Whether viewed as a tool, a technique or a process, an after-action review uses an appraisal of experience to improve performance by reproducing success and preventing recurrent errors. An AAR enables key participants in a mission-critical activity to review their assignments, identify successes and failures, and look for ways to continue successful performance or improve deficient operations in the future.

The U.S. Army first developed the AAR as a learning method in the mid-1970s to facilitate learning from combat training exercises. It has since become standard Army procedure in both training and operations, providing an avenue for feedback, a means of promoting evaluation, and a mechanism for improving unit cohesion.

Many organizations have adopted the AAR as procedure, in many cases adapting it to their own needs; and one can see the process at work in diverse environments including military, government, medical, industrial, retail, service, and not-for-profit organizations. The AAR has gained broad acceptance among organizations operating in high-risk environments, in which common human error can produce unacceptable outcomes.

Among those organizations, elements of U.S. wildland fire agencies have been conducting AARs since the late 1990s, with the process entering these agencies through the evolving National Wildfire Coordinating Group leadership-development training curriculum. Through the influence of the NWCG leadership training initiative, a significant part of the wildland fire work force now understands the purpose and intent of the AAR and conducts some type of review process.

However, anecdotal evidence suggests that effective AAR practice hasn’t penetrated wildland fire operations as thoroughly as might be hoped, and too few resources are optimally conducting AARs. As a vehicle for capturing and learning from experience, the AAR provides an effective tool of continuous learning for an organization.

Still, there are ways to improve AAR practice within wildland fire agencies, and three strategic actions necessary to systematically and comprehensively use the AAR process.

COLLECTIVE LEARNING
By learning from collective experience, organizations can capture and spread knowledge and apply learning so that they may understand events and improve performance. One might consider these traits as characteristic of learning organizations. A learning organization is one “... skilled at creating, acquiring, interpreting, transferring, and retaining knowledge, and at purposefully modifying its behavior to reflect new knowledge and insights,” as David Garvin wrote in his book, Learning In Action – A Guide to Putting the Learning Organization to Work.

In the broader context of organizational learning, the AAR provides organizations with a simple, powerful tool enabling them to continuously learn from their daily experiences. Consequently, the AAR not only arms the learning organization with a useful field-level technique for making learning routine and improving the effectiveness of personnel, but adoption of the AAR process can move the organization toward broader organizational learning.

The AAR concept entered the federal wildland fire agencies when Interagency Hotshot Crew superintendents gained exposure to the process through nascent human factors and leadership training in the late 1990s. A group of NWCG superintendents began conducting and consequently modeling and pioneering the concept in their agencies. As the NWCG leadership training initiative evolved, matured and...
gained the full support of agency management, thousands of emerging leaders were introduced to the aar process. In 2002, the nwcc included aar guidance, not as a process within the context of, or contributing to, a broad-er organizational learning environment. It appears that many firefighters have been trained to understand the mechanics of aar conduct as a procedure without embracing the desired outcome of the aar, that being pur-posefully modified behavior reflect-ing insight and knowledge gained by reviewing experience. Consequently, however little hard data exists, field experience suggests that, while the aar concept has made its way into fire agencies, skilled aar practice hasn’t thoroughly penetrated wildland fire opera-tions. While some resources have made the aar routine and have become quite skilled at it, relatively few fire units are con-ducting aars routinely or using optimal practice. That isn’t to suggest that the agencies have adopted the aar as a technique for reviewing experience with the intent of improving perfor-mance. Indeed, the aar concept also evolved slowly (over 20 years) in the u.s. Army. aar practice entered the wildland fire agencies via a grass-roots effort. The effort of this work was directed at borrowing techniques from other industries and disciplines, with emphasis placed on rapid integration rather than optimal design, acceptance and performance.

no small achievement consequently, after a short five-year period, a significant part of the wild-land fire work force engages in some type of aar process, though practical performance may be falling short of known best practices. relatively little hard data exist to definitively describe the practical experience with the aar method. however, available data suggest the following: technique without context. fire agencies have adopted the aar as a technique, not as a process within the context of, or contributing to, a broad-er organizational learning environment. It appears that many firefighters have been trained to understand the mechanics of aar conduct as a procedure without embracing the desired outcome of the aar, that being pur-posefully modified behavior reflect-ing insight and knowledge gained by reviewing experience. Consequently, that isn’t to suggest that the agencies have adopted the aar as a technique for reviewing experience with the intent of improving perfor-mance. indeed, the aar concept also evolved slowly (over 20 years) in the u.s. Army. aar practice entered the wildland fire agencies via a grass-roots effort. the effort of this work was directed at borrowing techniques from other industries and disciplines, with emphasis placed on rapid integration rather than optimal design, acceptance and performance.

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broaden organizational learning efforts. Actions called for include:

- **Adopting a culture of continuous learning.** Learning organizations succeed because people at all organizational levels share information and learn from experience. Leaders in these organizations promote learning first by modeling, or in other words, learning on a personal level. Second, leaders advance learning by helping others in their units learn. Finally, the leaders of learning organizations create and contribute to an organizational culture promoting learning. Within this context, the AAR is a process for learning from experience, capturing and spreading knowledge, sharing information, and purposefully modifying behavior reflecting insight and knowledge gained by reviewing experience.

To achieve the most benefit, organizational leaders must focus on why they conduct AARs: consistently communicate that rationale to their personnel; and, once an AAR is done, disseminate learning to others who may be embarking on similar actions. Without adopting such a learning culture, there exists a danger of encouraging fire personnel to go through the motions of an AAR without clarity of purpose, turning AARs into a non-thinking ritual that doesn’t adequately review experience, cause learning, or result in modified behavior that improves performance.

- **Methodically making AAR practice routine,** consistent, and as important as other organizational activity. AARs contribute to performance best when seen, not as an event, but as an ongoing practice, a disciplined approach to improving performance over time. By creating a discipline to capture and apply learning over time, the effects of AARs are cumulative. The AAR process is most likely to improve organizational performance, and is most likely to be sustained, when there’s a high level of management commitment and AAR practice is encouraged and supported. AAR conduct must become regular or routine, and personnel must understand known best practices and conduct their AARs in accordance with them. While some within wildland fire agencies fear standardization and formal organizational adoption, experience suggests that the corollary, irregular and informal conduct, may actually represent a greater threat to the credibility and importance of the AAR in the eyes of the average firefighter.

The Wildland Fire Center for Lessons Learned offers the following tips for conducting after-action reviews:

**TIPS FOR CONDUCTING AARS**

The Wildland Fire Center for Lessons Learned offers the following tips for conducting after-action reviews:

1. **Schedule the review after the activity is completed.**
2. **Pay attention to time. Use the 25% / 25% / 50% suggested time allotment.**
3. **Focus on what not who.**
4. **Establish clear ground rules. Encourage candor and openness – this is dialogue not torture or debate. Focus on items that can be fixed; keep all discussions confidential.**
5. **The leader’s role is to ensure there is skilled facilitation of the AAR.**

The AAR should ask four questions:

1. What did we set out to do? (Spend about 25% of total time on this question and the next).
2. What actually happened? (Spend about 25% of total time on this question and the next).
3. Why did it happen? (25% of total time)
4. What are we going to do next time? (50% of total time)

**FUTURE ACTIONS**

Currently, no systematic approach exists for preparing agency personnel to facilitate the AAR process, and generally speaking, facilitation skills are lacking in the agency work force. Since AAR experts agree that skilled facilitation is essential to train the AAR practice, this represents a situation requiring attention. Needed is an AAR train-the-trainer strategy, the goal of which would be to develop a sufficient cadre of AAR trainers organizationally. The plan should create that cadre strategically and systematically, with the intent of producing a sufficient number of practical facilitators who are geographically and organizationally distributed while simultaneously maintaining standards and quality.

The after-action review is a process technique that uses a review of experience to avoid recurrent mistakes and reproduce success. As a vehicle for capturing and learning from experience, the AAR provides an effective tool of continuous learning for the organization. It’s within this organizational learning context that I’ve endeavored to suggest ways to improve AAR practice within wildland fire agencies. If they are to realize the full benefit of the AAR process, both as a useful field-level technique for improving performance and as an element of broader organizational learning efforts, it appears the NWCG and its member agencies must enhance and intensify organizational learning efforts, it appears the NWCG and its member agencies must enhance and intensify their efforts to integrate into fire operations.

Actions called for include adopting a culture of continuous learning; methodically making AAR practice routine, consistent, and as important as other organizational activity; and systematically preparing people to lead an AAR by developing their facilitation skills.

These conclusions are based on available data collected both anecdotally through field studies, and through a single quasi-experimental study. To fully understand the nature and extent of AAR use in NWCG agencies will require more, and more systematically collected, data. There is a need to comprehensively survey fire personnel about their AAR experience and practices.