenance. Prochaska and Levesque (2001) expanded this line of inquiry to organizations by developing their Decisional Balance Inventory survey instrument. They reported over a dozen studies that have utilized this instrument, ranging from higher education to food service to retail sales and concluded that using their stage-based paradigm of change brings more people into the process and allows change agents to tailor change activities differently for different individuals or work groups who may be at varying levels of readiness for change.

The importance of perturbing everyday practice is also highlighted in Brown and Eisenhardt's (1997) finding that the six product development managers in their study "balanced between the rigidity of planning and the chaos of reacting by frequently probing the future using a variety of low-cost lenses ... experimental products, futurists, strategic partnerships, and frequent meetings" (p. 16). The results of these probes into the future might provide information to the group that would cause important shifts in their vision of the organization. Scholars have noted the importance of providing increased organizational performance data to employees as an early step in the change process (Dooley, 1997). Providing such data and providing for structured time in which people can talk about it are recommended tactics for jolting an organization out of its unquestioned routines. Change consultants working in corporate settings are skillful in disrupting the flow of everyday activities just enough to create some dissonance that will bring out the creative energies of the group.

Healthcare Change Agency

The importance of change agency in the medical community is well stated by Redfern and Christian

(2003, p. 236), who proposed that "a credible change agent who works with practitioners face-to-face to encourage enthusiastic involvement" is the most important factor in successful healthcare change efforts. Despite the rather rigid experimental traditions in medicine, research points to the oftentimes chaotic nature of change within complex healthcare organizations. A deep understanding of the organizational culture of the context in which any change agent works is essential.

Berman and McLaughlin's concept of mutual adaptation appears to apply to studies of change in the medical profession as well. Slater et al. (2005) studied a community-based mammography project, and their findings included the importance of an attitude that "permits the change agent organization to 'reinvent' it [the innovation] in a variety of settings and circumstances" (p. 465). The recognition of competing agendas (researchers vs. change agents vs. community) between different participants in the change effort underscores the need to allow for flexibility of implementation. To the contrary, a study of the dissemination of a sun safety program to zoological parks in the United States found that tailoring the way in which a sun safety program was communicated to zoos had little effect on the level of implementation (Lewis et al., 2005). This runs counter to much of the research that says that the more flexible an innovation is the more likely it is to be adopted (Berman and McLaughlin, 1975; Rogers, 2003). A possible explanation for this incongruence is that this innovation did not come through management first but was sent directly to disinterested implementers. These contradictory findings give rise to the notion that source of the innovation may be equally as important as its flexibility.

The authors in the zoo study also note that they did not facilitate communication between participating zoos in an effort to avoid contaminating the results of their study. They concede, however, that allowing for such communication would likely have improved adoption rates, and Rogers' (2003) notion of *observability* supports this conclusion. Allowing for communication between all participants in the change process appears to be a characteristic of successful medical change efforts. Slater et al. (2005) found that maximizing contact between collaborating agencies over the course of their 6-year project strengthened the change effort. In complex organizations such as these, where management, change agents, and adopters may not be regular collaborators, the change agent is wise to pay particular attention to facilitating communication among all participants.

CONCLUSION

This discussion of change agency has spanned contexts from schools to hospitals. We have described the current state of the theories surrounding change agency with a particular emphasis on certain themes, including the importance of connecting organizations to their environments, the centrality of stakeholders in organizational change, the primacy of vision and culture, the necessity of leadership approval and buy-in, the usefulness of professional communities, and the recognition of individual differences among adopters. We have also looked at non-school contexts and found that culture is equally as important in organizations as it is in schools and that change agency is a bit more well defined and delimited in the corporate sector. Change agents in non-school contexts have been shown to require heightened communication skills and a strong ability to function with loosely coupled management and employees. And, like the calls for school change that often result from sharing data related to school outcomes (Peck and Carr, 1997), corporate change agents must be able to show current failings in a way that generates positive momentum for change. The findings of most research seem to indicate that change agents are not always welcomed, supported, or given nearly sufficient time or human resources. In fact, most change agents in all contexts struggle mightily to effect and sustain substantive systemic organizational change. Indeed, it is within this struggle that those who tilt at windmills, as many instructional technologists are wont to do, find their personal meaning. It is our hope that the research presented here will lighten your lances and sharpen your aim.

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* Indicates a core reference.

