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BUILDING SHARED UNDERSTANDING

EMERGENT LEARNING IN ACTION: THE AFTER ACTION REVIEW

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Since the Industrial Revolution, our organizations and society at large have held three biases regarding learning. First, the transmission of knowledge from an outside expert, whether a teacher, consultant, or “best practice,” is seen as the essence of learning. Second, by institutionalizing “off-line” classroom learning, the building of capacity becomes separate from the use of that capacity. Third, learning is seen primarily as a matter for individuals, not groups.

Emergent learning practices turn these three biases on their head. The corresponding biases of emergent learning are:

- First, the essence of learning is the discovery and use of knowledge, and one of the best sources of actionable knowledge is that which emerges from people’s own experience.
- Second, a learning discipline should be woven into ongoing work, which integrates getting “real work” done with building greater capability.
- Third, learning is both possible and appropriate at a group level—by working and thinking together in certain ways, a work unit can build a real capacity for learning.

By weaving a disciplined process for learning through experience into the tapestry of ongoing work, an emergent learning practice helps people to use their own experience as a context for generating, refining, and validating knowledge, while enhancing their ability as a unit to “learn our way through” difficult and complex situations.

The U.S. Army’s After Action Review

Twenty years ago, U.S. Army leaders began to develop an approach to using on-the-ground action as the crucible for learning; today, this practice is one of the best, and longest running, examples of emergent learning. They named it the “After Action Review” (AAR). Originally developed to support training exercises, the

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AAR is now used within the Army for purposes ranging from improving operations efficiency to dealing with the impact of frequent assignment rotations. It is viewed as an expression of core Army values such as readiness and leadership.

The most visible aspect of an AAR is that of a leader gathering his or her team on a frequent basis to address a series of questions about their actions. For example, questions typically at the center of an AAR session include:

- What was supposed to happen?
- What actually did happen and why?
- What are we going to do (the same or differently) next time?

The lessons that emerge shape the plan for the next similar event. This

new plan, along with the action that occurs based upon it, becomes grist for yet another AAR session, and so on. When this rhythm of reflect-plan-act revolves around a central performance challenge, the practice begins to function as a competence-building machine: Over a number of iterations, the implicit and explicit knowledge held by the team about effectiveness in that particular domain evolves substantially. New practices and standards of excellence emerge. With enough iteration, the discipline tends to produce a distinct arena within which the group has honed its ability and confidence enough so that it is able to produce the results desired, regardless of circumstances—a so-called “island of mastery.”

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Because the Army is a very large organization, there is considerable variation in how frequently the AAR is used—some officers rarely use it, while many see it as inseparable from how they do leadership. Overall, though, most Army leaders consider the AAR to be instrumental to the Army's evolution as an institution. Its simplicity and broad relevance have helped it become part of the institution's cultural fabric. How did a learning practice become so integral a part of this organization?

The Evolution of the Army's Learning Practice

Following the unsatisfactory results of the Vietnam War, the U.S. Army was compelled to reflect on and adjust its assumptions and methods. The Army's senior leadership hypothesized that if units could be trained in a realistic environment closely simulating real combat—in scenarios that troops must be prepared to face in the future—the competence, spirit, and confidence of the force would be re-energized. The simulations would also be appropriate settings for leaders to realistically test their units' readiness.

Four specialized facilities were created to operationalize this vision. Collectively, the mission of these training centers was to prepare Army units to win decisively, beginning with the first battle of the next war. The first of these, the National Training Center (NTC), came on line in 1981 at Fort Irwin, CA. A rotation at the NTC featured 14 days of simulated desert combat against a highly skilled, uncooperative "enemy" force based at the center. The typical day might include reconnaissance missions starting near midnight, a full-scale battle erupting at unpredictable times, a series of AARs, preparation for the next anticipated engagement, and maybe four hours of sleep before starting the whole process again.

Early AARs at the National Training Center. In the early days of the NTC, reviews were conducted at the company level as a retrospective critique of a unit's performance—a post-mortem. The expectation was

that field units would visibly benefit from, and then quickly adopt, the rigorous level of critical analysis provided by the NTC staff. However, it soon became apparent that these critiques were not, in fact, producing the desired results:

- The formal critique format required a highly qualified officer, called an "Observer/Controller" or "O/C," to dissect what the leader and soldiers had done wrong and leave them with a checklist to follow on the next mission. The emphasis on correction frequently led to an adversarial interaction and a

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focus on how well the unit had completed items on their checklist, and put unit leaders on the defensive.

- Handed a checklist, soldiers were not involved in teasing apart the elements of a problem, designing a solution, and determining how their actions contributed to the end result. Though they might know what to do, the *why* behind tactics remained elusive. In dynamic situations, they lacked the habit and tools to think together on their feet. Officers had no opportunity to develop an understanding of the effect their favorite tactics might have under unfamiliar conditions.

Changes in Mental Models. In a complex modern battlefield, the Army needed broadly skilled, thinking soldiers, not technicians with their faces in the rulebook. In systems language, the early approach to AARs shifted the burden of thoughtfulness and double-loop learning to an outside intervenor instead of to the

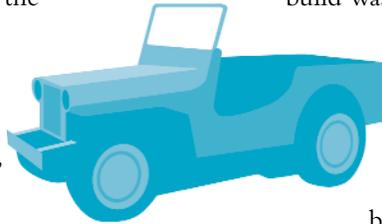
active battle participants. To their credit, NTC staff successfully refined the AAR practice over the last 20 years, evolving their tactics and mental models in significant ways. For example, today:

- The O/C role is an expert *facilitator* of learning, rather than an expert providing criticism and answers.
- O/Cs typically meet with the officer whose unit they will observe—in *advance* of a battle series—to agree on the most useful types of data to collect. O/Cs then use this data to focus their facilitation of the subsequent AAR.
- O/Cs focus the troops on trends and key data points and ask *them* to explain and posit actions to sustain or improve.
- The AAR cycle encompasses the *complete* challenge, beginning with the logistics of leaving "home station" and arriving at the NTC prepared for battle.
- Most importantly, AARs start at the platoon level and work their way *up* the chain of command: At each command level, leaders and their direct reports engage in disciplined self-discovery, evaluating their own performance against goals and standards, ferreting out systems problems, and developing improvements to test the next day.

The NTC today uses a great deal of technology for collecting and communicating data so that each unit can know as soon as the battle ends precisely what happened and see how its role in the big picture played out. Army staff have discovered that rich learning for officers and troops alike comes from comparing the "commander's intent"—stated at the start of the mission—with what subsequently happens. The vivid intersection between Army "doctrine" (standard practices sorted out by recognizable situations such as a "movement to contact" with an enemy unit) and direct battle experience allows espoused theory and actual practice to shape each other on a daily basis.

A Typical AAR. After a battle, platoon leaders typically conduct their AAR session right in the desert, which might mean drawing in the sand or using jeeps to hold flipcharts:

- They focus on issues of local concern such as situational awareness, mechanical breakdowns, and communication.
- They compare their stated intent with the results achieved and their actions with what Army doctrine prescribes. These comparisons lead to a sharper understanding of leadership challenges (e.g., the unit commander is simultaneously in communication with all of his units on the ground).
- They elicit the thinking behind and underline the importance of following doctrine (e.g., why imprecise coordination between vehicle movements and supportive artillery can result in your killing your own people).
- To generate the insight needed to plan their next day's action, they may also access other resources, including battlefield statistics, videos of pivotal moments, cuts of radio communications, and satellite-generated playbacks of the battle.
- The unit may even get a visit from the "enemy" commander to hear what happened from his perspective—his objectives, strategy, situational awareness, hypotheses, and real-time adjustments.



Harley-Davidson's Kansas City plant. As director of manufacturing projects, Gee applied AARs to the build process to ensure that his team learned what it needed to launch a new product. After each pre-build, Gee conducted a series of AARs in which actual performance was matched against initial assumptions. Assumptions were then refined, standards were raised, and another pre-build was conducted.

Gee sees a double payback: Not only does the AAR practice produce performance improvements, it offers the bonus of increased team knowledge and confidence during production planning. He finds that his people are excited about their increased knowledge of the whole operation and have gained strong planning and data-gathering skills.

Geerlings & Wade. Steve Danckert built an AAR practice to manage warehouse operations at Geerlings & Wade, a wine retailer and distributor. He conducts formal, quarterly AARs with his team by phone, focusing on one particular event that happened during the quarter. For example, the focus of a fourth-quarter AAR was a pre-holiday spike in orders. Although not a surprise to anyone, the situation gave the team a chance to look at how its systems work under stress. Danckert reports that these reviews

not only improved performance in spike periods, they got everyone in the habit of analyzing successes and failures (and now it's not left for the boss to do).

Dankert pairs his quarterly AARs with informal, one-on-one, 15-minute "spot" AARs and finds the two reinforce one other. To build rapport with a new team in order to foster candor, he shows up at a warehouse in jeans periodically to pack orders alongside his warehouse managers for a few hours. He finds that over time his people have developed a mindset and a confidence that things *will* improve as a result of their AARs, and they take the initiative to call him with things to AAR.

Power Construction. Gary Shreiber, a vice president at Power Construction, recognized that the firm had grown too large to continue to rely solely on informal mechanisms to transfer knowledge and to problem-solve. Every construction project is a complex undertaking requiring a close working relationship between multiple organizations—architect, general contractor, owner, subcontractors, and so forth—as well as a high capacity for on-the-fly adjustments.

Schreiber created a series of "Lessons Learned Workshops" (LLW), modeled in part after the AAR, that bring the multi-firm project team together at the beginning, middle, and end of a large project. In a LLW, team

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Adapting the Army's AAR to Business Settings

The AAR was first introduced to the business world by ex-Army leaders, who brought the AAR with them into their new civilian work roles as company board members or staff. One of the earliest adoptions was in 1994: With retired general Gordon Sullivan on its board of directors, Shell Oil started using AARs during a transformation in its governance structure. But no matter the source, in every successful application, leaders have recognized the importance of adapting the process to fit their specific environment. Three companies' stories exemplify the variety available in designing effective AAR practices.

Harley-Davidson. Ted Gee uses an AAR practice to prepare his people for new model introductions at

POST-MORTEM VS. AAR PRACTICE	
Typical Post-Mortem	Typical AAR Practice
Purpose: to dissect past events to document and explain what happened.	Purpose: to prepare for a tangible challenge in the near future.
Planned <i>after</i> the project or event, from the perspective that understanding and insight is clearest in hindsight. Meeting is held soon after project completion.	Planned <i>before</i> the project or event, from the perspective that learning and improvement must happen throughout the project. Multiple meetings throughout the project.
Takes place as a meeting of all involved, followed by a presentation to others such as executives.	Takes place in small, task-focused groups, followed by action by those same people.
Reviews the entire process, aiming to be thorough.	Reviews moments, issues, or measures seen as relevant to going forward.
Produces a detailed report containing analysis and recommendations for others.	Produces an action plan that participants generated and will implement themselves.

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members articulate their aspirations and expectations, and review plans and performance data. On a wall-sized timeline, they identify “bullets” coming their way and “defining moments” from past experience that they see as relevant to those challenges. Shared hypotheses emerge about what will work going forward, accompanied by action commitments. This process allows teams to reveal their underlying thinking and concerns, and increase their effectiveness in sharing responsibility for producing a collective success.

The AAR Is Not a Meeting, But a Practice

Those who would like to use the AAR in corporate settings need to recognize that AARs and traditional methods for reflection serve different purposes. For example, if a team needs to piece together in detail what happened during the course of a project, produce general recommendations to improve the process, or make technical corrections to a product, a post-mortem or retrospective can be an appropriate vehicle. However, a post-mortem is unlikely to be effective if a group needs to both make an improvement *and* self-correct in the future, or to effect a cultural transformation through local initiative (see “Post-Mortem vs. AAR Practice” on p. 3).

Unlike post-mortems, the AAR is a continuing practice that is focused *forward*, generating lessons to be applied in the immediate future by the same people who developed them. As the Army found, it is only through an ongoing practice—a connected series of forward-looking AAR meetings—that a team grasps the causality at play in their field of action, begins to self-correct, and builds confidence in their ability to do so.

Developing an Emergent Learning Practice

Leaders wanting to develop an emergent learning practice such as the AAR in their organization should consider four patterns that characterize emergent learning and are consistently found in successful AAR applications: localness, forward-focus, punctuation, and iteration.

Localness. “Localness” here refers to *task proximity*—the group that’s directly responsible for the task and the results. If responsibility for results lies with a person outside of the group, any new practice is likely to fade quickly under the pressure of everyday time constraints. In order to integrate an AAR into the rhythms and norms of their group, leaders must introduce the practice with a tight focus on a challenge—one that meets three criteria: It is compelling

to participants; it is embedded in the group’s scope of work; and it is solidly connected to reaching core business goals.

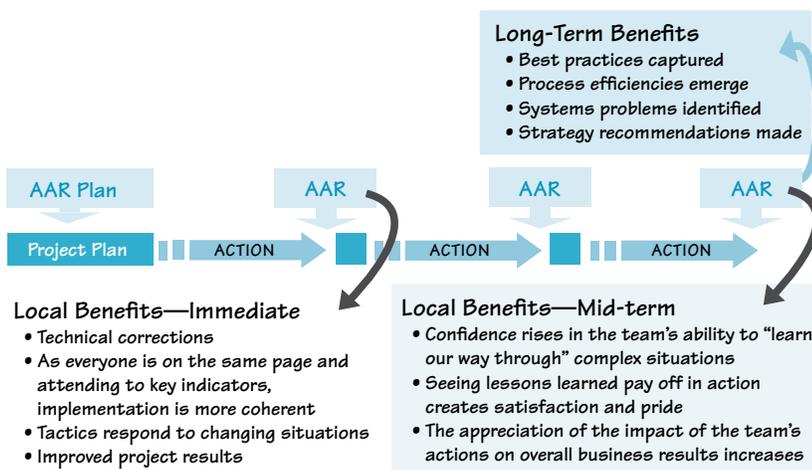
Team members are encouraged to gather “ground truth” data for the next AAR session as they go. Learning *through* their own actions, they see the impact of their decisions and behavior. As they explore trends in their data in order to develop testable hypotheses about effective action in their domain, team members improve their ability to see and understand the interplay of factors that shape their performance over time. In this way, localness naturally leads people to develop a systemic perspective.

Forward Focus. “Forward focus” means looking toward the future first and spending as much time *planning* based on your lessons learned as you spend *reflecting* and *identifying* those lessons. This process involves scanning forward to identify your next challenge; recalling a past similar event; developing your insights; and looking forward again to plan an application of the lessons learned.

In each AAR session, participants identify up front a clear opportunity in the near future for them to implement, test, and refine insights that emerge from the session—an “opportunity field” for learning in action. For instance, a team might be about to begin a series of rollouts of a new product or is looking at its effectiveness in a frequently repeating business process such as developing contracts or conducting quarterly meetings.

Punctuation. Much of our daily work experience seems like a blur—metaphorically, one run-on sentence after another. Emergent learning practitioners develop the ability to “punctuate” the blur in their mind’s eye in order to find natural start and stop points and to derive units of action that repeat. They glean possible “opportunity fields”—arenas within which they might pursue iterative improvement. For example, the Army took the blur of battle and broke out certain repeating units of action; soldiers first learn to recognize when a “movement to contact” begins, and then to call up their knowledge of

THREE BENEFITS FROM AN AAR LEARNING PRACTICE



The AAR is a continuing practice that is focused forward, generating lessons to be learned and applied immediately, in the mid-term, and over the long run.

what to do in that context. Over a series of movements to contact in widely varying circumstances, this punctuation enables them to improve their effectiveness.

Once we learn to see and use them, such opportunities abound. For instance, Danckert saw the chance to iterate in his challenge to open 16 warehouses: “We’re not opening 16 warehouses. We’re opening one warehouse 16 times.” The first one he opened, in Texas, took six weeks. By using what it learned in an AAR after that event, the company was able to reduce the time it took to open its next warehouse, in North Carolina, to only two weeks.

Iteration. When is a “lesson learned” learned? The Army thinks learning has not occurred until an insight shapes actual behavior and is validated by results. Gregory Bateson, author of *Steps to an Ecology of Mind*, posited that learning requires the repetition of a recognizable situation or process, and that information resides in comparing, not in analyzing individual elements or events in isolation. Both perspectives support the idea that a lesson involves more than one learning opportunity—*iteration*.

Iteration is the process of feeding information or knowledge from one instance forward in time into the next similar instance. Knowledge about a past sale, warehouse move, or project kick-off can inform the conduct of an upcoming one—but *only* if that data or insight is captured and fed forward. The AAR enables that capturing and feeding forward process to take place. For instance, much of the NTC’s potency in accelerating skill development stems from allowing people to engage in a high number of action iterations in a short time, coupled with dense behavioral-data feeds such as video.

Iteration has another positive effect when an emergent learning practice becomes “part of how we do things here”: As people grow to expect to reflect with their peers about their collective actions in terms of trends and goals, they tend to raise their individual level of performance and their ownership for seeking improvement.

Two Pitfalls to Avoid

Companies seeking to adopt an AAR practice must avoid two possible pitfalls. First, the current interest in knowledge management leads initiators of learning practices to make an easy mistake—placing an early focus on producing outputs for use in a knowledge base for the benefit of people outside of the team. The first and best customers of a learning practice *must* be those directly involved. If a team is asked to conduct an AAR solely for the benefit of capturing knowledge for someone else, they are unlikely to sustain the practice.

Second, if sponsors try to assess the AAR’s value with a single-meeting trial run, they will be disappointed. Why? Because much of the power of the AAR comes from iteration. Also, the AAR asks participants to talk frankly about their own and their leader’s behavior, so several cycles of learning and action are often needed to generate confidence in the process and trust in one another’s team spirit. As that confidence and trust develop, participants begin to bring more and more substantial issues to the table and act on them. Then, the kinds of visible improvements that are gratifying to themselves and the larger organization become possible, and a virtuous cycle sets in. In turn, the excitement participants feel—of collectively producing outputs that have a visible impact—gives an AAR practice a life of its own within a group. Therefore, before assessing the impact of a new AAR

practice, sponsors should think in terms of at least four to five linked sessions as the baseline commitment (see “Three Benefits from an AAR Learning Practice”).

Bridging Thinking and Action in a Complex World

In a complex and dynamic world, every action plan, every strategic plan, every leader’s initiative is in fact a working hypothesis—our current best thinking about what will lead to success going forward. When a group develops an emergent learning practice, it is building a living, dynamic bridge between the world of thinking and the world of action. ■

Charles S. Parry conducts research on the learning and action strategies of high-performing teams and individuals. He uses that knowledge to shape consulting services and to design programs and facilities dedicated to accelerated skill development. **Marilyn J. Darling** founded Signet Consulting Group (www.signetconsulting.com) in 1989 to develop innovative applications of learning theory to improve team performance and knowledge creation capabilities. She is a charter member of the Society for Organizational Learning and a frequent conference speaker on topics related to team and community learning strategies.

For Further Reading

Darling, Marilyn and Charles Parry. “Emergent Learning: Taking ‘Learning from Experience’ to a New Level.” *The Systems Thinker*®, Vol. 10, No. 4. (May 1999)

Darling, Marilyn and Charles Parry. *From Post Mortem to Living Practice: An In Depth Study of the Evolution of the After Action Review* (Signet Consulting, 2000)

NEXT STEPS

- 1. The best use of a learning practice is often within existing work.** List as many repeating work events, processes, or situations you can think of—use your calendar to help you scan. Which of these contain a clear need for improvement or increased capability, are integral to the business you are in, and have an existing action opportunity in the near future?
- 2. Pick one event to focus on.** Together with at least one member of your team, preview the situation. Then look back at one or more recent similar situations. Discuss and then write your responses to:
 - a. What was supposed to happen that time?
 - b. What actually did happen and why?
 - c. What are we going to do (the same or differently) this next time?
- 3. Commit a date to repeat a–c above,** and take some notes “live” as the situation you have chosen to focus on plays out.