

*Spur-of-the-moment decision-making processes can be nurtured
with the right immediate work environment.*

Reflection-in-Action:

Tools for Cultivating On-the-Job Learning Conditions

KENT W. SEIBERT

It is no longer necessary to make a case for the importance of learning to employees and employers in today's tumultuous business world. The need for continual learning and development is now taken as a given. Michael Dell of Dell Computers is perhaps the ultimate example of a business leader who effectively learns from experience. A college drop-out who learned about PCs through a business he created in his college dorm, Dell now heads a company that trails only Compaq and IBM in PC sales. His latest learning challenge: How to adapt his successful direct-sales strategy to overseas markets.

While Dell Computers thrives, the once world-renowned Leo Burnett advertising agency is reeling from the loss of major accounts like United Airlines and Miller Brewing & Co. Chairman Rick Fizdale is faced with a major turnaround challenge: How to maintain Burnett's unique culture while also transforming the agency for the next century. Burnett's survival depends heavily on Fizdale's ability to learn from the agency's recent setbacks.

If there is widespread acknowledgment of the necessity for learning, there is equal concern about how to accomplish it. How are the learning capabilities of individuals in organizational settings developed? The answer to this question is central to the future

competitiveness of the global workforce.

Although much is currently known about how managers learn in organizations, an area that could use more attention involves the nature of managerial *reflection-in-action* during on-the-job learning experiences. There is a particular need for information on the way in which the *immediate work environment* within which such experiences unfold influences managers' reflective capacities. Results of a recent in-depth study of these issues shed light on the importance of cultivating working conditions that are conducive to reflection-in-action. They also lead to straightforward yet powerful techniques for contributing to managerial learning by promoting reflection.

WHAT WE KNOW ABOUT HOW MANAGERS LEARN FROM EXPERIENCE

The good news is that much has recently been learned about how managers learn at work. Research at the Center for Creative Leadership (CCL) and at Honeywell Inc. has demonstrated that stretching on-the-job experiences produce more learning than classroom training activities. CCL found five types of experiences to be highly conducive to managers'

development: (1) Project/Task Force (temporary assignments to address a specific issue), (2) Leap in scope of responsibility (major increase in the number of people, dollars, and functions to manage), (3) Switch from line to staff (moving from line operations to a staff role), (4) Start-Up (building something from nothing), and (5) Fix-it (stabilizing a failing operation). Today many firms intentionally use such experiences to promote their managers' development.

COACHED REFLECTION

It has also become clear that *reflection* plays a key role in enabling managers to learn from experience. A recent article in *Organizational Dynamics* by Marilyn Daudelin reported experimental evidence for this claim. She worked with managers who had undergone one of the CCL-type experiences. Her research showed that providing managers with a one-hour reflection session, using structured questions and guidelines, significantly increased the learning from their experience. She defined reflection as "the process of stepping back from an experience to ponder, carefully and persistently, its meaning to the self through the development of inferences."

In addition to Daudelin's work at Polaroid, leading companies such as PepsiCo, Hoechst Celanese, and GE are now incorporating reflection into their training and development activities. The work at these firms represents an increasingly common approach to reflection in the workplace. This structured approach to reflection can be called "coached" reflection.

Coached reflection involves providing learners with formal tools to help them think through an experience in order to identify what they learned from it. The reflection usually occurs at the conclusion of the experience or at discrete intervals during it. Learners are physically removed from their experience and then given structured activities to stimulate reflection. The process is usually facilitated by the firm's human resource development group in a workshop-type environment.

REFLECTION-IN-ACTION

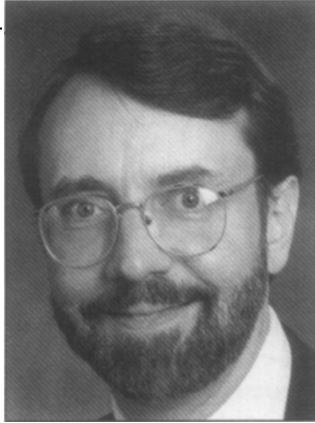
What has yet to be recognized by most business organizations, however, is that coached reflection represents only one side of the reflection coin. Equally important to individual learning in organizations is the *unstructured* reflection that managers *naturally* engage in while confronting challenging experiences. This type of reflection involves the way managers try to make sense of what they are experiencing *while they are in the midst of experiencing it*. This informal type of reflection involves spontaneous mental engagement with a situation.

Donald Schön identified this spontaneous type of reflection, which he called *reflection-in-action*, 15 years ago, but it has received surprisingly little attention since then from managers and management scholars. This may be because the stereotype of managers as being non-reflective endures. But the fact remains that Schön found that professionals from a variety of occupations, including management, reflect when faced with certain types of situations. Unstructured reflection, reflection-in-action, occurs when managers face unique and perplexing challenges. This form of reflection involves on-the-spot surfacing, criticizing, restructuring, and testing of intuitive understandings of experiences.

In contrast to coached reflection, reflection-in-action occurs in real-time when it can still make a difference to the immediate situation at hand. It does not require facilitation by someone else, as coached reflection does, since it happens spontaneously. Whereas coached reflection is essentially a formal, deliberate intervention designed to encourage managers to reflect, reflection-in-action is an informal and natural cognitive response to an unfamiliar and stretching experience. The two types of reflection represent two different means to learn from experience. Their major differences are summarized in the box entitled "Two Types of Reflection."

THE EFFECT OF WORK ENVIRONMENTS ON REFLECTION-IN-ACTION

The vital impact of the work environment on learning has long been acknowledged.



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Decades ago in his classic book, *The Human Side of Enterprise*, Douglas McGregor compared the development of managers to growth in an agricultural sense. In agriculture it is impossible to "make" something grow. The best that can be done is to provide favorable conditions for growth (adequate light, water, etc.) and then leave the rest to the natural growth process. Likewise, managers will learn and grow into what they are capable of becoming, provided the proper *conditions* for growth exist in their work environment.

If work environments are critical to the overall process of managerial learning, then they should also be a key influence on reflection-in-action. Indeed, reflection-in-action is *by definition* context-bound. Unlike coached reflection, the reflection that happens *in the midst* of a challenging job experience as a manager tries to make sense of what is happening cannot be divorced from the setting in which it occurs; in fact, it is precisely a function of what is happening in that setting. This is a significant difference between reflection-in-action and coached reflection. The latter involves removing managers from their normal work environment, whereas reflection-in-action can only be understood in the context of managers' immediate work environments. By immediate work environment is meant things like the people, schedules, procedures, and information that directly impinge upon a manager while she is faced with a particularly challenging experience.

A Study of the Impact of Work Environments on Reflection-in-Action

What is the nature of reflection-in-action during challenging learning experiences and, in particular, how do managers' immediate work environments affect their ability to reflect in action? To explore these questions, each of 24 managers at two companies was interviewed for over three hours. This produced over 2,000 pages of interview transcripts, which were subjected to intensive qualitative analysis. Both companies were leaders in their respective industries. "Food Corp" produced and marketed a variety of food products internationally. "Health Co"

TWO TYPES OF REFLECTION

COACHED	IN-ACTION
An intervention designed to promote review of an experience.	A spontaneous mental process intended to make sense of an experience.
Facilitated by someone other than the learner.	Conducted by the learner him/herself.
Occurs at discrete points in time.	Is ongoing.
Is planned using formal, structured tools.	Is unplanned and informal.
Occurs by physically removing the learner from the experience.	Occurs in the midst of the experience while it is happening.
Is contemplative.	Is active.

was a major U.S. health insurance company.

Interviewees were mid- to upper-level managers currently or recently involved in a challenging job experience of the CCL-type described above. Thus, for example, Bob (not his real name) from Food Corp was responsible for a start-up. He had been charged by the CEO to develop and test market a "healthy, dairy-based soft drink," which was a brand new product not just to Food Corp but to the entire industry. Health Co's Harry provides another example. He was assigned to revitalize a major but struggling division of the insurance company. CCL calls this a fix-it assignment.

The managers in this study were important players on their management teams who were given their assignments to further their own personal growth while implementing strategic business objectives. Since so little is currently known about the conditions in immediate work environments that affect managers' reflection-in-action, an exploratory qualitative methodology was employed. While much was learned about reflection-in-action in this study, its exploratory method, and thus the tentative nature of the findings, must be noted.

Based on analysis of interview transcripts, reflection-in-action was found to involve spontaneous moments of *inquiry* and *interpretation*, some of which occurred inside a manager's mind and some of which occurred in conversation with people. In addition to taking overt action to influence

their situations, this is how managers mentally tried to understand their learning experience. The box "Jerry's Story" provides a concrete description of this process.

As seen in Jerry's example, reflection-in-action occurs naturally, without the coaching of someone else. It also happens not in a classroom but on the job. If coached reflection takes place in safe havens, then reflection-in-action happens in the open seas.

The intimate relationship between reflection-in-action and the setting that produces it points to the importance of understanding the immediate work environment surrounding challenging experiences. A primary purpose of this research, therefore, was to identify the conditions in that environment that are particularly conducive to reflection-in-action. The cultivation of these working conditions, or "reflection conditions" as they are called here, is a straightforward way to build reflection-in-action capabilities into the workplace. Using McGregor's metaphor, we will reap reflection-in-action to the extent that we cultivate conditions in immediate work environments conducive to it.

CONDITIONS IN THE IMMEDIATE WORK ENVIRONMENT THAT PROMOTE REFLECTION-IN-ACTION

Robert Aubrey and Paul Cohen, in their recent book on learning organizations, *Working Wis-*

TABLE 1

REFLECTION CONDITION	DEFINITION
	<i>An immediate work environment that offers:</i>
1. Autonomy	Ample freedom and discretion to structure one's work as one sees fit.
2. Feedback	Information on the results of one's actions. Information as the raw material of reflection.
3. Interactions with Other People:	
● Access to Others	Encounters with skilled and knowledgeable people.
● Connection to Others	At least one caring interpersonal relationship.
● Stimulation by Others	Encounters with people who provide new ideas and perspectives.
4. Pressure:	
● Promotive Pressure	Significant performance demands resulting from <i>time limitations</i> and/or <i>large amounts</i> of new information.
● Directive Pressure	Significant performance demands resulting from the <i>visibility</i> and <i>importance</i> of the work.
5. Momentary Solitude	Periodic, brief occasions at or away from work to process new information alone.

dom: *Timeless Skills and Vanguard Strategies for Learning Organizations*, extend McGregor's agriculture metaphor by presenting several learning tactics, two of which are "sowing" and "harvesting." Sowing refers to preparing employees for learning and harvesting involves gathering in the learner's new ideas or skills. Sowing and harvesting are certainly necessary. The focus here is on all the hard *cultivating* work *between* sowing and harvesting and the application of these ideas about learning to the specific process of reflection-in-action.

Anyone with even a passing acquaintance with gardening knows that the success of what is planted is largely dependent upon the nurturing it receives after planting. Regular watering and fertilizing and endless weeding are required to maintain suitable growth conditions. This is perhaps the least enjoyable yet most important aspect of gardening. So it is with promoting managerial reflection. If the immediate work environment is important to reflection-in-action, then reflection conditions must be cultivated and nurtured on an on-going basis. The hard part is the discipline required to keep at this. The conditions themselves, however, are not that difficult to promote.

What exactly does it mean to cultivate conditions in a specific work environment that are conducive to reflection-in-action? It means paying attention to those characteristics of immediate work environments that impact reflection.

The study reported here discovered five conditions that had an enabling influence on a manager's ability to reflect during a learning experience. Richard Hackman and Greg Oldham demonstrated in their job enrichment model, described in their book *Work Redesign*, that the presence of certain characteristics in a job lead to high motivation by producing three *psychological states* in workers. Likewise, the conditions presented here promote reflection by producing certain psychological states in managers.

FIVE REFLECTION CONDITIONS

Five conditions that promote reflection-in-action in a manager's immediate work environment are defined in Table 1. Their effects are then illustrated by the experiences of several of the managers interviewed.

Managers whose immediate work envi-

ronment was characterized by the above conditions most easily reflected in real-time on what they were doing and learning. Ted from Food Corp provides a nice example of this.

Ted's challenging learning experience involved moving to a venture start-up group at Food Corp where he assumed national sales responsibility for a new product. He moved from regional to national sales for the first time in his career and he was introduced to a product that was entirely new to the corporation. The venture group, called Food Corp Refrigerated Products (FCRP), was working to capture some of the frozen snack food market. The frozen fruit bars it began to make and sell were the only product of the corporation that required refrigeration. This necessitated different production and distribution techniques. It also introduced FCRP to a completely new set of competitors. Ted was charged with creating a national sales network from scratch that would give the product maximum visibility with retailers from coast to coast.

AUTONOMY

This position afforded Ted ample *autonomy*. Autonomy was conducive to reflection-in-action because it required Ted to think for himself. No one else would or could do Ted's thinking for him. As Ted said, "We [at FCRP] had the Chairman of the Board's blessing to go out and do business anyway we had to. And to throw away the rules; not do it the way Food Corp does it, but do our own thing."

This was necessary because no one at Food Corp had ever dealt with a frozen product before.

The opposite is also true. A work environment that limits a person's autonomy also inhibits reflection-in-action. Ted lost the autonomy he had at FCRP when he returned to Food Corp's major division after his assignment. He said:

It [autonomy at FCRP] was a positive and now it's negative [being more confined at Food Corp]. I had the cake and now I don't have the cake anymore. You come

back into a huge organization like this, it's been so structured and it has such a history and everybody has clearly defined tasks. It inhibits a person's ability to think.

Ted felt constrained by the Food Corp environment when he returned to it. His experience demonstrates the power of conditions in the immediate work environment on reflection. Despite the fact that he was still working for the same corporation, Ted's reflection-in-action quickly shut down upon his departure from FCRP. The degree of autonomy afforded by his immediate work environment had decreased dramatically.

FEEDBACK

Ted's work environment at the start-up also provided a variety of sources of *feedback*: his boss, sales agents, marketing personnel, and retailers. Feeling well-informed helped Ted reflect because the information he needed to process was readily available. This was key to helping him learn how to market a new product.

Another example is that of Jerry. During his daycare project, Jerry's immediate work environment was also rich in feedback. He had two sources of feedback: people and the outcomes of the work itself.

Bill and Susan [his immediate supervisors] and even Ben [the CEO] were supportive through this. And that would occur verbally almost on the fly. I had repeated contact with Ben and his staff. The other feedback I got was from the hard work. That is, the numbers would start coming in and the parents who use the daycare said, "Oh, this is great. I hope you can do it."

Formal performance appraisals were *not* mentioned by managers as a source of feedback. Instead managers got their feedback informally through the performance of their responsibilities. Pete was a manager who received inadequate feedback. His assignment involved run-

ning a plant in Mexico where Spanish became a barrier to him. The lack of feedback made reflection-in-action difficult for Pete.

INTERACTIONS WITH OTHER PEOPLE

The next condition involves *three* types of interactions with other people. The vital role of relationships in promoting learning and development at work, especially in the uncertain workplace of the 1990s, has been effectively argued in a recent book by Douglas Hall and associates entitled *The Career Is Dead, Long Live the Career*. In the research reported, "other people" emerged as critical to reflection-in-action. Specifically, three different types of interactions were important. The first, *access to others*, meant that managers' work environments gave them ready access to other people who had information they needed. Ted needed a lot of information about frozen snack products, regional dealers, national market conditions, and the use of sales brokers. Easy access to functional experts, consultants, and customers helped Ted form what he called an "M.O." of various regional markets.

The next type of interaction, *connection to others*, transcended the merely transactional type of interaction just described. Instead it involved being closely "connected" to others through a meaningful, supportive relationship. Connection to bosses, peers, mentors, and/or spouses provided an emotional anchor in the turbulence of a challenging learning experience. Feeling supported enabled managers to concentrate their thoughts on the tasks they faced. Christy, whose experience involved starting a new function from scratch, developed an important relationship with a manager from another part of the company. Their discussions provided opportunities to vent and to gain insight into their experiences. Christy said, "I felt a need to share all this stuff I was going through. So I felt we (Ellen and I) were confiding in each other. That sort of helped me to feel more comfortable."

Connection to others was the one condition Ted did not have in abundance. The lack

of interpersonal support at work was bothersome to him. He did report having the support of his family, but without this he felt his reflection would have suffered noticeably.

Other people were rich sources not only of basic information and emotional support, but of fresh ideas and different perspectives as well. This occurred when a person's work environment provided *stimulating interactions with others*. Ted's exposure to people with backgrounds in areas that were brand new to him stimulated his reflection in exciting ways. It helped him move beyond basic fact-finding to idea-generation. For example, the independent food brokers he met while traveling helped him consider a variety of sales strategies and marketing techniques for establishing a foothold in the competitive frozen snack food business. "I was constantly talking to the broker of specific markets. If I had an idea I'd bounce it off of them. Then they started bouncing ideas off of me, and it became very effective," Ted said.

Stimulation by others was also crucial in helping Bob develop a new beverage for Food Corp. When his reflection was not producing an understanding of how to market the drink, he sought out others. "Do I need more fuel or more stimulus to play with in my head? [If so] I basically go to people I know who'll look at this differently, and try to see how they'd see it to give me more depth to my thinking."

PRESSURE

Contrary to the popular belief that reflection requires relief from pressure, reflection, at least of the "in-action" variety, thrives on pressure. Two forms of pressure were particularly conducive to reflection. *Promotive pressure* meant a person had a lot of work to do and limited time to do it in. Working with limits on their time put people in a situation where they had to reflect, and do so soundly and quickly, in order to be able to take effective action. At the start-up, Ted felt busier than at any other time of his career. He felt this pressure was a positive stimulus to reflection and learning. He referred to the pressures of the workload this way: "I always

equated it as going to graduate school. I was doing my thesis. That's the way I looked at it."

Patrick agreed when discussing his "switch" assignment. He said, "It's probably easier for me [to reflect] when I'm busy because I've got the pressure." Not surprisingly, this reflection was highly concentrated and of brief duration, often lasting for only a few moments. Challenging learning experiences require reflection-in-action, and needing to do many things efficiently actually helped managers reflect.

If promotive pressure helped initiate reflective activity, then another type of pressure—*directive pressure*—directed or channeled it. Directive pressure meant that people felt under pressure because they knew the work they were doing was very important to their

organization and themselves. The visibility of the assignment was an important ingredient here. Ted felt directive pressure because executive management hoped the venture into frozen snack foods would enhance the company's profitability. As Ted put it, "This was a pet project of the Chairman of the Board."

This pressure focused Ted's reflection on what he needed to learn in order to be able to meet executive management's expectations.

Being asked to make a presentation on the status of one's project to executive management commonly contributed to directive pressure. Cathy, of Health Co, was somewhat intimidated by this, but also recognized how valuable it was in forcing her to focus her reflection on trying to understand the key issues of her start-up assignment. The time spent

Jerry's Story

Jerry is a Human Resources Director for Food Corp. In addition to his normal responsibilities, he recently became involved in a major start-up project. This entails establishing an independent, self-sustaining daycare business whose services will be made available to Food Corp employees. This assignment provides Jerry with several challenging learning opportunities: planning and starting up a small business, constructing a \$1 million day-care facility, and marketing the business's services to the community. These are all things with which he has no prior experience.

Since Jerry knows practically nothing about daycare or small business development, his initial response is to wonder what is involved in running a successful daycare. He begins a process of *inquiry* by forming a host of questions, ranging from issues such as what the fundamental reason for Food Corp's involvement in daycare would be to the local laws applying to daycare. In trying to understand these and other issues, Jerry reflects in action in order to learn new skills (like market research to assess the demand for daycare and break-even analysis to determine how large a center is needed to be financially viable).

As he receives data, he begins to develop an *interpretation* of the essence of all the issues he is facing. Lacking clear-cut answers to issues like the ultimate purpose of daycare for Food Corp, Jerry's inquiries result in interpretations—personal understandings and explanations—rather than in unambiguous answers. He moves back and forth between inquiring and interpreting throughout the project. Jerry's reflection-in-action involves a series of alternating moments of inquiry and interpretation rather than a single moment of inquiry followed by one moment of interpretation. Here's a specific example of this process in Jerry's own words:

We were kind of singin' and dancin' in the street, feeling really good about the whole project, and one of the finance guys was crunching our numbers late one night, and he said, "You know what? We really goofed. Our occupancy rates of 140 slots—we're assuming that they're going to be filled at all times. I don't think that's right." So our model was off. So we recomputed the numbers (based on less than 100% occupancy), and we fell below the necessary targeted rates of return for the business. The whole thing was virtually ready to collapse. We went back in and scrutinized all the assumptions we made in the model. And we started to re-think what the available interest rates would be, and what we could do to modify the building to drop the cost down to preserve the project, which we did.

TABLE 2

REFLECTION CONDITION	CULTIVATION TOOLS
Autonomy	Clearly define the scope of the learner's authority in the assignment and define it broadly. Clarify expectations between learner and boss. Genuinely empower the learner.
Feedback	Establish formal and informal mechanisms for obtaining feedback from superiors, peers, customers. Look for feedback in the work itself (financial data, status reports, etc.). Emphasize the developmental (vs. evaluative) nature of feedback.
Interactions with Other People:	
● Access to Others	Connect with customers, functional experts, suppliers, etc. Pursue breadth in variety of personal contacts. Make it O.K. to ask naive questions.
● Connection to Others	Develop one or two deep relationships at work. Find a superior, peer, mentor, or friend who can help support the learner emotionally. Try to build a relationship involving <i>mutual</i> support.
● Stimulation by Others	Connect with people who think differently. Embrace diversity in others. Interact with others who will challenge the learner's perspectives and assumptions.
Pressure:	
● Promotive Pressure	Establish stretching deadlines. Immerse the learner in large quantities of new information. Approach decisions decisively.
● Directive Pressure	Establish the importance of the assignment to the learner and to the organization. Publicly announce goals and timetables. Seek opportunities to share the status of the work with people who matter (executives, customers, etc.).
Momentary Solitude	Note brief moments alone as chances to reflect. Reflect while engaged in activities that do not require conscious thought, like: Sitting through unproductive meetings. Eating lunch alone. Traveling.

preparing for these presentations, and often the presentation itself, was very productive reflection time.

MOMENTARY SOLITUDE

A final condition was the opportunity for what can be called *momentary solitude*. As

important as interaction with other people was, having the chance to do some thinking on one's own was just as crucial. The common view is that today's harried workplace just does not afford such opportunities. If these opportunities are thought to be peaceful periods of contemplation, then the popular view is correct. The managers interviewed rarely had those opportunities. But they did make

conscious use of the few brief periods of time that were available to them.

Managers often did this reflecting while they were performing other tasks, such as commuting, walking to a meeting, writing a progress report, waiting on the phone, or even as one research participant shared, "When I'm going to the 'john'." Momentary solitude was important to Ted's reflection. Like it did for most managers, momentary solitude happened while Ted was doing something else.

I think the [venture start-up] job, because of being able to experience new things and having that time period where you had to drive to the next meeting or you're by yourself in the hotel, not with your family at home, or you're on the airplane or you're in [the office] on Sunday, gave me some time to think. So I think that, because of the nature of the job, helps promote learning.

One of the things Ted actually missed about traveling when his start-up assignment was finished was the opportunity to reflect during air travel. And as autumn turned to winter he complained that, "tremendous quality time thinking on my lawn mower" was no longer available.

For reflection-in-action to occur, at least a majority of the five organizational conditions are needed. The existence of some conditions can compensate for the lack of others. It also appears that a work environment with plenty of promotive and directive pressure is particularly important for stimulating reflection. The data are inconclusive, however, regarding the *relative* importance of each of the five conditions to reflection as well as how the conditions interact together.

Cultivating a work environment conducive to reflection means working to promote the conditions just described. When people face challenging assignments immersed in this type of atmosphere, the likelihood of productive reflection-in-action is very high.

STEPS FOR CULTIVATING THE FIVE REFLECTION CONDITIONS

Although it is not possible to exert complete control over a work environment, working conditions can be influenced in ways that will stimulate reflection-in-action. Ensuring the presence of these conditions are the dual responsibility of managers and their bosses. The development of subordinate managers has long been an explicit objective of bosses in most firms. This has usually meant identifying subordinates' strengths and weaknesses, and creating development plans.

What few bosses have recognized—but what this research found to be critical—is that the *immediate work environment* that bosses establish has a profound effect for better or worse on their managers' reflection-in-action, and by inference on their learning. Bosses are important "gardeners" responsible for cultivating working conditions that are conducive to reflection. Specifically, bosses need to take three steps along with their managers.

The first step is to *personalize the list of five reflection conditions*. These five conditions were discovered in exploratory research, so it is not possible to claim that they apply universally to everyone. Managers faced with a learning challenge should consider the list in relation to a *previous* job experience when they were mentally stimulated and engaged in their work. Did these five conditions contribute to their reflection-in-action? Perhaps some conditions on the list did not while other conditions not on the list did. Bosses should assist managers in making this determination.

The conditions can be personalized by addition or subtraction to arrive at an individually tailored list of conditions to facilitate reflection-in-action. When personalizing the list of conditions it is important to consider the *relative* value of each condition. The presence of some especially enabling conditions may offset the absence of other less potent conditions.

The second step is to *apply the personalized list of reflection conditions to the current learning assignment*. This involves assessing whether or not these conditions exist in the immediate work environment surrounding the manager's assign-

ment. The learner and his or her boss should independently examine the context of the assignment (paying attention to such things as the procedures, schedules, and relational dynamics within which the manager will have to function) to determine which reflection conditions are present and to what degree. Learners and their boss should then compare their assessments and discuss any discrepancies in their perceptions.

Assuming a person is using the five conditions listed above, the existence of a majority of those conditions indicates a work environment that is very conducive to reflection-in-action. The existence of half the reflection conditions suggests that the work environment is only moderately conducive to reflection. Less than this suggests there is reason for concern, and an environment in which all conditions are absent indicates that reflection-in-action would be inhibited.

When one or more of the reflection conditions are missing, managers and their boss should consider specific ways they can cultivate the missing condition(s), and should definitely consider some of the suggestions in Table 2.

TOOLS FOR CULTIVATING A WORK ENVIRONMENT CONDUCTIVE TO REFLECTION-IN-ACTION

Based on what managers know about themselves and the peculiarities of their own work environment, many other suggestions could also prove useful. The point of this second step is to develop some concrete ways to cultivate an atmosphere at work that is conducive to reflection.

The third step for cultivating reflection conditions in the workplace is to *regularly re-evaluate the list of reflection conditions*. Just as a garden needs constant nurturing in order to be productive, likewise the working conditions surrounding a learning experience need continual attention. Circumstances change, especially in today's dynamic world. Thus it is important to revisit the list of reflection conditions periodically during an assignment to re-evaluate those things that are helping and those that are hindering the manager's ability

to engage in reflection-in-action.

These steps may sound simple, but they can be highly effective. Eastman Kodak Chairman George Fisher's basic philosophy of management development is not to oversystematize it. That approach is directly relevant to reflection-in-action. To over-systematize this type of reflection is to defeat two of its primary strengths, spontaneity and flexibility.

MAKING THE MOST OF ON-THE-JOB LEARNING EXPERIENCES

The best learners are deliberate about managing their work environment in ways that facilitate their reflection-in-action. They are also intentional about the inquiring and interpreting they do when they are reflecting in action. This, combined with active engagement with a challenging assignment, is an unbeatable formula for growth and development at work.

Reflection-in-action is an important complement to coached reflection. If coached reflection is similar to strategic *planning*—a formal, periodic, deliberate process—then reflection-in-action is like strategic *thinking*—that informal, continual, spontaneous competitive mindset. Both forms of reflection are vital ingredients in managerial learning today. And even though reflection-in-action happens informally and on-the-fly, it is a skill that can be developed and managed.

From the organization's perspective, companies today *say* they want their people to continually learn and grow. But few invest the sweat necessary to water and weed an area that has great impact on managers' reflection—their immediate work environment. Few also give much attention to the role of reflection-in-action. Fortunately, we are learning more about reflection-in-action and about what makes for fertile reflection conditions. Best of all, both reflection-in-action and conditions in immediate work environments can realistically be influenced in positive directions to the benefit of both managers and their firms.



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