Training for the Real Thing

By Kim Slack

An engineering group is on edge. Some of its members are leaning over a conference table, kneeling on chairs, studying diagrams, and drawing figures. Others are pacing and shouting ideas.

A woman enters with a piece of paper and announces that the marketing department has changed the specs again. The group lets out a groan. "How are we going to meet the deadline now?" somebody asks. Someone else yells, "Get someone from marketing in here now! We'll see who's going to change the specs."

That scenario is a true story, but the situation wasn't for real. It took place as part of a simulation of a typical product-development process. Managers were asked to look at their own behavior during the simulation to watch for any similarities to their behavior at work. After recognizing the similarities, they began experimenting in the simulation and discovering how to change the ways in which they communicated and worked together.

Simulations produce powerful experiences, providing insight and skills for participants to use as a basis for changing their behavior.

Barry Oshry, a developer of simulations, says that the power behind simulations is that you experience something, rather than just talk about it. When people are asked to take

SIMULATIONS THAT RE-CREATE WORK CONDITIONS CAN BE AN EFFECTIVE WAY TO TRAIN. THEY ALLOW PARTICIPANTS TO APPLY LEARNING TO THEIR JOBS WITHOUT TAKING BIG RISKS.

action, they tend to become totally involved in what is happening. And when an experience touches people's minds, hearts, and bodies, they are more likely to change in response to it.

Simulations have been around at least since World War 2, when the United States used "war games" and operations research methods to model complex combat situations. Perhaps the first civilian application was a simulation called Monopologs. Developed by Rand Corporation, it was originally used to model inventory changes in the U.S. Air Force. Simulations using computers were developed in business schools in the early 1960s. Next, simulations were developed widely for educational purposes, particularly to teach social studies.

Within the last 10 years, with help from personal computers, simulations have reached individual consumers. PC games and simulations have been surprisingly successful. At the same time, more and more busi-

nesses are using simulations of organization dynamics, as change tools. Many companies, including General Electric and IBM, use simulations in their management development programs. Consulting and training firms have also discovered the benefits of organization simulations.

More than a game

Most trainers and consultants are familiar with experiential learning games that engage participants in working together and having fun in the process. They include survival games, such as the kinds that ask groups to choose items they would need to survive an event such as a crash on the moon. But organization simulations go further than experiential learning. They model actual operating systems and conditions that participants confront in their jobs.

Some simulations focus on a strategy of a specific enterprise. Others ask participants to balance finance, marketing, and other components under various market conditions. Many simulations include manuals, computer scoring, and printouts to reconstruct the environments in which participants operate.

Noncomputerized simulations focus on behavioral conditions in organizations. They may include a variety of props and materials—items

such as in-baskets, detailed scenario and role descriptions, and children's building blocks.

Some companies use computers to help create realistic atmospheres. A computer's ability to crunch numbers and "interact" with participants can help simulate bottom-line results of business decisions.

For example, the American Press Institute uses a complex computer model to simulate as many as 3,500 decisions that are typical of the ones newspaper executives must make. The three-and-a-half-day newspaper-management simulation is part of the institute's five-day executive-development program.

In the simulation, executives make decisions on such issues as setting advertising rates, buying new equipment, and changing editorial policies. They see the results on the bottom line and on community image, employee morale, reader service, and other important performance factors. In other words, the simulation models the market response to certain decisions. For example, participants learn how setting high advertising rates sends advertisers to other media, reducing the newspaper's advertising income.

Strategic Management Group has developed several simulations that take advantage of the interactive capabilities that computers provide. In a three-day seminar on strategic planning, teams of four or five participants compete against each other. Each team makes strategic business decisions; team members key them into a computer. The computer calculates the effects of those decisions on bottom-line measures such as percentages of market share. Then the teams adjust their strategies, based on the feedback.

According to Jim Brodo, director of marketing at SMG, the simulation gives participants "a feel for how to interpret moves by their competition."

Education through re-creation

Simulations can make it easier for participants to see links between their classroom experiences and their jobs. Because organization simulations re-create the work environment, it is difficult to deny the relevance of a participant's behavior during an exercise.

Some kinds of experiential exercises don't provide as close a link. For example, some people find it easy to ignore mistakes made in choosing survival items for a make-believe crash on the moon. For some people, the simulation is too far removed from their everyday lives. It's much more difficult to ignore mistakes made in a simulation if they result in major plants shutting down.

The primary success factor in designing a simulation is the modeling of issues that face participants in their real work lives. The more real the simulation is, the more directly people can apply its lessons to their jobs. In other words, the most effective simulations are those with high "face validity." Participants should say afterwards, "That was realistic."

That doesn't mean that a simulation must model a specific organization exactly. Many simulation tasks are generic and can apply to several organizations. And there's some debate as to whether a simulation is more effective if it models organizations that are in the participants' industry.

In a Center for Creative Leadership simulation, called Looking Glass, participants manage a glass business. Russ Moxley, director of the Leadership Technologies Application Group at CCL, says that Looking Glass participants who are actually from the glass industry sometimes become distracted by details.

"They keep looking for how this doesn't match their business," he says.

Similarly, General Electric—which uses a lengthy simulation to wrap up its management development program—has found that generic simulations work best for its employees.

On the other hand, the American Press Institute strongly believes that its industry-specific simulation is successful because of the accurate way it depicts the newspaper business.

It can be difficult to prove statistically that a simulation is valid, because of the complexity of issues that are typically represented. But CCL invested in validity studies and found strong correlations between the tasks participants address in Looking Glass and the management tasks that are found in most organizations.

Intense events

The most believable simulations describe scenarios and people with a journalist's sense of accuracy and a playwright's sense of drama.

Ed Baron, API's deputy director of program planning and development, says that participants need to suspend their disbelief at some level; he compares it to watching a play at the theater. At the same time, he says, it is important for a simulation to be accurate. "You've captured people when they say, 'I know someone just like this.'"

Organization simulations can pack a great deal of learning into a short time, creating intensive events.

Many other forms of training break apart and isolate different skills. But simulations apply and combine skills—particularly analytical, interpersonal, and group-leadership skills.

In Oshry's simulation, called the Organization Workshop, participants are grouped as "tops," "middles," and "bottoms" in an organization. Then they have to work with each other and a group of "customers" to run an empowered organization. Each group is confronted with problems that require interacting with other groups and understanding the roles played by everyone in an organization. Participants make far more decisions in a short time than they would during an average workday. This heightens participants' awareness of underlying issues and tensions.

Oshry once condensed part of his simulation. He asked participants to hold two five-minute "days." When no one talked to the person playing the customer until the second "day," the customer responded, "It's about time you came to meet with me!"

As with most educational methods, learners need feedback in order to appraise and improve their performance. CCL's Looking Glass provides a good illustration of how simulations help people assess themselves.

In this three-day simulation, set in a glass company, much of the activity involves handling some carefully

designed in-basket materials. The participants read and respond to memos, telephone messages, and reports—and interact with one another. As business managers, they face a wide range of decisions, from settling mundane issues to allocating resources. In debriefing periods, they receive feedback from facilitators and each other on areas such as work climate, information flow, planning, and conflict resolution.

The carefully structured debriefing periods are as crucial to the learning process as the simulations themselves are. The sessions help refocus participants and serve as emotional safety valves if things get stressful.

Looking Glass focuses on behaviors that are characteristic of successful managers in many organizations. "We hold up a mirror to people and let them see where they can develop as managers," says Moxley.

In many simulations, participants not only learn about themselves, but also develop their skills. You can reinforce the learning process by asking people to reflect on the barriers that are causing problems, and then having them design corrective actions to break through those barriers.

General Electric uses a three-day simulation at the end of a management development program for middle managers. It is a customized computer simulation that applies the skills managers addressed in earlier segments of the training.

The simulation looks at the participants' business and people skills. "Many see firsthand that when they push really hard to control numbers, it can have negative effects on their people," says Carl Jackson, a program manager in GE's corporate management development group. According to Jackson, the simulation teaches managers to balance such variables as profit, cost, turnover, product schedules, and personnel changes.

Jackson also uses a simulation that is woven throughout a course on project planning. Participants alternate between learning conceptual material and applying it in the simulation. "By going in and out of the simulation, the program keeps everyone engaged," he says.
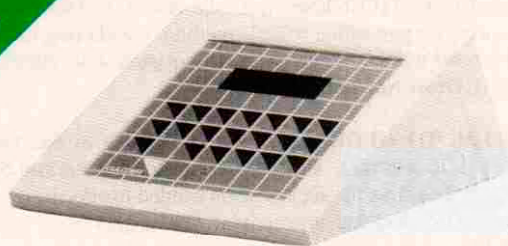
Another option is using simulations as stand-alone, individualized, self-paced programs. Some software programs simulate business decision making and can be customized to specific workplaces. Off-the-shelf PC simulations for self-study are also available in such areas as finance, marketing, and general management.

Lessons from flying starships

Simulations can also illustrate broad organizational issues. For example, in a two-day simulation called the Flying Starship Factory, developed by William Lytle, participants take part in a traditional manufacturing process that is based on rigid, functional barriers between departments.

The task of the "factory" is to produce "starships"—origami objects—in large quantities and to convince "customers" to accept them. The "employees" include paper cutters, painters,

and assembler groups. In the first round of the simulation, they all struggle with the problems of how to design and perform the work.

In the second round of the simulation, participants redesign the ways in which the work gets done, using a sociotechnical approach that is taught between rounds. Participants find ways to improve communication between customers and suppliers, build cross-functional work groups, and accomplish productivity gains. That doesn't happen without some hard work, as participants learn how difficult it is to implement change.

Finally, they spend time applying the principles they've learned to their own organizations. Like a photograph of earth from space, such a simulation can give participants a glimpse of the "big picture" in their organizations and can change their perceptions of themselves and their companies.

When I participated in the Flying Starship Factory, I was a paper cutter. I assumed my job was to cut as much paper as possible. We paper cutters were very productive, but we cut much more paper than was needed. It wasn't until we got yelled at that we began to pay attention to *how* we cut the paper, as well as *how much* we cut.

Participants learn to focus not just on individual behavior—such as the consequences of yelling at people or cutting faster—but on how to improve the ways in which work gets done. They begin to see that many behaviors result from underlying problems in the system, and that changing those individual behaviors often has little effect unless the system is examined as well.

In the starship simulation, participants see how to direct their energies toward the systemic causes and then to change their individual behavior accordingly.

Because simulations aren't real-life experiences, they allow organization members to experiment without the risks associated with actual decisions. For instance, in the Flying Starship Factory, participants are allowed to experiment with different ways of structuring work in a company. Such major changes would be much more difficult to "try on for
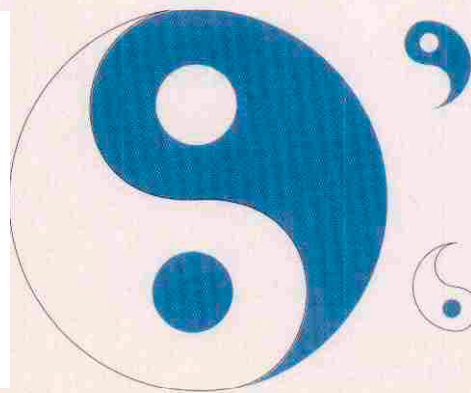
size" in the context of a real factory.

Similarly, mediators use simulations to help conflicting groups play out "what if" scenarios and to help them change their negotiating behavior in actual conflict situations.

Simulations are not real, but good simulations bring participant's real experiences into sharper focus. Participants join with the facilitator in

exploring the process, says Oshry. "They are no longer on the outside looking in."

Simulations are also well-suited to research purposes—for instance, for studying management and organizational behavior. For example, Jo Lee Loveland Link and John Link have developed a simulation to learn how chaos theory can be applied to

understanding organizations. They piloted their simulation with organization consultants at a 1992 organization development conference.

"We were able to simulate all the stages of chaos," John Link explains. The simulation showed participants how to apply chaos theory and how to develop new models in their consulting practices.

Proceed with caution

Despite all these incredible advantages, it isn't necessarily a good idea to rush out and try an organization simulation. Like most good things in life, simulations have drawbacks. For instance, they require rigorous and time-consuming preparation.

I once observed a simulation on multicultural issues, called BAFA-BAFA. Participants are grouped into two cultures. One culture trades and makes money; the other is easy-going, friendly, and sexist. Each culture interacts with the other and learns about the difficulties of communicating across cultures. While debriefing this experience, some women participants became angry about how men treated them in the exercise and began noting similarities in their work lives.

Sparks began to fly. The facilitator, surprised about this confrontation, quickly ended the discussion. Tensions were high for the rest of the training session.

More than anything, simulation facilitators need to be prepared to handle unpredictable, ambiguous, and often emotional outcomes. Jo Lee Loveland Link says that facilitators "with low tolerances for ambiguity go nuts with simulations."

"People may think you're God and blame you for how they're feeling," Oshry warns.

Facilitators need to be confident that they can handle the issues and tensions of a simulation. "You are most vulnerable," Oshry says, "if you're perceived as being antagonistic."

Trainees may resist simulations, with such typical comments as, "I don't want to play games." Pay heed to such resistance. People who are seriously wondering about the relevance and possible applications of a simulation might already be prepared to start working on their real issues. A simulation may only distract them and diffuse their readiness.

Computer simulations sometimes meet with even more resistance. Fear of computers will certainly stall or halt such programs. Even people who are unafraid of computers are sometimes distracted from the simulation, straying from the planned program to play with the computers or to search for the right buttons to push to "win the game."

You can avoid many problems by honing your facilitation skills and by using realistic case studies in the session.

Simulations tend to require more classroom time than other training methods. Because of their complexity, the facilitator needs time to properly set the stage before the exercise and to debrief people during intense experiences. Most simulations last a day or longer. GE's Jackson suggests three to four days as the upper limit

Tips and Resources for Getting Started

Here are four tips for getting started in designing and conducting organization simulations.

Attend a simulation. Most trainers and consultants become excited about organization simulations after they attend one. But don't attend just to evaluate other people's experiences. Simulations work best when you immerse yourself in the activities. This is even more important if you plan to facilitate a simulation. The experience will tell you some of the nuances and difficulties participants face.

Here is a list of some organization simulations you can attend:
▶ Looking Glass, by the Center for Creative Leadership, 5000 Laurinda Drive, Box 26300, Greensboro, NC 27438; 919/288-7210.
▶ The Organization Workshop, by Barry Oshry, Power and Systems, Box 388, Prudential Station, Boston, MA 02199-0005; 800/241-0598.
▶ The Flying Starship Factory, by William Lytle, and the Aligning the Tower of Babel, by Joyce Ranney

and Kim Slack, both distributed by Block, Petrella, Weisbord, 1009 Park Ave, Plainfield, NJ 07060; 908/754-5100.

Other companies that develop organization simulations may also serve as resources. Here are a few to get you started:
▶ Simile, one of the first firms to build simulations, produces BAFA-BAFA, which addresses multicultural issues. Simile is at Box 910, Del Mar, CA 92014; 619/755-0272.
▶ Executive Perspectives specializes in computerized business simulations and will customize simulations. It's located at 1 Harvard Street, Brookline, MA 02146; 617/566-0499.
▶ Strategic Management Group has many computerized simulations for self-study, and seminars that use computerized business simulations. SMG is at 3624 Market Street, Philadelphia, PA 19104; 215/387-4000.

Use learning games. Learning games aren't as complex as organization simulations. But, like simulations, they rely on good facilitation.

▶ University Associates publishes many games and exercises that can help you polish your facilitation skills. UA is at 8517 Production Avenue, San Diego, CA 92121.
▶ Edward Scannell and John Newstrom have written several books of training games, including *More Games Trainers Play* and *Still More Games Trainers Play,* both published by McGraw-Hill and available through ASTD Press. Each costs $20 for ASTD members and $22 for nonmembers. To order, call 703/683-8129.

Co-facilitate a simulation. Experienced facilitators know how to handle difficult situations. Observing them in action can help you improve your own skills. Even an experienced simulation facilitator might prefer to work as part of a team, with a co-facilitator.

Begin small. Pilot hour-long simulations with other training and development practitioners as participants before showing your designs to internal or external customers.

for a simulation. If the exercise lasts longer than that, he cautions, participants may run out of energy.

Excellent facilitation skills are imperative. Facilitating simulations "is not about imparting information," says Moxley. "It's about drawing information out of participants by asking the right questions." At the same time, a facilitator should be able to help participants confront difficult issues without becoming a lightning rod for their anxieties.

Moxley says a facilitator needs to be able to give straight feedback. Good coaching skills and interpersonal sensitivity are crucial.

Like all good training programs, simulations need to fit the needs and skill levels of participants.

I once attended a one-day program on total-quality concepts. The trainer decided to use a simulation in problem solving, thinking it would be a fun way to teach some of the concepts of continuous improvement. But the participants were frustrated. They were not prepared to apply skills that had not been addressed in the session, such as data gathering and hypothesis testing. The simulation didn't work because it didn't fit the group's background and knowledge level.

Jo Lee Loveland Link says that a simulation is likely to fail when "a trainer wants an entertaining activity but doesn't closely match the outcomes with what is needed."

Because of their complexity, simulations tend to be most effective when participants' learning objectives focus on a broad number of skills, behaviors, and attitudes. They are useful when you need to address inter-group or organizational issues, too. For instance, a simulation may help you elicit organizational problems by providing a forum for individuals and groups to discuss and resolve issues.

Careful planning

Properly setting up a simulation and following through with what you promised is important. Participants need to know what outcomes to expect. Moxley says CCL offers a free day of consultation before bringing Looking Glass into an organization. "We help managers look at how they

approach employee development and how they can support people after going through the simulation," he says.

When planning to use a simulation as part of a larger program, consider the content areas you need to address. Generally, two options work well:

▶ Using a simulation at the end of a program, as GE does, can reinforce learning and show participants how to work together to apply it.
▶ Weaving a simulation throughout a program requires more work. Pacing is important; trainers need to determine which content areas trainees need to cover at various points in the exercise.

Realistic scenarios require careful planning and administration. Many materials and props may be necessary for creating a realistic environment. A simulation could require several conference rooms and computers, which can strain space and equipment resources.

Let's face it: Developing simulations can be costly. Highly complex exercises that involve many decisions and variables can rival the costs of interactive video. American Press Institute spent more than $300,000 in one year on building its three-and-a-half-day simulation, which uses intricate computer models and hundreds of case studies. Obviously, simpler simulations or modifications of existing ones will not require the same resources.

All the effort that goes into developing and using organization simulations will seem worth it when you see some of the dramatic breakthroughs that can result from a well-planned exercise. Oshry sums it up in one sentence: "I can't imagine a more powerful way to learn." ∎

Kim Slack *is an independent management consultant. You can reach him at 3 Warren Square, Boston, MA 02130.*

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