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Making change happen: A simulation for learning to
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Learning to Lead Organizational Change

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Abstract

From the U.S. to Europe and Asia, policymakers now recognize that change in all societal institutions – public and private -- holds the keys to national development. This means that leaders will need to learn how to work smarter: to produce more by making better use of the human resources already at the organization's disposal. Leaders must learn how to make organizations work smarter. This will involve becoming more adept at leading change.

The purpose of this article is to discuss the design and content of a computer-based simulation intended to help organizational leaders learn to lead change. The paper is divided into two main sections. In the first we discuss the background, design and operation of the problem-based simulation, *Making Change Happen!* The second portion of the paper is devoted to an exploration of the change process as conceptualized within the simulation.

Every few hundred years throughout Western history, a sharp transformation has occurred. In a matter of decades, society altogether rearranges itself -- its worldview, its basic values, its social and political structures, its arts, its key institutions. Fifty years later a new world exists. And the people born into that world cannot even imagine the world in which their grandparents lived and into which their own parents were born. (Drucker, 1995, p. 75)

This quote captures succinctly the transformational period of change in which societies throughout the world find themselves. While change is an ever-present facet of human evolution, the scope and pace of change in societies since the mid-1980's has accelerated dramatically (Hallinger, 1998b; Naisbitt, 1997; Ohmae, 1995; Rohwer, 1996). Global economic has created a new context for national development throughout the world. Consequently, social and corporate institutions are under pressure to adapt to externally driven change more rapidly than ever before (Drucker, 19995; Handy, 1994; Kotter, 1996; O'Toole, 1995).

From the U.S. to Europe and Asia, policymakers now recognize that the capacity for change in public and private institutions holds the key to social and economic national development. This suggests that leaders must learn how to enable their organizations to work smarter. They will need to become more adept at leading change. Yet as Evans (1996) has noted:

Over the past few decades the knowledge base about . . . change has grown appreciably. Some scholars feel that we know more about innovation than we ever have (Miles, 1992, pp. 29-30). But although we have surely learned much, there remain two large gaps in our knowledge: training and implementation. (p. 4)

The purpose of this article is to discuss a computer-based simulation designed to help organizational leaders learn effective change strategies. The article is divided into

two main sections. In the first we discuss the design and operation of the problem-based simulation, *Making Change Happen!* The second portion is devoted to an exploration of the change process as conceived in the simulation.

The Simulation: Its Assumptions and Instructional Design

Those who would help others learn to lead social and organizational change face a daunting challenge: how to make potentially useful conceptual knowledge applicable to people in the workplace. This was the charge our design team assumed in designing the *Making Change Happen!*TM simulation, a training tool for leadership development.¹ We begin by discussing the assumptions that underlie this computer-based simulation and then proceed to describe how we use the simulation in an instructional environment.

Underlying Assumptions of the Simulation

Several assumptions underlie the instructional design of the *Making Change Happen!*TM simulation (Bershad, Mundry, & Hallinger, 1999).

1. The goal of training about change in organizations should be *to develop knowledge that leaders can apply in the workplace* (Bershad & Mundry, 1997)
2. A *problem-based approach* (PBL) to learning new concepts would yield greater results given the goal of developing usable knowledge (Bridges & Hallinger, 1993, 1995; Hallinger & McCary, 1990).
3. A key facet of PBL posits that knowledge and skill transfer will be enhanced if the *content is learned in the context of a realistic problem* (Bridges & Hallinger, 1995).
4. An *interactive simulation* in which learners can develop, apply and see the results of different strategies for making change would be effective at

developing capacities for higher order thinking about leading change (Bransford, 1993; Hallinger & McCary, 1990).

5. Since the process of transforming organizations requires managers to lead in a team-based environment, *the learning process should model a team-learning format* (Bridges & Hallinger, 1993, 1995; Senge et al., 1994)
6. Given the scarcity of time for formal staff development outside the workplace, *the design of the simulation should incorporate substantial “cognitive scaffolding”* so users can learn at their own pace inside and outside of formal training (Bershad, Mundry, & Hallinger, 1999; Bransford, 1993).
7. Since learning to apply any sophisticated conceptual framework takes time, it would be advantageous if *the simulation design made it convenient for learners to engage in multiple opportunities for practice* (Bershad, Mundry, & Hallinger, 1999).
8. A simulation that mirrors the complexity of implementing change in the real world should foster open-ended thinking about change and model the assumption that *there is no one best change strategy that will work in all organizations* (Fullan, 1993; Kotter, 1996).
9. The simulation should incorporate *a mix of multidisciplinary resources drawn from theory, empirical research and practice* (Bridges & Hallinger, 1993, 1995).

Next we shall elaborate on how these assumptions are woven into the instructional design of the computer-based simulation.

Instructional Design

Team-learning. The *Making Change Happen!*TM simulation was designed as a training tool for organizational leaders. Learners play in teams of two or three people per computer, even when there are sufficient computers for everyone. Teams will lead most organizational improvement efforts in the future, rather than individuals (Drucker, 1995; Senge, 1990; Senge et al., 1994). Consequently, the instructional design explicitly adopts

and models a team-based approach to problem-solving and decision-making. In fact, the development of team-work skills represents an instructional goal of the simulation.

In addition, cooperative learning accelerates the learning of individuals in a problem-based environment (Bridges & Hallinger, 1993; Hallinger & McCary, 1990). Working with a partner in this problem-based exercise stimulates each learner to surface his/her assumptions about change. The process of discussion, resolving conflicts among ideas, and mutual reflection visibly raises the quality of thinking in the learning environment. When playing the simulation as individuals, especially the first time, there is a danger of learners short-cutting the thinking process and assuming a computer-game mentality. Thus we have incorporated a team-learning format as an essential feature in the formal initial use of the simulation.ⁱⁱ

The problem comes first. Consistent with the tenets of problem-based learning (Bridges & Hallinger, 1995), the simulation begins by presenting the learners with a problem rather than with theoretical content. Immediately upon starting the simulation, the teams of learners confront their challenge: how to implement new information technology in the organization.

The Problem

The new Managing Director of the Best Organization has mandated implementation of a new information technology system -- IT 2020. Under pressure from international competition, the MD has said it's time for change. "Our traditional methods of using data as well as communicating across the organization are inadequate to meet the needs of the global age." IT 2020 is the MD's first step in acting on his promise of change to the company's Board of Directors.

IT 2020 will, however, mean significant change for all who work across the company. In addition to the purchase and redesign of IT hardware and software, IT 2020 will require changing the way staff communicate and share information. This will in turn affect their relationships to customers.

Moreover, in the Managing Director's words, "the Best Organization has been slow to adopt practices and policies necessary to 21st century business." Managers and front-line staff are, however, already uncomfortable with the pace at which other recent changes have been forced upon them. Some veteran staff have begun to joke that the information technology advocated by the new MD just might get used by the year 2020.

Given the scope of this change, the MD has decided to proceed by pilot testing the use of IT 2020 at two branches in the Central Region of the organization's operations. Based on results of the trial in these branches, implementation will then roll out into other branches and regions. Despite this step-by-step approach, the MD is under pressure to show results soon. Therefore trial implementation will begin immediately.

Your Task

You have been selected for special assignment to the team responsible for managing trial implementation of IT 2020 in the Central Region of the organization. Your team is comprised of people from different roles in the Central Region. You will coordinate with Beth, the Management Information System (MIS) Manager in the Head Office, and also with Al, the Regional Director. Two members of the company's Board of Directors -- Carol and Dave--have been assigned by the Chairman of the Board to monitor this project.

Your team will lead implementation of IT 2020 over a three year period. In each year you will have a budget to spend on specific activities designed to foster use of IT 2020 among staff in these pilot branches. Your success will be assessed annually and at the end of three years to see how widely staff are using IT 2020 and the effects on productivity.

The simulation gameboard and rules. After reading the problem on the computer screen, the learners begin to access other factual information concerning their situation. This information is presented via handouts and the computer screen.

- The game board on the computer screen (see Figure One), displays the organization and community members on the left-hand side. Listed across the top of the board are five stages of the change process: Information, Interest, Preparation, Early Use, and Routine Use. The game pieces representing the 24

people begin “off the game board” because they have yet to begin the process of change. *The goal of the change team is to move these staff and, Board Directors from a state of knowing nothing the use of this new information technology to a stage of mastery and routine use in their work.*

- *Each of the 24 staff members has a unique personality that is conveyed through a brief description on a handout.* For example, the description for the Central Region’s Director reads, “Al is a respected manager who is concerned with maintaining his Region’s productivity. Passed over for the Managing Director’s position, he has been heard to say: “The new boss may not understand how things are done around here.” Or Irene, a credit clerk: “She says: ‘When there’s a job to be done, the old ways still work best.’ She doesn’t trust technology or see a need to change the credit system. She will resist anything that results in more work, even in the short-term.”

[Insert Figure One about here]

- *The team has a budget which it may spend on activities intended to foster change.* The budget is represented in units called bits and is replenished each year. There are 16 activities from which the learners can choose (see Figure Two). These are typical activities a change team might undertake: talking with

people, giving out written information, holding a workshop, trying the IT out in the workplace, policy implementation. By spending the budget on some combination of these activities, the learners will begin to see change occur.

- *Each time that learners implement an activity in the simulation, they receive feedback describing what happened.* For example, if the team chooses to “Talk to” several people, their budget will be reduced by the cost of that activity. The people they talk with may (or may not) respond positively. For each activity, the teams will receive feedback on what happened and why.

If the activity was successful the game piece(s) representing the staff will move one or more spaces. If unsuccessful, they may stay put. Thus, the first time they “Talk to” Al, the team receives the following feedback: “Al is very busy. He is involved in other projects to improve the region’s productivity and doesn’t have much time to talk with you today. He suggests that you coordinate with MIS staff at the Head Office. On your way out he says, ‘I don’t know *they* are always thinking up these new things for us to do.’ Al moves one space.”

If they “Talk to” Irene, she responds. “I just don’t like computers. They’re so impersonal. How can this new system help me anyway? And what will I do when the system breaks down and I have to get the credit reports out on time? Will I be blamed for the late report? Irene doesn’t move at all.”

Through this process of planning, doing, getting feedback, reflecting, and acting, the learners see the evolving results of their strategy for bringing the new IT into the workplace.

- The instruction is designed so that learners develop the desired conceptual frameworks out of their experience in the simulation. A central feature of the simulation is the interdependence of the activities that comprise the team's strategy. That is, the success of certain activities in the simulation depends upon the completion of other activities. Therefore, the simulation is designed with hidden decision rules. These require the learner to develop a strategic sequence of activities that creates a context that supports change in the organization.

This facet of the simulation derives in part from the "Concerns Based Adoption Model" (Hall & Hord, 1987). This model assumes that people will change when their needs or concerns are being met. So, for example, the successful implementation of IT in the Workplace depends upon people having reached a sufficient level of knowledge, interest, and skills in the new strategies. Thus, in the prior example the people designated to begin to implement the IT strategies must have reached the *Early Use Stage* on the game board. If not, they would receive the following feedback: "The people involved are not ready to implement new strategies. Do some more

preparation with them so they have a better idea "how to do it." Or choose a group that is better prepared and then try again. No one moves.”

- *The simulation also provides feedback on learning outcomes.* Certain activities – generally those that involve interaction with customers – also generate *productivity benefits*. These are conveyed via the feedback and accumulate through the three years in which the simulation is played. So if Implementation of New IT Strategies was successful, the feedback would note: “Your assessment of needs helps you make use of current research on effective practices. Staff begin using new strategies that -- to the surprise of some -- increase customer interest and enhance productivity. Gain 50 Bennies for everyone in Early Use Stage and beyond. Double the # of Bennies for everyone in the Routine Use stage. Every participant moves 1 space.” Bennies are the learner benefits.
- *At the end of the three years the team can see the results of its change strategy.* Success is based on two criteria: a) moving people through the stages of change (i.e., how many of the 24 people in the system reached the Early and Routine Use Stages?) and b) improving productivity (i.e., how many learner benefits did their team achieve?).

[Insert Figure Two here]

Instructional process. As noted above, the simulation is played in three one-year cycles. When used in the context of a workshop or formal class session, the instructor would typically proceed in the following sequence:

- Introduction of the topic and simulation (30 to 60 minutes)
- Simulation: Year 1 (60 to 80 minutes)
- Instructor-led Debriefing and Team Sharing (20 to 40 minutes)
- Simulation: Year Two (40 minutes)
- Instructor-led Debriefing and Team Sharing (15 to 25 minutes)
- Simulation: Year Three (20 to 30 minutes)
- Instructor-led Debriefing and Team Sharing (45 to 60 minutes)

The above schedule show minimum to typical time allotments. Depending upon the context, the session can be expanded considerably (e.g., in a college course unit). However, the simulation takes a minimum of three hours plus breaks.

Note that in this schedule, the instructor conducts a structured debriefing after each year. The debriefing is designed so learners from various teams can share what they derived from their different experiences (i.e., implementation of different strategies.ⁱⁱⁱ

Accessing a Knowledge Base for Leading Change

Societies throughout the world are straining to accommodate new values, norms and standards of practice emanating from the global culture (Naisbitt, 1997). Most organizations are in a state of information and work overload, struggling to keep up with the pace of change in the environment (Handy, 1994; Kotter, 1996; Ohmae, 1995). At the

same time, resistance to change has never been greater (Evans, 1996; Hargreaves & Fullan, 1998; Maurer, 1996). As O'Toole has noted:

In all instances in modern society, change is exceptional. When it comes about, it does so primarily as a response to outside forces. . . In no case does it come readily. . . A world in which change is the rule would be characterized by chaos, leading to social collapse. Therefore, a society must have one foot permanently on the brake; it must have a predisposition to tradition and conservatism. (1995, p. 253)

This begins to explain *why* resistance is greatest when change is rapid. Too much change too quickly causes confusion and the breakdown of individuals, organizations and societies. In the face of rapid change, people seek to hold even more strongly to what is known (Evans, 1996; Maurer, 1996).

The economic crisis in Asia is a case in point. Even in the face of massive political and economic changes over the past decade, counter-balancing mechanisms have operated to maintain cultural integrity and continuity. The social and cultural institutions of Asian societies simply could not keep up with the unprecedented pace of economic change during the 1990's. At a certain point, this led to a state of disequilibrium that forced a halt to further economic integration until other societal subsystems could catch up. It was only with the advent of the economic crisis – tragic though it has been for individuals – that certain traditional business/government norms and practices have been reconsidered.

This suggests that resistance to change – the traditional bane of organizational leaders – is not wholly negative. Rather, resistance helps maintain equilibrium within social systems (Evans, 1996). This represents a paradigm shift in change management. Instead of viewing resistance as an obstacle to overcome, change leaders must view it as a source

of information (Evans, 1996; Fullan, 1993; Hallinger, 1998b; Senge, 1990). As Maurer has observed:

Often those who resist have something important to tell us. We can be influenced by them. People resist for what they view as good reasons. They may see alternatives we never dreamed of. They may understand problems about the minutiae of implementation that we never see from our lofty perch. (Maurer, 1996, p. 49)

We can conclude resistance is a natural by-product of the change process. It is something leaders must learn to work with; not something to sweep under the rug, to bludgeon into submission, or even to “overcome” through argument. Leaders must learn to look for and use resistance. This perspective sets the stage for the change obstacles and strategies built into the simulation.

Assumptions about Organizational Change

Several assumptions underlie the design of the simulation’s content. These reflect our understanding of the leadership and change literatures. Our perspective towards the change process are captured in Figure Three.

[Insert Figure 3 about here]

Change is a process, not an event. Our first assumption *is that change is a process, not an event.* It is a journey from a state of knowing little or nothing about something new -- an innovation, policy or practice -- to a state of having the commitment and skills to use it in practice. As indicated in the graphic, the journey is full of obstacles, valleys of frustration, as well as opportunities for celebration.

While this may appear self-evident, the actions of leaders often run contrary. For example, the amount of time for a significant change to take place in an organization is three to five years, or more (Fullan, 1993; Kotter, 1996). Yet leaders often look for changes in productivity within a much shorter time frame. In fact, some conclude that an innovation has failed simply because they have not given it sufficient time to become fully integrated into the practice of staff.

The simulation models this assumption quite clearly. The pace of change in the practice of staff is surprisingly slow. At the end of the first year of implementation, a relatively small percentage of the staff are actually *using* the new IT. Even teams with quite successful strategies find most of their staff in the Information, Interest and Preparation Stages. The time-cycle of the simulation allows the learners to witness the predictably slow progress of staff over three years.

This highlights two points. First, it indicates the importance of *setting high but realistic expectations* for staff when learning to use a new practice. Second, it brings out the need for leaders to have a clear vision of the outcomes and process of change at the outset of the journey.

Change takes place in individuals before it takes place in organizations. Leaders often confuse adoption of an innovation with implementation. In reality, until the individuals who comprise the organization have adopted the new, the organization has not changed.

The simulation models this assumption through the uneven pattern of progress of people in the Best Organization. The feedback learners receive as they attempt to “move people” illustrates predictable obstacles to change. Obstacles include unclear goals,

political agendas, staff uncertainty, work overload, change overload, policy conflicts, changing goals, lack of resources, improper allocation of resources, technical problems, and chance freaks of nature (e.g., a workshop gets flooded out).

Thus, early on it become very clear that the organizational units are not using IT 2020, despite the fact that they have officially adopted it! Only when a critical mass of staff begin *using IT 2020 in the workplace* does the organization begin to change and productivity improve.

Change involves gradual growth in both skills and feelings. This assumption takes note of the observation that development of technical knowledge is intertwined with the development of feelings of confidence and commitment in the change process. People who agree to learn how to use IT in their work do not go to sleep one night as novice users and wake up the next day as experts.

At the outset of the simulation, the change team tries out different activities with the staff. Immediately they face staff resistance stemming from a variety of external factors: the new ness and complexity of the information technology, work overload, political agendas, the failure of past innovation. Yet for many staff underlying the resistance is anxiety about trying something new.

Thus, the change team will gradually come to see the need to address these concerns and build support *before trying to develop technical skills*. Once they succeed in building sufficient interest among staff, they can proceed to activities that develop skills (e.g., workshops). Then as technical competence develops, confidence will also increase.

However, as the graphic suggests, initial attempts to use the technology may result in problems and a temporary loss of confidence. If the team addresses this by

conducting activities that provide moral and technical support they can overcome this obstacle. Thus, this assumption operates throughout the simulation.

Individual members of a social system react differently to the same change.

Responses to the innovation will depend upon personalities, prior experience and a variety of contextual factors. So in the Best Organization there are many individuals taking personal journeys from the status of novice towards that of mastery. This assumption contrasts sharply with common practice in which the staff is treated as if everyone had the same needs at each point in the change process.

The simulation models this assumption in several ways. Individual staff react differently to IT 2020. For example, when the change team goes to “Talk to” the innovators in the organization, these staff enthusiastically endorse the effort and move quickly on the game board. Others – the informal leaders -- react positively but evince caution as well. The largest group – the majority -- adopt a wait and see attitude. And a small group – resisters -- strongly resist any effort at change. The pattern of responses as well as the strategies that succeed with each of these “adopter types” is based largely on the work of Rogers (1971; Rogers & Shoemakers, 1982)

This assumption also becomes apparent through the varying pace of players progress across the game board. All of the staff start out at the same place -- knowing nothing about IT 2020. Yet even after the first year of implementation the staff are scattered through the various stages of change. This reinforces the conclusion that although an effective change strategy must address the concerns of individual staff to bring about change.

These assumptions underlie the theoretical framework from which the simulation derives its decision rules. Next we discuss the change principles that underlie an “effective strategy.

Change Principles

These principles represent key learnings of the simulation. The principles emerge from the experience of the learners during the simulation and are highlighted explicitly in the debriefing sessions. We emphasize that there is no single “best strategy.” Rather the goal of the simulation is for the learners to understand and be able to principles such as these to their own change efforts in the workplace.

Think big, but start small. As noted earlier, the simulation reinforces the importance of having a vision of both the process and outcomes of the intended change (Kotter, 1996; Senge, 1990). A vision of the process entails knowing the predictable obstacles staff will encounter during the implementation of change. A vision of the desired outcomes of the change is necessary in order to maintain staff focus on the purpose of implementation.

Yet, we concur that a leader’s vision of the change does not arrive prepackaged (Kotter, 1996; Senge, 1990). The vision of change evolves over time in interaction with those who are actually implementing it. As Hamel has observed:

[I]t’s at the top of the organization that people are most blind. One of the challenges. . . in many companies is that top management is learning slower than the world is changing. So we have to look to others for that creative spark. It is difficult to predict where it will come from. Who’s already asking the tough probing questions?
(Hamel, 1998, p. 35)

Thus, the simulation also emphasizes the importance of starting small both in the creation of the vision of change and in the implementation of the innovation (Kotter, 1996). Building on small success, increasing staff interest and confidence that they *can* do it is essential. This is especially important during the early stages when anxiety, uncertainty, and resistance are likely to be greatest.

The necessity of thinking big but starting small is summed up in a story recently publicized in Thailand. Over a period of 15 years, a poor villager, Uncle Sorn, transformed a barren piece of land surrounding a local temple into a lush orchard. When asked about how he did it, he replied:

[At the beginning] they called me a crazy old man. . . You must have faith in what you do. If you want to grow trees, you need to grow faith in your mind first. Once you know it's a good thing to do you'll be able to do it. . . Once you have faith, you pay attention. Almost all of the first batches I planted didn't survive. It took me a couple of years before I learned what conditions each species prefers. For example, some trees love a lot of light, while others may need some shade. Some trees need more water than others. (Kongsanit, 1997, p. B2)

The metaphor provides an apt summary of this change principle.

In the simulation, the initial moves that bring success are not organization-wide, expensive, high risk activities. Rather they involve talking to people, sharing information, and learning what people want and need. It is through these small-scale activities that a shared vision of the change gradually develops.

Change is an evolutionary process. Learn and adapt as you go. Some change teams take a long time before making any move during their first year in the simulation. They try to map out a “master plan” that specifies the sequence of all of the activities they will implement in that year given their budget. While this was popular in the 1970's

and 1980's, it will not succeed in the current era of rapid change (Drucker, 1995; Fullan, 1993; Handy, 1994; Kotter, 1996; Mintzberg, 1994). Nor does it succeed in the simulation.

As soon as the teams implement their first activities, they confront the reality of the setting. People simply do not react as anticipated and their strategy – however complex – must change. This reinforces the lesson that leading change is an evolutionary process that entails a cycle of planning, doing, checking and acting (see Figure Three).

Pressure and support are necessary to foster change. As illustrated above, the learners encounter numerous obstacles as they try to bring about change in the Best Organization. While some people will jump at the opportunity provided by IT 2020, most do not. The learners must consider what type of change strategy will work with the various types of people and at different stages in the change process.

As the change leaders work with staff, they find that change in their workplace practice requires both pressure and support. This principle is summarized by Goldsmith and Clutterback:

High performing organizations rely on extracting extraordinary performance from ordinary people. They see no conflict between being hard and soft on their people at the same time. Hard, in the sense of pushing them to achievements they had not imagined possible. Soft, in the sense of supporting people with encouragement, praise recognition, and the resources they need to grow in the job. (Goldsmith & Clutterback, 1997)

In the simulation, pressure may be applied in a variety of ways. After obtaining the support of the Branch Managers, the change team finds that their expectations represent a form of pressure. Attending activities with colleagues creates peer pressure.

Even seeing the positive response of customers conveys a form of pressure on staff.

These are but a few of the ways in which the team can apply positive pressure for change.

Yet pressure has its limitations. Simply ordering staff to learn how to use the new technology will seldom bring about the desired results. This is the case even where there is a tradition of culturally legitimated top-down authority. For example, in Thailand, a reporter asked a senior government administrator if he was being forced out by his political overseer. The administrator replied: "Let anybody go on with the pressure as they like. But let him be reminded of the Buddhist principle of the impermanence of things. The person who uses pressure cannot be here forever" (The Nation, 1999).

We would assert that this Buddhist principle is characteristic of human behavior. Support is equally important in fostering change. As suggested above, support must target both technical and affective domains. In the simulation, the team can provide support through various individual (Talk to, Implementation Support) and group (Workshop, Support Group) activities. Notably some forms of support -- attending a Workshop with colleagues, a coach observing and providing feedback -- may also represent forms of positive pressure!

A team is more effective than an individual at managing implementation.

Although popular culture often portrays an individual leading a change effort, a team is often effective. The simulation reinforces this point two ways. First the experience of playing the simulation with a partner models a team approach. In most instances, the learners see experience the advantage of working with a colleague as opposed to playing alone.

In addition, as the simulation unfolds they observe change in the behavior of a broad group of individuals who belong to various social networks. One key to success lies in accessing these social networks. This reinforces the importance of having a team of people who can give and get information to guide the change effort.

Effective Change Strategies

At the conclusion of the simulation, the learners are invariably stunned at the extent of difference in results across the teams. Despite starting with the same budget, the same people, and the same information, the results vary widely. Differences are readily apparent in both the pattern of player progress across the game board as well as in the accumulation of Bennies. These are readily linked to differences in the change strategies implemented by the various teams.

The instructor uses these patterns of results as the basis for the final debriefing. Indeed the explicit assumptions and principles delineated above emerge only gradually. This final debriefing is designed to help the teams synthesize their learning into an understanding of an effective change strategy.

For example, it is common for teams to have large differences in productivity (i.e., Bennies). This becomes an important stimulus for inquiring into “what constitutes an effective change strategy?” As the learners explore differences in their strategies a contrast often emerges between teams that attain *similar numbers of staff using IT 2020 but large differences in the number of Bennies*. This leads to the discovery the most “successful” teams maintained a more consistent focus on the outcomes (i.e., the vision) throughout the implementation process. This highlights the strategic problem of focusing on fostering use of IT 2020 without maintaining a focus on enhancing productivity. Other

similar conclusions about change strategies emerge naturally from the players' results and form the focus for the debriefing.

Conclusion

The purpose of this article was to describe the design of the *Making Change HappenTM* simulation. This is one of several problem-based computer simulations we have developed to help leaders learn to apply knowledge about organizational change.^{iv} In this case, the simulation focuses on the implementation of a specific innovation: information technology. However, the goals of the simulation pertain to leading change more broadly.

At the conclusion of this article we wish to note once again our ideal of learning -- "Seeing and hearing is believing, but eating is knowing." Given the recency of the simulation's development, we are unable to provide data on its efficacy in meeting this ambitious goal. Indeed, we remain mindful of our limitations as we seek to assist leaders in applying theoretical and empirical knowledge to workplace problems. Thus, in closing we would like to reiterate the observation of Hargreaves and Fullan (1998) that when it comes to organizational change, you have to "beat the path by walking it."

There is no ready answer to the "how" question. Singular recipes. . . oversimplify what it will take to bring about change in your own situation. Even when you know what research and published advice tell you, no one can prescribe exactly how to apply [it] to your particular [organization] and all the unique problems, opportunities and peculiarities it contains. (Hargreaves & Fullan, 1998, p. 106)

Figure 1: The Gameboard

Figure 2: Simulation Activities

Figure 3: Plan, Do, Check, Act Cycle

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Bio Notes

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ii The team of developers was led by Carol Bershad and Susan Mundry. They worked under the overall direction of David Crandall to develop the original gameboard version of the Making Change Happen! simulation (The NETWORK Inc, 1990, 1999). This simulation was later revised and redesigned for computer-based instruction by Philip Hallinger. The authors wish to acknowledge the primary intellectual contribution of Carol Bershad and Susan Mundry to the development of the original simulation.

ii While we encourage a team-learning process the first time the simulation is used, there is no reason why learners cannot or should not proceed to use it on their own following the initial training. The ability to use the simulation outside of a workshop setting is one of the flexible features of the computer-based simulation.

iii For further information on the actual operation of the simulation see Bershad, Mundry & Hallinger, (1999), available by contacting The NETWORK Inc. (change@netwrk.org).

iv The other simulations focus on learning organizations (Systems Learning/Systems Changing and school effectiveness (In the Center of Things -- ITCOT). Information on these simulations is available from The NETWORK Inc.