



**U.S. Army Research Institute
For the Behavioral and Social Sciences**

Research Report 1844

**Training Adaptable Leaders:
Lessons from Research and Practice**

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Personnel Decisions Research Institutes, Inc.

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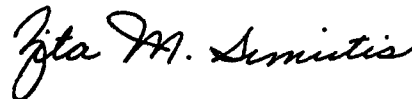
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TRAINING ADAPTABLE LEADERS: LESSONS FROM RESEARCH AND PRACTICE

EXECUTIVE SUMMARY

Research Requirement:

In the post 9/11 environment and the subsequent Global War on Terrorism, the need for adaptable leaders in the military has become increasingly apparent. To date, relatively little is known conclusively about whether adaptability can be trained, and if so, the best means of training it. Recent research and practical applications have begun to shed some light on these issues, however, and in this paper we describe important elements of the training and development of officers that can enhance their adaptive performance.

Procedure:

Our first step was to define and describe adaptability and the adaptability-related behaviors that are important for military leaders. Next, we discussed the knowledge, skills, and abilities that are needed to successfully perform in an adaptable fashion. As not all of these characteristics are amenable to training, we also discussed which characteristics were most appropriate to target in a training program and which may be more appropriate as selection factors. Finally, we integrated research on adaptability behaviors, characteristics related to adaptability, and effective training interventions to present concrete recommendations for developing adaptable leaders via the three pillars of Army training: institutional, operational, and self-development.

Findings:

Based on existing research, adaptability was defined as *an effective change in response to an altered situation*. This definition emphasizes that an individual must recognize the need to change based on some current or future perceived alteration in the environment and change his or her behavior as appropriate.

Research has demonstrated that within this broad definition, adaptability is a multifaceted construct with several distinct dimensions. For this report, these dimensions were grouped into three overarching types of adaptability, each of which is potentially important in developing military leaders: mental, interpersonal, and physical adaptability. In addition to these important individual performance dimensions, leaders also have the added task of developing adaptability in their units by encouraging and rewarding adaptive behavior and by ensuring that everyone works together in a coordinated fashion.

A number of personal characteristics have been related to successful adaptive performance, including personality traits, cognitive skills, interpersonal skills, and the extent of one's domain specific knowledge and experience. Also, research suggests two training principles are particularly important with respect to training adaptive performance. First, that training interventions should incorporate as many opportunities as possible for emerging leaders to be exposed to situations requiring adaptability. Whether simulated or real, this exposure will allow

the individual to start to build his or her own catalog of experiences from which to draw on in the future thereby speeding up the acquisition of expertise. Second, an iterative process of practice, feedback, and practice is a necessary part of development. Individuals should have the opportunity to practice new skills, obtain feedback on their results, and apply what they learned from this feedback in subsequent practice sessions. In an adaptability context, individuals should have ample opportunities to practice their adaptability related skills in a variety of settings and obtain feedback from a variety of sources.

Finally, research on adaptability was integrated with the research on effective training principles to propose recommendations for the development of adaptive leaders via institutional, operational, and self-development methods.

Utilization and Dissemination of Findings:

The first step in designing training to develop adaptability is to identify whether specific jobs require adaptive performance, keeping in mind that some jobs will not require adaptability. Once adaptable performance is defined for a given job, the information in this report provides concrete ideas that can be applied to enhance the development of adaptive performance, whether it is in a program of instruction, in the field, or as part of a self-development program.

Developing adaptive performance in Army leaders will likely require a substantial investment in an integrated training system from “cradle to grave.” Junior level leaders need to be exposed to adaptability training at the start of their careers through classroom and field exercises, during the early part of their careers through operational experiences and feedback mechanisms, and continuing throughout their careers through ongoing professional development. Having prescriptive documents such as this provides an important launch point.

This report represents the first widespread dissemination of these findings.

TRAINING ADAPTABLE LEADERS: LESSONS FROM RESEARCH AND PRACTICE

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TRAINING ADAPTABLE LEADERS: LESSONS FROM RESEARCH AND PRACTICE

Introduction

In the post 9/11 environment and the subsequent Global War on Terrorism, the need for adaptable leaders in the military has become increasingly apparent. During Operation Enduring Freedom, military leaders found they were fighting a different kind of war in an unfamiliar culture with a dispersed, yet tenacious, enemy. In subsequent efforts in Iraq and elsewhere, increased operational tempo, a high degree of uncertainty, and the need to constantly shift tactics and approaches have all contributed to an environment in which adaptability is required for mission success.

A variety of research supports the observation that the need for adaptable leaders in the military has increased. For example, the recent Army Leadership Development and Training Panel (ALDTP; Department of the Army, 2001) concluded that adaptability and self-awareness are critical skills for leaders. In addition, Wong, Gerrars, Kidd, Pricone, and Swengros (2003) describe six metacompetencies that are necessary for strategic leadership in the future. Four of these, Identity, Mental Agility, Cross-Cultural Savvy, and Interpersonal Maturity overlap with the concept of adaptability. While anecdotally many military leaders demonstrate high levels of adaptive performance (Wong, 2004), little has historically been done to develop and maximize these capabilities, and some research suggests there is room to improve (Thompson, Wilson, & Sanders, 2003).

The increased need for adaptable leaders raises the issue of how adaptive performance could be enhanced. Adaptive performance is likely the result of three major factors. First, there are the individual characteristics that may predispose one to behave in an adaptable fashion. Second is the extent to which leadership training and development programs may be effective in improving adaptive performance. Third is the extent to which the organization's rules, norms, climate, and culture permit and encourage adaptive behavior. Therefore, for leaders to behave in an adaptable fashion, leader candidates should be selected specifically for their individual characteristics related to adaptability; training and development programs should address improving adaptability-related skills; and organizational policies and practices should support creativity and appropriate risk taking among the leadership.

This paper addresses the second component of this equation – training and development to promote adaptability for the next generation of military leaders: junior level officers. To date, little is known about whether adaptability can be trained, and, assuming it can be trained, the best means of doing so. However, recent research and practical applications have begun to shed some light on these issues, and in this paper we suggest that adaptive performance can be enhanced through training.

In designing any training intervention, one must understand what behaviors are required on the job and the knowledge, skills, and abilities that one needs in order to perform these behaviors successfully. Therefore, in exploring the topic of how adaptability might be developed, we first describe what adaptability is. That is, the adaptability-related behaviors that are important for military leaders. Next, we discuss the knowledge, skills, and abilities that are needed to

successfully perform in an adaptable fashion. As not all of these characteristics are amenable to training, we also discuss which characteristics are most appropriate to target in a training program and which may be more appropriate as selection factors. Finally, we integrate research on adaptability behaviors, characteristics related to adaptability, and effective training interventions to present concrete recommendations for developing adaptable leaders via the three pillars of Army training: institutional, operational, and self-development.

What is Adaptability?

Adaptability has been defined in numerous ways in the literature (e.g., Chan, 2000; Pulakos, Arad, Donovan, & Plamondon, 2000; Ross & Lussier, 2000; Smith, Ford, & Kozlowski, 1997; Zaccaro, 2001); however, at the most basic level adaptability could be defined as *an effective change in response to an altered situation*. This definition presumes that to behave in an adaptable fashion, an individual must recognize the need to change based on some current or future perceived alteration in the environment and change his or her behavior as appropriate.

Although adaptability can be broadly defined with a single, overarching statement, research has demonstrated that adaptability is a multifaceted construct with several distinct dimensions (Pulakos, Arad, Donovan, & Plamondon, 2000). Pulakos et al. (2000) proposed a model of adaptive performance that is applicable to a broad array of occupations. This model was developed from a content analysis of critical incidents describing effective and ineffective instances of adaptability, many of which came from military settings. Eight dimensions of adaptability emerged from this content analysis, describing different kinds of adaptive behavior that might be displayed. These dimensions are as follows:

- ◆ Handling Emergencies or Crisis Situations
- ◆ Handling Work Stress
- ◆ Solving Problems Creatively
- ◆ Dealing Effectively with Unpredictable or Changing Work Situations
- ◆ Learning Work Tasks, Technologies, and Procedures
- ◆ Demonstrating Interpersonal Adaptability
- ◆ Displaying Cultural Adaptability
- ◆ Demonstrating Physically Oriented Adaptability

More detailed descriptions of these definitions, along with behavioral examples specific to the military environment are presented in Appendix A.

For ease of understanding during training and development, these dimensions can be grouped into three overarching types of adaptability, each of which is important in developing military leaders:

- ◆ *Mental Adaptability* – adjusting one’s thinking in new situations to overcome obstacles or improve effectiveness. It includes handling emergency or crisis situations; dealing

effectively with unpredictable or changing work situations, handling work stress; learning new work tasks, technologies, and procedures; and solving problems creatively.

- ◆ *Interpersonal Adaptability* – adjusting what one says and does to make interactions with other people run more smoothly and effectively. This includes demonstrating interpersonal adaptability, and displaying cultural adaptability.
- ◆ *Physical Adaptability* – adjusting to tough environmental states such as heat, cold, etc., pushing oneself physically to complete strenuous or demanding tasks, and adjusting weight/muscular strength or becoming proficient in performing physical tasks as necessary for the job.

For officers, it is not enough to be individually adaptable. They must also help develop adaptability in their teams by encouraging and rewarding adaptive behavior in the team and by ensuring everyone works together in a coordinated fashion. The role of the leader in encouraging team adaptability suggests several specific behaviors in which a leader might engage. First, the team leader should learn about his team, or establish a mental model about the team. Zaccaro (2001a) recommends that a team leader should understand "... team and subordinate resources, team role structure and assignments, team cohesion and morale, the communication and social influence patterns within the team, the tenure and size of the team, and specific performance protocols and norms (cf. Fleishman and Zaccaro, 1992)" (p. 145). By learning about the existing state of the team, the leader will have a better idea of how to interact with the team most effectively, what changes may be needed, and so on.

Team leaders are critical in setting a tone or climate for their teams that is conducive to adaptability. For example, situations requiring adaptation often involve creative problem solving. Better solutions tend to be developed when people feel that they can voice ideas and opinions freely. Participative leadership styles rather than autocratic ones tend to encourage this type of behavior (e.g., Axtell, Holman, Unsworth, Wall, & Waterson, 2000; Edmondson, 1999; Tannenbaum, Smith-Jentsch, & Behson, 1998; West & Wallace, 1991). For example, in a study of surgical teams, Edmondson and her colleagues found that teams whose leaders encouraged people to voice their opinions, who admitted their own mistakes, and who asked for advice when it was necessary were more successful in learning a new procedure (Edmondson, Bohmer, & Pisano, 2001). Further, in reference to planning within a Special Forces military team, Morrison, Smith, Sticha, and Brooks (1995) asserted that planning must be a team activity; even though there is a commander with ultimate responsibility for the plan, team members have their own areas of responsibility and are typically given input (especially if they are more experienced than the commander).

An element of being a more democratic rather than autocratic leader is a willingness to ask for and accept help (e.g., McIntyre & Salas, 1995). A leader's willingness to self-critique and criticize himself sets the tone for the team and allows for greater freedom of expression (Tannenbaum et al., 1998); it essentially serves as a signal to other team members that they can discuss errors and concerns without fear of punishment (Edmondson, et al. 2001). Because covering up mistakes often compounds them, and because mistakes are often good learning experiences, teams who talk about their mistakes are likely to be more effective.

Another aspect of leading a team toward being more adaptable is delivering feedback. A team will be able to improve its performance only if it knows where it has made mistakes. Tannenbaum et al. (1998) recommend that leaders hold regular briefings, both before and after their team performs, to improve the team's adaptive capabilities. Specifically, they suggest that the leader should provide specific constructive suggestions for improving performance, discuss teamwork as well as taskwork processes, and give positive feedback for improvements and successful performance. These are in addition to the more general principles that they suggest, such as asking for and listening to the opinions of others, admitting to one's own mistakes, etc. Holding such briefings also helps the team leader to establish shared mental models for adaptation across the team (e.g., Zaccaro, Burke, Marks, & Mathieu, 1999), as does delivering feedback on a less formal basis.

Characteristics Related to Adaptability

Currently, no evidence exists that unequivocally demonstrates that adaptive performance can be enhanced through training. However, research has supported the assumption that a) adaptive performance is multidimensional (Pulakos, et al., 2000), b) a variety of individual characteristics are related to adaptive performance (Pulakos, Dorsey, & White, in press), and c) some of these characteristics are amenable to training – most notably knowledge and experience (Pulakos, Schmitt, Dorsey, Arad, Hedge, & Borman, 2002). Therefore, we believe that adaptive performance can be, at least in part, enhanced through training and development by focusing on the adaptability related characteristics that are most amenable to training. In this section, we explore the characteristics that are related to adaptability, including personality traits, cognitive skills, interpersonal skills, and the extent of one's domain specific knowledge and experience. Understanding how these characteristics relate to adaptability will help us to identify which of these attributes are the most appropriate targets for an adaptability training program.

Personality Traits Related to Adaptability

- ♦ *Self-efficacy.* Self-efficacy refers to one's beliefs in one's abilities, either with respect to performing a specific task (Bandura, 1997) or with respect to achievement in general. Some people believe in their capabilities to handle new situations in a general sense, while others consistently doubt their abilities (Eden & Kinnar, 1991; Sherer & Adams, 1983; Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982). This more generalized self-efficacy can be considered trait-like, and can therefore be considered a personality variable. Self-efficacy's main relation to adaptive performance is thus a motivational one -- in order to adapt to their environment, people have to be motivated to attempt a change.
- ♦ *Resiliency.* Resiliency is the ability to recover quickly from change, hardship or misfortune (Pulley, Wakefield, & Van Velsor, 2001). The importance of resiliency can be seen in studies by the Center for Creative Leadership (CCL) that show that resisting change can derail executives' careers, while being resilient and learning from mistakes can enhance them. "In fact, the most frequently mentioned success factor in CCL's derailment research is the ability to develop or adapt. That ability is a key component to

accepting change, which lies at the heart of the successful and resilient manager and leader” (Pulley et al., 2001, p. 25).

- ◆ *Openness.* Openness is one of the “Big Five” personality dimensions (Costa & McCrae, 1992) and refers to one’s curiosity, broad-mindedness, and receptiveness to new environments and events. That is, those who are high on Openness are likely to approach a new environment or set of circumstances with curiosity and interest. This positive attitude, together with a greater willingness to try new things and be creative, in turn increases the chances of effectively handling changes in one’s environment (LePine, Colquitt, & Erez, 2000; Zaccaro, 2001b). Pulakos et al. (2002) demonstrated that Openness was associated with a composite measure of adaptive performance, and LePine et al. (2000) similarly showed that Openness predicted individuals’ performance on a changing decision-making task.
- ◆ *Achievement motivation.* Achievement motivation refers to one’s desire to achieve results and master tasks beyond others’ expectations, and is a subcomponent of the Big Five dimension of Conscientiousness. People who are high on Achievement Motivation are more likely to persist in their efforts to handle difficult situations, such as changing environments, rather than give in to frustration. As such, research has shown that Achievement Motivation predicts adaptation to new tasks or situations (Dweck, 1986; LePine et al., 2000; Pulakos et al., 2000; Schmeck, 1988).
- ◆ *Other personality variables.* Several other personality constructs have also been linked to adaptability (Pulakos & Dorsey, 2000; Zaccaro, 2001b), including Internal Locus of Control (feeling that one controls the events in one’s life), Tolerance of Ambiguity (coping easily with environmental uncertainty), and a Willingness to Learn (demonstrating enthusiasm and curiosity toward learning new things).

Cognitive Skills Related to adaptability

- ◆ *General cognitive ability (g).* Just as it has been positively associated with most realms of performance, general cognitive functioning has also been linked with the prediction of adaptive performance -- both conceptually and empirically (LePine et al., 2000; Pulakos et al., 2002; Zaccaro, 2001b).
- ◆ *Problem-solving and decision-making skills.* Recall that adaptive performance was earlier defined as effectively responding to changes in the environment. Precursors to responding to the environment are figuring out how to respond to the environment (problem solving) and deciding on a response (decision making). More skilled problem solvers/decision makers are likely to respond with effective decisions and solutions for addressing changes in the environment. Research by Klein (1997, 2003) demonstrates that experts respond to situations based on a stored repertoire of responses. When people recognize a situation as being similar to past situations they have encountered, they draw on the responses associated with such situations and respond almost automatically or intuitively. This research is particularly appropriate to adaptability as it has been shown that such “naturalistic decision-making” processes are particularly effective in high-pressure and ambiguous situations, when time pressure prohibits a more structured, rational approach. Although naturalistic decision making models argue that experts make

decisions and solve problems in an almost automatic or intuitive sense, there are identifiable elements of the process around which novices might be trained. For example, skilled problem solvers/decision makers are adept at such things as defining the problem that they are facing, identifying information that is relevant to the problem at hand, and using mental simulations to test and assess potential courses of action and anticipate obstacles (Endsley & Robertson, 2000; Klein, 1997).

- ◆ *Metacognitive skills.* Metacognition has been defined as “thinking about thinking”, referring essentially to an awareness and regulation of one’s own thought processes. Often, metacognition is described as mentally checking on one’s progress toward a goal. For example, someone making a difficult decision might ask himself “Have I considered multiple alternatives? Have I considered the consequences to available options? Do I have all the information I need?” etc. Strengthening people’s metacognitive skills through training may enable them to make better decisions in many arenas, and therefore respond more appropriately to their environment (i.e., adapt). Endsley and Robertson (2000) argue that better metacognitive skills lead to better situational awareness, and eventually to better decisions.

Interpersonal Skills Related to Adaptability

- ◆ *Communication skills.* Basic communication skills include negotiation skills, conflict resolution skills, persuasion skills, and collaboration skills. One important aspect of communication skills with respect to adaptability is being able to communicate in a variety of ways (e.g., casual vs. formal, democratic vs. autocratic, verbal vs. nonverbal, oral vs. written) to be effective with a number of different audiences. This includes paying attention to others’ verbal and nonverbal messages in order to determine the best way to relate to them (Stevens & Campion, 1994). Skilled communicators actively listen to and observe others to determine their views and how they are reacting to the interaction. According to Berger (1998, p. 124), communication skills in a cross-cultural context include:
 - Gauging one’s level of jargon and speed of delivery to the language fluency of the listener,
 - Recognizing the differing cultural meanings of verbal and non-verbal behavior,
 - Listening and questioning to understand, and
 - Awareness of what is expected at the initial stage of building a relationship in order to build sufficient trust to work together productively.
- ◆ *Self and other awareness.* To adjust one’s behaviors in interacting with others, one must have an awareness of oneself, of other parties in the interaction, and even about constraints imposed by the situation. That is, before someone can change the way he is interacting with others, he must be aware (1) of how he currently interacts with others and why he interacts in that way, (2) what the other parties expect and want from the interaction, from him, etc., and (3) what interactions are dictated by the social setting in which the interactions are occurring. Zaccaro [2001b] discusses these latter concepts in terms of social perceptiveness, or a capacity to recognize the needs, goals, and demands of others. As Fernandez (1991) noted, “The most important technique to be successful

[in interacting with diverse others] is to know and understand who you really are ... [it also] demands that you have a clear understanding of the psychological mindset of the people you are dealing with" (pp. 242-243). In a series of studies, Gelfand and her colleagues have demonstrated the importance of understanding one's own and others' cultures by showing that culture impacts people's cognitive representations of conflict episodes (e.g., whether conflict is about compromise or winning; Gelfand, Nishii, Holcombe, Dyer, Ohbuchi, & Fukuno, 2001) and the scripts they use in negotiations (Gelfand & Christakopulu, 1999).

Domain Specific Knowledge and Experience

In addition to the personality characteristics and the skills that have been described, domain-specific knowledge is a key element in being able to respond adaptively (e.g., Ross & Lussier, 2000). For example, in order to be able to determine a creative fix to a machine, one would need at least a basic knowledge of the machine. In order to respond effectively to a medical emergency, one would need specialized knowledge of medical treatment. In particular, effective decision making "...requires extensive domain-specific knowledge, such as mental models that describe causal relationships among events in the domain" (Cohen, Thompson, Adelman, Bresnick, Shastri, & Riedel, 2000, pp. 32-33). For that reason, many training programs in critical or adaptive thinking are specifically geared toward a particular context so that domain knowledge can be assumed or trained (e.g., Ross & Lussier, 2000; Cohen et al., 2000; Endsley & Robertson, 2000).

Experience is another critical predictor of adaptive performance, in part because of its role in enabling the acquisition of knowledge. For example, naturalistic decision making theories are predicated on the importance of experience. According to these theories, people respond to situations based on a process of matching the current situation they are facing to situations they have experienced in the past. The more situations that people have stored in memory, the greater the reserves they have to draw from in establishing a match, or -- as is more likely with novel situations -- in combining elements of past situations to match the current one. In turn, this increases the likelihood of determining an appropriate response, even under time pressure and stress.

In addition to experience with many situations within a domain, it also appears that experience with adaptability can improve adaptive performance. In fact, Pulakos et al. (2002) empirically demonstrated a positive link between past experience in adaptive situations and adaptive performance. The key here is to note that the experiences that were studied were those requiring adaptability. Gaining the same experience repeatedly may not aid performance in a novel situation, and it may even hurt performance if the individual insists on approaching the situation from a particular mindset that might not be appropriate (Smith, Ford, & Kozlowski, 1997; Zaccaro, 2001b). However, experiencing a variety of situations requiring changes in action and adjustments to the environment does appear to aid in the adaptation process. Moreover, being successful in these experiences is consistent with Bandura's theory of self-efficacy in which enactive mastery (or successfully performing in a particular situation) is the most effective means of raising self-efficacy, and thus increases the likelihood of success in future performance.

We have discussed a number of predictors of adaptability, including personality traits, cognitive skills, interpersonal skills, and knowledge and experience. Not all of these are amenable to training, however. For example, personality traits are by definition stable characteristics of people that are not easily changed, and a training program should not be directed at raising someone's level of Openness or Achievement Motivation. Nonetheless, an awareness of personal characteristics can sometimes lead people to take conscious steps to encourage or counteract their usual tendencies.

In terms of skills, general cognitive ability tends to be stable, trait-like, and therefore largely non-trainable, but other cognitive skills like decision making and problem solving, metacognition, and creativity may be more amenable to training. Social skills, resting heavily on self-awareness, are also candidates for training.

Domain-specific knowledge is a frequent topic of classroom training, and experiences can also be provided to people in a training context. By having people participate in scenario-based training of various degrees of fidelity, people obtain experiences from which they can learn and draw upon in the future. Kozlowski (1998) notes, "Developing adaptive capabilities entails a long-term process that provides trainees with extensive guided experience" (p. 120).

The attributes described in this section could be placed on a continuum according to their trainability, as shown in Figure 1.

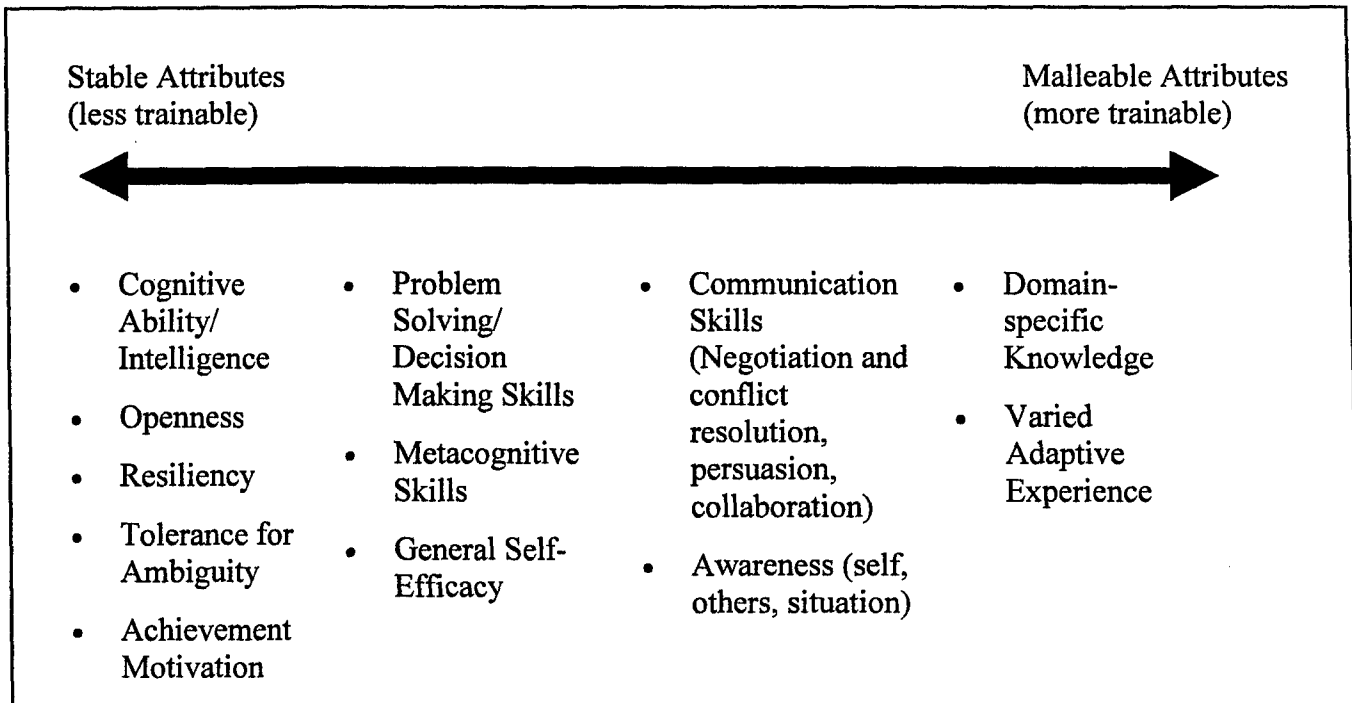


Figure 1. Trainability Continuum for Characteristics Related to Adaptability

Attributes on the far left side of the continuum in Figure 1 are fairly stable in adulthood and are very difficult to change. Attributes in the middle of the continuum are more amenable to training, though much effort may be needed to effect great changes in these areas. For example, an individual with very poor communication skills may benefit from training; however, it is unlikely that this person will become a very skilled communicator in a short period of time. Attributes on the far right side of the continuum are entirely dependent on training and experience. Therefore, we recommend that selection include measures of attributes from the left and training be focused on attributes on the right. Attributes in the middle of the continuum, such as problem solving and communication skills, should be included in both selection and training programs, as it would be ideal to select individuals with at least moderate skills in these areas and increase these skills through training.

Developing Adaptive Leaders

The best way to train adaptive performance is still in question and has only recently begun to be addressed by researchers (Kozlowski, 1998). In this section, we combine research on adaptability with research on effective training principles to propose recommendations for the development of adaptive leaders. Specifically, this section will address strategies for developing adaptability training for leaders via institutional, operational, and self-development methods.

There are two overriding principles for developing adaptable leaders that apply to any type of training method. The first is based on the finding that experience is an important predictor of adaptive behavior. As described in the previous section, domain specific knowledge and experience are individual characteristics important for adaptable behavior and are very amenable to training. By developing a varied "catalog" of experiences, leaders can, when faced with a new situation, review their previous experiences to find one that best matches the new situation to determine what an effective response would be. Therefore, training interventions should incorporate as many opportunities as possible for emerging leaders to be exposed to situations requiring adaptability. Whether simulated or real, this exposure will allow the individual to start to build his or her own catalog of experiences from which to draw on in the future thereby speeding up the acquisition of expertise.

The second overarching principle is that an iterative process of practice, feedback, and practice is a necessary part of development. Individuals should have the opportunity to practice new skills, obtain feedback on their results, and apply what they learned from this feedback in subsequent practice sessions. In an adaptability context, individuals should have ample opportunities to practice their adaptability related skills in a variety of settings and obtain feedback from a variety of sources. For example, feedback from peers may be particularly valuable in a developmental environment to help leaders increase their awareness of strengths and development needs (c.f., Wisecarver, Martin, Thompson, & Cracraft, 2004).

Specific applications of these two principles in institutional, operational, and self-development activities are described in the sections that follow.

Institutional Training

Institutional training is formal and structured, typically involving classroom training and field training in a controlled setting. Institutional training in the military is often arrayed using a “Crawl-Walk-Run” strategy. In this strategy, classroom training provides the basic knowledge and concepts that lay the groundwork for future learning. This foundation is provided in a low-fidelity setting, but the learning that takes place is important for helping students organize and put future experiences into context. After the basic knowledge and concepts are understood, they are reinforced through practice in higher fidelity situations such as field exercises and on the job learning. The theory behind this strategy is that once the individual has had enough of a thorough grounding in the subject content, he or she can better profit from real world experiences by capturing lessons learned and working to continuously improve.

Effective institutional interventions should incorporate the principles of advanced organizers, mastery orientation, discovery learning, and deliberate practice. Each of these concepts is discussed in more detail below. Following the discussion of these principles, we discuss how they are applied in classroom settings and in field exercises and simulations.

Advance organizers: An advance organizer is a set of materials (verbal, quantitative, graphic, conceptual, or other) presented at the beginning of training that helps students organize the information that is to be presented (Goldsmith & Kraiger, 1997; Goldstein, 1993; Howell & Cooke, 1989; Smith et al., 1997). Ideally, it can help link the new knowledge that students will be learning to knowledge that they already have. In other words, advance organizers provide trainees with an initial framework or structure for making connections between pieces of knowledge. It can be particularly effective to create advance organizers using terminology and concepts that are already familiar to students. Maintaining an alignment between the current training content and the student’s past training and experiences can make the advance organizer clearer to students, and can also increase the acceptance of the training (Cohen et al., 2000).

Mastery vs. performance orientation. There is also some evidence that a mastery orientation toward adaptability training might improve adaptive performance (Smith et al., 1997; Kozlowski, 1998). When people hold mastery or learning goals for a task (such as a training course), their main objective is to master the knowledge and processes that underlie performance. These types of goals are in contrast to performance goals, where the main object is to achieve a particular level of performance during training (Baldwin & Magjuka, 1997). When people hold mastery goals, they are more likely to look upon difficult training situations as learning experiences, rather than as situations to be avoided because they may interfere with performance. Furthermore, because a mastery orientation involves treating mistakes as opportunities to learn, people with mastery goals tend to get less frustrated in the face of failure than do those with performance goals. This may make them more resilient in maintaining performance out of the training context and under demanding conditions than people learning under a performance orientation (Kozlowski, 1998). A mastery orientation can be encouraged in training by de-emphasizing grades and quantitative performance ratings and focusing instead on providing feedback on how students can leverage their strengths for continuous improvement.

Discovery learning. Discovery learning is an inductive method of instruction where students must explore and experiment with tasks to infer and learn the strategies for effective

performance. Thus, rather than being told how to approach particular situations, students must determine these strategies for themselves. The idea behind guided discovery is for students to develop and test hypotheses about what they are learning, and this active processing of information can lead to knowledge that is better integrated with existing knowledge. Thus, rather than instructing students on how to communicate with someone of a different culture, students would practice the task in a controlled setting and devise the principles associated with cross-cultural communication. Kozlowski (1998) has argued that active learning like discovery learning helps to develop metacognitive and self-regulatory skills.

Although the research bearing on the topic is somewhat equivocal, it has been argued that discovery learning is beneficial for transferring knowledge to novel situations -- a key to adaptability (Atlas, Cornett, Lane, & Napier, 1997; Lussier, Ross, & Mayes, "Coaching Techniques for Adaptive Thinking"; Smith et al., 1997). Furthermore, a key principle of adult learning is to allow people to discover things for themselves: "Adults seem to learn better when discovering for themselves the answers to problems, as opposed to following traditional classroom methods that emphasize oral communication" (London & Bassman, 1989, p.344).

A related method of instruction is error-based learning. Here, students not only learn from their own naturally occurring mistakes, but they are also forced into mistakes through the training procedures. These errors then serve as opportunities for instruction and learning. Students are instructed in strategies for handling mistakes, and how to cope with the negative emotional and motivational consequences of making mistakes. Thus, students learn to deal with frustration and setbacks, and to focus on the beneficial learning aspects of mistakes (Smith et al., 1997).

Deliberate practice. Ross and Lussier (2000), in their development of the Adaptive Thinking Training Methodology, recommend a focus on deliberate practice. Deliberate practice involves the following features, some of which have been covered in the other design principles discussed.

- ◆ Repetition of tasks (to develop habits that will dominate in times of stress)¹
- ◆ Focused feedback from Subject Matter Experts (primarily in the form of questions that make students think about what they are doing, search productively for an answer, bring up new perspectives, etc.)
- ◆ Immediacy of performance (allowing students to redo a task immediately following feedback instead of waiting until after an After Action Review to discuss mistakes)
- ◆ Stop and start (training does not continuously flow because of breaks for delivering feedback and the redoing of tasks)
- ◆ Emphasis on difficult aspects of tasks

¹ Recall from the earlier discussion of knowledge and experience that repetition does not necessarily benefit adaptive performance. It does allow people to perform tasks more automatically, freeing cognitive resources to attend to other things. Thus, repetition can be helpful in stressful conditions where many stimuli are competing for cognitive resources. However, repetition can hurt performance if the automaticity of performance prevents people from noticing or appropriately addressing changes in the task as they occur.

- ◆ Focus on areas of weakness (tailored to individual)
- ◆ Conscious focus on training tasks (making implicit thoughts explicit)
- ◆ Work vs. play (training is more effortful than casual practice, like work more than play)
- ◆ Active coaching (monitoring performance, assessing adequacy, and controlling the structure of the training).

Classroom-based training. The goals of classroom training should be to provide a framework of knowledge and tools for improving adaptability and to provide several opportunities for students to practice their adaptive skills and receive feedback on their performance. These goals can be accomplished by combining lectures, discussion, and structured exercises to teach a core set of adaptability-related knowledge and skills. For example, a given module could consist of a short lecture on a topic, using several real-world examples and vignettes to illustrate the teaching points, followed by a brief discussion and an exercise. The exercise should be designed so that it promotes a mastery orientation and discovery learning. That is, the exercise should not have a “correct answer” and students should feel free to try new approaches and even fail without fear of reprisal or negative consequences.

Feedback is an important component of classroom training. Students may receive feedback through a variety of mechanisms, including peers and instructors. One way to use feedback is to have students rate their own performance on a task and then compare these ratings to those of their fellow students. It can be very enlightening for students to see that how they view themselves is not necessarily how others view them. These differing perspectives are important for self-awareness, which is important for the development of interpersonal-adaptability.

The choice of topics should be relevant to the job requirements of the particular audience attending the course. As an example, Table 1 illustrates the topics that are covered in the Special Forces (SF) Officer Adaptive Thinking and Leadership Course (O-ATL), which occurs during the Special Forces Qualification Course (SFQC) (see White et al., 2005). These topics are particularly relevant for the Special Forces environment; however, they would likely be appropriate for a variety of jobs.

Field exercises and simulations. Like classroom-based training, field exercises and simulations provide an opportunity to add to one’s catalog of experiences and receive feedback on one’s performance in a safe environment where the consequences of errors are minimal. Ideally field exercises and simulations would build on the adaptability-related concepts learned previously in the classroom. In the context of adaptability training, field scenarios should be tied to relevant adaptive performance dimensions. For example, a student may be given an exercise to plan an impending mission. The student may initially be presented with an established plan and considerable information from various sources. However, the student may subsequently receive information that changes the situation and plan. The student cannot succeed in this situation by using established procedures. Rather, he or she must demonstrate flexibility, solve problems, and change course to be effective.

Field exercises and simulations are most effective when they closely mirror the operational environment: that is, when they have a high degree of fidelity. This allows for easier transfer to the operational environment. Additionally, it is very important that instructors and facilitators be

Table 1. Adaptability in the Classroom: The SF Officer Adaptive Thinking and Leadership Course (O-ATL)*

The O-ATL is a three and a half day classroom-based course designed to teach adaptability-related skills in the Special Forces Qualifications Course (SFQC). Although the content is somewhat generically focused on the concept of adaptability, the specific examples and exercises used in the course are tailored to the unique needs of the SF audience. The ATL consists of a series of short lectures, discussions, and exercises using real-world examples to teach the following topics:

Introduction and Overview

- ◆ Definitions of adaptability: descriptions of Mental, Physical, and Interpersonal adaptability.
- ◆ Importance of adaptability in the SF environment: specific examples of different types of adaptability in the SF environment.
- ◆ Self-development: a development guide is presented that helps students identify key strengths and weaknesses and provides recommendations for strengthening adaptability-related attributes.

Mental Adaptability

- ◆ Switching mindsets: techniques for quickly shifting one's frame of reference to look at the same situation in different ways (e.g., warrior vs. diplomat view).
- ◆ Tools for critical thinking: common critical thinking errors and how to avoid them.
- ◆ Decision making: rational vs. naturalistic decision making models and techniques.

Interpersonal Adaptability

- ◆ Self-awareness: knowing one's own strengths and limitations (and how one is perceived by others) and how this is critical to effectively adapting behavior for more successful interpersonal interactions.
- ◆ Other awareness: importance of understanding others' needs, motives, and values to interpersonal adaptability.
- ◆ Systems awareness: importance of environmental factors to interpersonal adaptability such as political, cultural, economic, etc.

Leading an Adaptable Team

- ◆ Characteristics of effective and ineffective team leaders.
- ◆ How to deliver effective feedback to enhance team adaptability.

*See Mueller-Hanson and Dorsey (2004) and White et al. (2005)

trained to adequately observe and evaluate performance and deliver effective feedback – especially with regard to adaptability-related skills.

An example of field exercises and simulations that address adaptability can again be found in the SFQC. In this course, there are several field exercises that closely mirror the operational environment and which require team leaders to be quite adaptable to perform successfully. For example, Soldiers may be placed in an unfamiliar environment with very little information, and they must quickly adapt to changes in their surroundings to successfully perform their mission. In Robin Sage (which is the capstone field exercise for the SFQC involving all the students), officers must lead their teams in successfully working with a Guerrilla chief and his troops in a dynamic unconventional warfare environment (e.g., see Waller, 1994). In both exercises, the officers receive extensive feedback on their performance from instructors and peers or team members. An example of how this feedback is captured and analyzed for one exercise is shown in Table 2.

Table 2. An Example of Feedback Systems for Leader Development in the SFQC*

During field exercises, trained assessors observe the student's performance and capture the behaviors on an observation checklist (see the example below)

	Yes	No
Did the student:		
1) Arrive on time?	<input type="checkbox"/>	<input type="checkbox"/>
2) Accurately identify his contact?	<input type="checkbox"/>	<input type="checkbox"/>
3) Greet the contact appropriately?	<input type="checkbox"/>	<input type="checkbox"/>

Each of these behaviors corresponds to a particular rating dimension. For example, the first two behaviors might be indicators for tactical performance and the third behavior might be an indicator of interpersonal skills. After the exercise is complete, the assessor evaluates all the behaviors corresponding to each dimension and then uses this information to provide performance ratings for each dimension on a four point scale (Excellent to Needs Much Improvement).

These ratings are entered into a database and the student receives a report that shows his overall ratings in comparison to the average ratings for the class. Using this feedback, the student receives coaching and feedback from the instructors, which includes specific suggestions on how he can improve his performance in the future.

*Description adapted from Thompson (2004)

Operational Training (on-the-job experiences)

As a leader, much of one's development occurs on the job, rather than in institutional settings. However, this development tends to occur by chance rather than in a deliberate fashion. Leaders may experience situations requiring adaptability and they may learn from their experiences – or they may not. The key to benefiting from on-the-job experiences is to provide the means for leaders to get the right kinds of experiences and to efficiently capture lessons learned so that the development process is accelerated.

Key experiences are those that require the leader to behave in an adaptive fashion to be successful. According to Bennis and Thomas (2002), effective leaders typically have experienced at least one “crucible experience,” which can be defined as “both an opportunity and a test. It is a defining moment that unleashes abilities, forces crucial choices, and sharpens focus. It teaches a person who he or she is.” (p. 16). Wong (2004) presents a clear and compelling picture of how the environment in Operation Iraqi Freedom has provided crucible experiences, which have allowed and compelled junior officers to develop adaptability-related skills. As Wong notes, “Operation Iraqi Freedom requires junior leaders to be warriors, peacekeepers, and nation-builders – simultaneously.” (p. 4)

However, not only must these leaders switch their own mindsets in this manner, they must work with Soldiers who are often young and inexperienced to help them calmly and quickly shift into many different roles. Wong (2004) has identified several key experiences that could contribute to increased adaptive performance, including:

- ◆ Working outside one's area of specialization and quickly learning new skills (e.g., infantrymen have had to function as civil engineers).
- ◆ Taking on multiple roles simultaneously.
- ◆ Rapidly switching back and forth between vastly different situations (e.g., from combat to diplomacy and back again).
- ◆ Being immersed in a foreign culture that is vastly different from that of the U.S. Feedback from the field indicates that this is not something one learns easily in school. Rather, day-to-day interaction with individuals native to that culture and learning by trial and error produces competence.
- ◆ Complex warfare: finding and neutralizing counterinsurgents among a largely innocent population. Not knowing who the enemy is and where he is hiding presents a significant challenge. This challenge is compounded when U.S. Soldiers have to abide by particular rules of engagement while the enemy is not held to the same standards.
- ◆ Operating in an environment of constant change.
- ◆ Responding to emerging mission requirements with little to no notice, based on constantly evolving intelligence.
- ◆ Interacting with a populace that has unpredictable and diverse reactions to U.S. troops.
- ◆ Making significant decisions in the absence of close supervision and/or specific guidance from Higher. Rather, junior leaders must rely instead on general guidance and the commander's intent.

In designing an effective operational training program, efforts should be made to provide junior level officers with as many of these experiences as possible. However, it is not enough for junior officers to merely be exposed to these situations. To truly profit from their experiences, they need to be able to extract lessons learned from their experiences and improve their performance in the future. This process should include creating a climate that allows leaders to try new approaches and shifting the emphasis from punishing all failures to rewarding innovation and appropriate risk-taking (Jacobs & Sanders, 2004).

Providing a mechanism for feedback is also important in helping leaders benefit from their experiences. To enhance adaptive performance, leaders would need specific feedback related to how well they performed in a situation that required adaptability. The Army has already established a process for capturing lessons learned from operations through the After Action Review (AAR) process. During the AAR, a leader and his or her team discuss the operation, what was done well, what could have been done better, and the lessons learned that could be applied in the future. The goal of the AAR is for the team to critically evaluate themselves and the strengths and weaknesses of the operation. Often the AAR is documented in writing and shared with others.

The AAR can be a valuable feedback tool; however, the process has several downsides, including a) participants may be too close to the situation to give themselves a realistic picture of what they could have done better, b) participants may not be completely candid in the review process – especially when it comes to questioning or criticizing the leader in a public forum, and c) given the military culture of punishing failure, participants may be unwilling to admit their own mistakes publicly. For these reasons, cognitive psychologist Gary Klein (2003) recommends conducting a “Pre-mortem” in addition to the AAR.

In a Pre-mortem, participants meet before the operation begins, ideally during the planning stages. The participants imagine that the operation is completed and that it was a dismal failure. They then work backwards and try to think through all the things that could have gone wrong and what they would do differently. They are then able to take these issues into account during the planning process. The Pre-mortem gets around some of the sensitivities of the AAR process because it focuses the team on potential reasons for failure rather than blaming any one individual for past mistakes. Klein (2003) has used this technique extensively in his work and notes that people are much more frank and open during the Pre-mortem than they tend to be during AARs. Moreover, Klein has observed that teams have been able to improve their performance using this technique.

Other sources of feedback include mentors; 360-degree evaluation tools, which incorporate feedback from subordinates, peers, and superior officers; and climate surveys. Each of these is discussed briefly below.

The advantage of mentoring is that it provides the junior leader with the opportunity to benefit from the experience of a more senior and experienced leader. The junior leader can share his or her experiences with the mentor and get feedback on what could have been done differently, based on the mentor’s own experience and knowledge. The challenge in relation to adaptability is that the situations encountered by the junior leader may be so novel that the mentor may not have had experience in a similar situation. However, even in these instances the mentor may be

able to provide some insight by sharing his or her own experiences in situations that required adaptability.

Mentoring arrangements need not be structured or formal. However, expectations about the mentoring arrangement should be clearly communicated up front. That is, the junior leader should be clear about what he or she is expecting from the relationship, and the mentor should be clear about what his or her role will be and what the time commitment is.

A more formal mechanism for feedback is a 360-degree evaluation. The 360-degree evaluation is a survey of a leader's strengths and weaknesses from multiple perspectives, frequently including self-ratings, peer ratings, supervisor ratings, and subordinate ratings. Typically, the ratings are anonymous (except for the supervisor rating because there is usually only one immediate supervisor) to encourage open and candid feedback. Some assistance is usually needed to interpret the feedback from a 360-degree evaluation, and examining the difference between a leader's self-ratings and the ratings of others can be particularly illuminating.

At a higher level of analysis, organizational climate surveys can be a valuable feedback tool for leaders. Although these surveys are typically for an entire organization rather than an individual, feedback from the survey often indicates how people feel about an organization's leadership, directly and indirectly. Direct feedback may include comments about both immediate supervisors and the most senior leaders in the organization. Indirect feedback may include comments on policies, procedures, or climate, on which leaders may have an impact. Like the 360-degree evaluation, some assistance may be needed to help with interpreting the results of a climate survey.

In terms of development, 360-degree evaluations and climate surveys are only useful if the leadership is held accountable for making changes. For example, in a study by Walker and Smither (1999), managers received 360-degree feedback for developmental purposes. The managers who held sessions with their employees to discuss the feedback and their progress toward making changes were the most likely to improve. In the adaptability context, these tools could be useful for getting feedback about the adaptive performance of individual leaders and feedback about whether the climate is conducive to adaptability. An example of how these tools have been used successfully in the Army is presented in Table 3.

Self Development

Self-development activities are by definition activities that the leader is responsible for initiating and maintaining. Self-development may be important for the development of adaptability-related skills in the absence of more formal training opportunities. In many leadership development programs, self-development consists simply of recommended reading. However, as Wong et al., (2003) note, self-development activities for leadership competencies required in the future need to go beyond mere reading lists.

It should be noted that there are a number of factors that impact whether a specific leader will be successful in his or her self-development efforts. First, some self-development activities can be time-consuming and may not be practical in all situations. Second, there are a number of individual difference variables that can contribute to one's propensity to engage in self-

Table 3. Examples of 360-Degree Feedback and Climate Surveys at a U.S. Army Command*

Since 1997, about five command climate surveys have been conducted within the U.S. Army Special Operations Command (USASOC). Initially a paper-and-pencil based instrument, the survey was recently automated, vastly speeding up the time required to collect and analyze data. All command personnel are asked to complete command climate survey, which measures the following seven dimensions: Satisfaction, Immediate Supervision, Senior Leadership, Training & Development, Personnel Management, Team Cohesion, and Communications. Two example items are:

- ◆ Training requirements and opportunities are effectively communicated.
- ◆ The process for selecting participants for professional development opportunities is fair and consistent within my directorate.

Respondents use a 1 (strongly disagree) to 5 (strongly agree) scale to rate items.

The results of the survey (which is provided at both the command and directorate levels) help to identify organization and unit-level training and development needs, create a baseline with which to measure future progress, and help to drive organizational change and development. Feedback from the survey goes to everyone, and the entire workforce stays involved in the action planning that follows. Each directorate is responsible for developing and submitting an action plan, implementing the plan and monitoring progress, and briefing their progress and results to appropriate stakeholders.

One finding from this survey was that supervision and leadership throughout the command were areas that could use improvement. Therefore, a 360-degree evaluation effort was implemented to help leaders develop greater self-awareness of their own strengths and developmental needs.

In the 360-degree evaluation, ratings are provided by leaders (self-ratings), their supervisors, five of their peers, and all of their subordinates. Peer and subordinate ratings are anonymous and the results are used strictly for developmental purposes. In all, seven performance dimensions are assessed: Communication and Information Exchange, Decision Making and Problem Solving, Supervision / Leadership, Interpersonal and Team Skills, Self-Development and Individual Competence, Diversity, and Organizational Support.

The items that are rated in the 360 system are behaviorally focused (e.g., "Gives others the opportunity to contribute input and advice.") and respondents rate each item on a 1 (Disagree Very Much) to 6 (Agree Very Much) scale. A "Can't Rate" option was provided for each item and space was provided for open-ended responses. Based on the ratings, automated feedback reports are generated for each leader being rated and a professional facilitator is hired to help the leaders interpret their feedback and to provide suggestions for additional learning resources. Based on the feedback, the leader develops an action plan. Although the results are confidential and not shared with the leader's supervisor, the leader is held accountable to his or her supervisor for following through on the development plan.

*Description adapted from Foster Thompson and Martin (2004) and Martin, Foster Thompson, and Barrett (2004)

development activities. For example, Boyce, Wisecarver, and Zaccaro (2005) found that individuals with greater work orientation, a greater career growth orientation, and a mastery orientation, exemplifying adult learners, were ultimately more likely to engage in self-development activities. Also organizational support, such as providing more time or resources, can also impact the extent to which a leader will engage in self-development activities. Therefore, organizations should endeavor to ensure that self-development efforts are encouraged and rewarded and that leaders be given the time and tools necessary to engage in meaningful self-development activities.

In this section we cover three related self-development tools: individual development plans and development guides, portfolios, and self-reflection exercises.

Individual development plans and development guides. The first step in creating an individual development plan is self-awareness: understanding one's strengths and weaknesses and identity as a leader. Moreover, self-awareness is important for interpersonal adaptability. To be interpersonally adaptable, a leader must understand the perspectives, needs, and motives of others and change his or her behavior to have more successful interactions with others. In order to successfully alter one's behavior to work better with others, one must have an accurate awareness of how he or she is perceived by others. This awareness can come from triangulating information from multiple sources. These sources may include standardized tests; feedback from peers, commanders, subordinates, etc., "objective" data from skill and knowledge assessments; and self-knowledge. One standardized assessment related to adaptability is the Test of Adaptable Personality or TAP (Kilcullen, Goodwin, Chen, Wisecarver, & Sanders, in review; Kilcullen, Mael, Goodwin, Zazanis, 1999). A detailed description of this assessment is presented in Table 4. An example of a tool that could be used to triangulate information from multiple sources can be seen in Appendix B. This example was taken from the self-development guide described in Table 1 for the O-ATL.

Once the leader has a better understanding of his or her strengths and weakness, this information should be used to make a concrete plan for leveraging and enhancing strengths and overcoming or mitigating weaknesses. Ideally, the plan should include development goals that are specific, measurable, achievable, realistic, and tied to mission requirements. In addition, it may be beneficial for the leader to have a mentor or supervisor review the plan and provide feedback.

A development guide can serve as a supplement to the individual development plan by providing suggestions for developmental activities that are targeted to a leader's unique needs. Several commercially available development guides are available, such as *The Successful Manager's Handbook* (Personnel Decisions International, 2000). Alternatively, it may be more useful to create a customized development guide that is specific to a particular job or role. The example self-development tool in Appendix B lists several specific adaptability-related self-development activities.

Portfolios. Portfolios are a relatively new and innovative tool for leadership development. A portfolio is "A working tool that organizes information and documents for career planning and self-assessment" (Wonacott, 2002, p.1). Portfolios can be a powerful means of driving

Table 4. Test of Adaptable Personality (TAP) (Kilcullen)*

The TAP is a personality-based measure of adaptability developed by the U.S. Army Research Institute (ARI) for special operations Soldiers. It is a paper and pencil questionnaire using multiple-choice questions that focus on past behaviors and reactions to work events. The TAP measures the following six attributes:

- ◆ **Achievement Orientation:** Giving one's best effort and working hard to achieve work objectives.
- ◆ **Cognitive Flexibility:** Willingness to entertain new approaches to solving problems. Enjoys creating new plans and ideas. Accepts change and innovation.
- ◆ **Fitness Motivation:** Degree of enjoyment from doing physical training. Willingness to put in the time and effort to maintain good physical conditioning.
- ◆ **Peer Leadership:** Seeks positions of authority and influence. Comfortable with being in command. Willing to make tough decisions and accept responsibility for the group's performance.
- ◆ **Interpersonal Skills – Team Player:** Working well with others. Ability to establish supportive and trusting relationships with others.
- ◆ **Interpersonal Skills – Diplomatic:** Being extroverted and outgoing. Able to make friends easily and establish rapport with strangers. Good at meeting/greeting people.

Feedback from the TAP includes behavioral descriptions of strengths and potential challenges associated with each dimension along with suggestions for improvement. Several studies have shown that TAP scores are predictive of on-the-job performance in a variety of settings (Kilcullen et al., in review; Kilcullen et al., 1999).

*Description adapted from Kilcullen (2004)

individual leadership development by providing a framework with which to collect, integrate, and synthesize information about one's development goals and progress. Moreover, the process of creating a portfolio encourages the leader to reflect on his or her leadership experiences and developmental progress.

There is no "right" way to construct a portfolio and no absolute requirements for what it should contain. Regardless of what is included in the portfolio, the self-reflection that goes along with constructing the portfolio and considering what to include is one of its key developmental aspects. Not only might this lead to insight into one's own development, but it should also help guide development discussions with coaches and mentors. The following general structure is suggested for constructing a portfolio designed for developing junior leaders:

1. *Background and Goals.* This section would include background information about the leader to provide context: a resume, descriptions of education and training received to date, descriptions of past assignments, results from self-assessments, personality or other

standardized assessments, etc. In addition, this section would contain some type of statement about the individual's development goals or an individual development plan.

2. *Developmental Activities:* This section would contain items that illustrate activities in which the leader has engaged that have contributed to his or her own development. These activities may represent formal or informal activities. The purpose of this section is twofold: first, to help the leader identify what has been accomplished and provide context for reflection (discussed below), and second, these items can be used to showcase one's skills and achievements, which may be useful during performance reviews, in applying for awards and decorations, and for promotion. The following is a partial list of example items that may be included in this section:
 - Performance evaluations
 - Peer evaluations
 - Formal letters of appreciation, commendation, etc.
 - Letters from coaches or mentors (or documentation of significant conversations with these individuals)
 - Informal letters/e-mails from supervisors, customers, coworkers, etc., or other documentation of feedback
 - Documentation of formal training activities completed and results of training assessments
 - Statement of personal philosophy of leadership
 - Sample work products such as briefings, reports, technical documents, publications, prototypes, programs, web-pages, etc. (in paper or electronic form)
 - Documentation of professional contacts and networks
 - Professional affiliations (e.g., membership in a professional society) and evidence of contributions to these organizations
 - Documentation of other professional skills such as language, specialized technical skills, etc.
 - Documentation of relevant leadership activities outside of the military (e.g., leadership in professional organizations, civic groups, etc.)
 - Videotape of individual facilitating a meeting, delivering a briefing, providing training, etc.
3. *Reflections:* This section would contain reflections in journal form that document events, what the person learned from each event, and how the experience contributed to the development plan. The purpose of this component is to increase self-awareness and to help leaders think through their performance in situations requiring an adaptive response. The portfolio as a whole, and especially the reflections component, can be very valuable in helping the leader to build adaptability-related knowledge and expertise by providing a means for cataloging and thinking deeply about his or her repertoire of experiences.

Portfolio development is not a one-time activity, but an ongoing process. A leader's development goals and plans will drive the types of developmental activities that are completed. The leader will draw from the lessons learned during these activities in self-reflections, and these reflections, along with periodic self-assessments, should drive subsequent development planning efforts. This cyclical process is shown in the Figure 2.

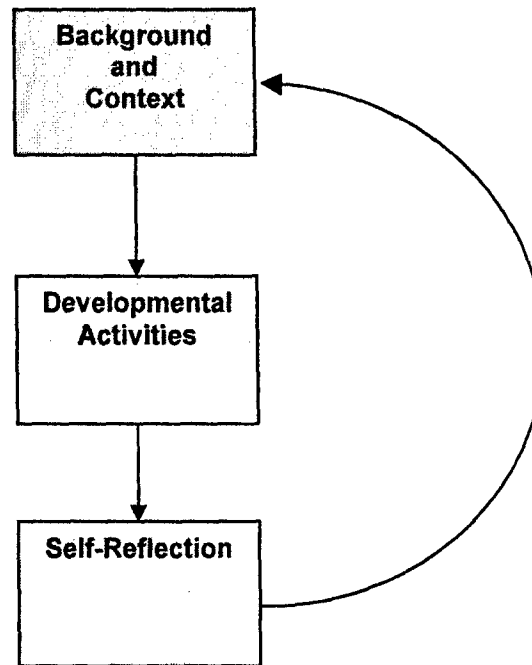


Figure 2. Portfolio Development Process

Self-reflection. Reflection helps leaders to examine past performance and build mental models that are helpful in achieving better future performance (Jacobs & Sanders, 2004). One method for capturing reflections is by keeping a log or journal. Self-reflection is important for development, but it is notoriously difficult to promote. Common concerns about reflection include:

- ◆ The amount of time it takes,
- ◆ The difficulty in making the reflection substantive rather than a mere “diary” of events, and
- ◆ The fact that not everyone may be comfortable with this approach. For some people it may feel more “natural” to reflect internally rather than to keep a written journal.

These are valid concerns that may have an impact on the effectiveness of self-reflection as a development tool. However, in a study on promoting reflection among military cadets Gustafson and Bennett (1999) found that the following practices made the reflection a more meaningful experience:

1. Experience –the more experience one has with reflection, the better one is at it. Therefore, the process may seem difficult and tedious at first, those who stick to it may find that it will become easier and more natural.
2. Content Knowledge – reflections are generally of higher quality when the topic is something that the writer is knowledgeable about. Therefore, it may be helpful for leaders to focus reflection efforts on areas in which they have some knowledge and experience.
3. Mental Set – the right mental state can make reflection much easier and more natural. For example, reflection will probably be difficult if one is mentally and/or physically exhausted. It may be helpful to try and set aside a specific time for reflection each week and spend a few minutes just prior to this getting in the right frame of mind.
4. Include Critiques and Reactions in the Reflections – reflections may come more freely and naturally when the writer is evaluating or critiquing a topic. Additionally, this topic may promote a deeper awareness of barriers – both internal and external – to one’s own development.
5. Ensure the Physical Environment is Conducive to Reflection – naturally, the ideal environment will be comfortable and free from distractions.
6. Consider Engaging Others in Reflective Discussions – depending upon one’s own comfort level, reflections can be shared (before writing them down) with another person, such as a coach or mentor. This person can act as a sounding board for ideas and may help in considering alternate perspectives. This input may help to add deeper insights to the written reflections.
7. Cast Reflections as Hypothetical “Letters” to Others – one of the most effective means of promoting reflection is for the individual to cast his or her reflections as a letter to someone. The letter could be to a family member, close friend, commander, subordinate, etc. Although the intent is not to actually share the letter with the addressee, having a targeted topic in mind when documenting the reflection is often helpful. One idea would be to write a letter to a high level commander to discuss one’s view of leadership at the Army and how the junior leader feels that he or she fits into this picture. Alternately, the letter could be to someone with whom the leader is having difficulty – how their behavior affects the leader, what the leader would like them to do differently, etc.
8. Seek Feedback – learning from nearly every type of activity is greatly enhanced when the learner is given meaningful feedback on his or her efforts. Feedback may come from a variety of sources, such as coaches, peers, mentors, etc. It’s important when seeking feedback that the person giving the feedback is clear on what he or she is being asked to do. For example, the person giving feedback may be asked to identify areas where the leader might go deeper, to suggest additional questions that should be considered, etc.

It should be noted that the use of these self-development tools is supported by theory, but little to no empirical evidence exists as of yet to either support or discourage the use of these tools. Therefore, it would be fruitful to conduct research on their efficacy. General needs for research will be discussed in more detail in the next section.

Summary and Conclusions

Recent changes in the military environment have highlighted the need for increased adaptability among military leaders at all levels. As the strategic leaders of the future, junior officers are in a prime position to benefit from development efforts targeted at enhancing their adaptive performance. In this paper we have briefly described current research on the nature of the adaptability construct, characteristics that have been empirically related to adaptive performance, and principles for enhancing adaptive performance through institutional, operational, and self-development activities.

In designing programs for developing adaptability, the first step is to identify the key roles and jobs that require adaptive performance. Not every position, and perhaps not even every leadership position, will require adaptability. Next, adaptable performance needs to be defined for a given job, and then training programs must provide people with opportunities to learn and practice these behaviors.

Adaptive performance is a complex construct and could not be expected to be easily mastered through a single course or a few training exercises. Developing adaptive performance will likely require a substantial investment in an integrated training system from "cradle to grave." Junior level officers need to be exposed to adaptability training right from the start of their training through classroom and field exercises, during the early part of their careers through operational experiences and feedback mechanisms, and continuing throughout their careers through ongoing professional development. Self-development activities should occur continuously, and officers should be held accountable for both their development efforts and their adaptive performance on the job.

One mechanism for integrating development throughout a leader's career is to use a common set of performance dimensions and definitions for each major stage in a leader's career. That is, dimensions of leadership performance, including dimensions related to adaptive performance, should be provided at the start of an officer's career along with standards of performance. As competencies and expectations change, the leader should be provided with new performance standards. For example, junior level leaders may have performance standards that are more tactical in nature while more senior leaders would likely be expected to think more strategically. The current lack of a consistent set of leadership performance standards has been cited as a major barrier to effective leadership development in the Army (Department of the Army, 2001).

Another mechanism for promoting integration is to develop a system for warehousing data related to each individual's development efforts. This system could be used to store test scores, completion of training courses, performance evaluations, etc. Currently an officer has a paper record that follows him throughout his career. Consideration should be given to automating these records for ease of use and to safeguard against records being damaged or lost. The value of an integrated approach to developing adaptability is not just being able to determine how well a leader is performing today, but to compare his or her current performance to past performance to determine how well the individual is profiting from training and experience. This type of feedback would be invaluable for tailoring the individual's future development and for identifying opportunities to improve the training itself. It should be noted that the portfolios

discussed previously are one way to keep a detailed and integrated accounting of one's progress on an individual level.

Needs for Future Research

Considerable work has been done to define and describe adaptive behavior in general and individual characteristics that relate to adaptive performance. However, much less is known about the psychological processes underlying adaptive performance. That is, what are the mechanisms by which individual characteristics interact with the environment to produce adaptive behavior? For example, little is known about how individual differences contribute to social awareness and the self-regulation mechanism that is inherent in adaptability. Understanding these processes could greatly enhance our understanding of if and how adaptability might be trained.

Evaluating the efficacy of training designed to enhance adaptive performance is of particular importance as a research topic. To date, little such evaluation research exists, but the potential benefits of conducting this research would be substantial. Evaluation data would provide useful information to decision makers who are faced the prospect of making major investments in adaptive training programs.

Commonly accepted models of training evaluation (e.g., Kirkpatrick, 1998; Phillips, 1997) suggest that training evaluation data be gathered from multiple levels:

- ◆ Reactions – did the participants feel that the training was relevant and valuable? This is generally the quickest and easiest type of evaluation to conduct, but it's potentially the least valuable because it may have little relationship with improved on the job performance.
- ◆ Learning – did the participants learn the knowledge and skills they were supposed to learn as a result of the training? This type of evaluation is also relatively easy as it may be conducted by written tests or practical exercises during training. This type of evaluation demonstrates only whether trainees demonstrate the intended knowledge and skills in the training setting; it does not determine whether those knowledge and skills will actually be applied on the job.
- ◆ Application – did the participants apply what they learned by changing their on the job behavior? In the case of adaptability, this would translate to: did participants enhance their adaptability related performance on the job as a result of the training? Although more difficult to measure, this type of evaluation is far more informative than the two previous types. However, it may be difficult to detect real changes from a single training intervention. Rather, it may be more appropriate to evaluate a training program (consisting of several, integrated activities) at this level. Moreover, the behaviors being evaluated on the job must be specifically matched to the behaviors that were targeted in the training program. In the case of adaptability training, this would mean that participants should be evaluated specifically on the extent to which their adaptive performance on their job was improved as a result of the training, not their overall job performance.

- ◆ Results – did the training result in tangible business benefits for the organization? In the military context, this might translate to improved mission success, lives saved, dollars saved, time saved, etc. This type of evidence is powerful, but difficult to assess in a rigorous manner because there are so many factors that impact an outcome such as mission success. In the case of adaptability training, it may be more feasible to establish a link between training and adaptive performance and adaptive performance and business results, rather than attempting to establish a direct link between training and business results. Even an indirect link that results in small benefits, however, can translate into large-scale benefits if the program impacts a large number of individuals.
- ◆ Return-on-Investment (ROI) – did the training provide a dollar value that exceeded its cost? In general, less than 5% of training programs are appropriate for this level of evaluation (Phillips, 1997). In the public service sector, it may be extremely difficult to conduct this type of evaluation unless the benefits from the training program can be linked to objective data such as dollars or time saved. In the absence of this data, an ROI analysis would be based solely on expert judgments, which may or may not be credible with stakeholders.

The choice of how to evaluate an adaptability training program will depend on many factors, including the cost of the program (the greater the costs, the more justifiable a rigorous evaluation), the resources available to conduct the evaluation, and the availability of credible data. In addition to assessing the overall success of the program, an evaluation should also be conducted for diagnostic purposes. That is, the strengths and weaknesses of the training should be explored for the purpose of making continued improvements to the program. Diagnostic evaluation can be conducted through the means described above and by conducting interviews and focus groups with participants, supervisors, and other stakeholders. Diagnostic evaluation could also help pinpoint the types of training activities that are most beneficial to training adaptability.

The current challenges faced by the U.S. military call for changes in the way leaders respond to these challenges and corresponding changes in how the future leadership of the force should be trained and developed. The Army has identified the criticality of having adaptive and self-aware leaders in the force, but there currently exist very few established resources to develop these characteristics (Department of the Army, 2001). Although still in its infancy, research on adaptive performance and how it is developed could offer a great deal of promise for the Army to meet its leadership challenges in the 21st century.

References

- Atlas, R., Cornett, L., Lane, D. M., & Napier, H. A. (1997). The use of animation in software training: Pitfalls and benefits. In M.A. Quiñones and A. Ehrenstein (Eds.) *Training for a rapidly changing workplace: Applications of psychological research* (pp. 281-302). Washington DC: American Psychological Association.
- Axtell, C. M., Holman, D. J., Unsworth, K. L., Wall, T. D., & Waterson, P. E. (2000). Shopfloor innovation: Facilitating the suggestion and implementation of ideas. *Journal of Occupational and Organizational Psychology*, 73, 265-285.
- Baldwin, T.T., & Magjuka, R.J. (1997). Training as an Organizational Episode: Pretraining influences on trainee motivation. In J.K. Ford, S.W.J. Kozlowski, K. Kraiger, E. Salas & M.S. Teachout (Eds.) *Improving training effectiveness in work organizations* (pp. 99-127). Mahwah, NJ: Lawrence Erlbaum.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman.
- Bennis, W. G., & Thomas, R.J. (2002). *Geeks & geezers: How era, values, and defining moments shape leaders*. Boston, MA: Harvard Business School Press.
- Berger, M. (1998). Going global: Implications for communication and leadership training. *Industrial and Commercial Training*, 30, 123-127.
- Boyce, L.A., Wisecarver, M.M., & Zaccaro, S.J. (2005). Propensity for Self-Development of Leadership Attributes: Understanding, Predicting, and Supporting Performance of Leader Self-Development. (Draft ARI Technical Report). Arlington, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.
- Chan, D. (2000). Conceptual and empirical gaps in research on individual adaptation at work. In C.L. Cooper & I.T. Robertson (Eds.) *International review of industrial and organizational psychology* (Vol. 15, pp. 143-164). New York: John Wiley & Sons.
- Cohen, M. S., Thompson, B. B., Adelman, L., Bresnick, T. A., Shastri, L., & Riedel, S. L. (2000). *Training critical thinking for the battlefield: Volume I: Basis in cognitive theory and research*. Cognitive Technologies Technical Report 00-2. Arlington VA.
- Costa, P. T., Jr., & McCrae, R. R. (1992). Four ways five factors are basic. *Personality and Individual Differences*, 13, 653-665.
- Department of the Army (2001). *The Army Training and Leader Development Panel Officer Study Report to the Army*, <http://www.army.mil/atld>.
- Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist*, 41, 1040-1048.

- Eden, D., & Kinnar, J. (1991). Modeling Galatea: Boosting self-efficacy to increase volunteering. *Journal of Applied Psychology*, 76, 770-780.
- Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44, 350-383.
- Edmondson, A., Bohmer, R., & Pisano, G. (2001). Speeding up team learning. *Harvard Business Review* (October), 125-132.
- Endsley, M. R., & Robertson, M. M. (2000). Training for situation awareness. In M.R. Endsley & D. J. Garland (Eds.) *Situation awareness analysis and measurement*. Mahwah, NJ: Lawrence Erlbaum.
- Fernandez, J. P. (1991). *Managing a diverse workforce: Regaining the competitive edge*. Lexington, Massachusetts: Lexington Books.
- Foster Thompson, L., & Martin, D. (2004, November). *USASOC 360 Degree Leader Review*. Presentation given at the ARI Special Forces User Review, Arlington, VA, November 17, 2004.
- Gelfand, M. J., & Christakopulu, S. (1999). Culture and negotiator cognition: Judgment accuracy and negotiator processes in individualistic and collectivistic cultures. *Organizational Behavior and Human Decision Processes*, 79, 248-269.
- Gelfand, M. J., Nishii, L. H., Holcombe, K. M., Dyer, N., Ohbuchi, K., & Fukuno, M. (2001). Cultural influences on cognitive representations of conflict: Interpretations of conflict episodes in the United States and Japan. *Journal of Applied Psychology*, 86, 1059-1074.
- Goldsmith, T. E., & Kraiger, K. (1997). Applications of structural knowledge assessment to training evaluation. In J. K. Ford, S. W. J. Kozlowski, K. Kraiger, E. Salas & M. S. Teachout (Eds.) *Improving training effectiveness in work organizations* (pp. 73-96). Mahwah, NJ: Lawrence Erlbaum.
- Goldstein, I. (1993). *Training in organizations: Needs assessment, development and evaluation (3rd edition)*. Belmont, CA: Brooks/Cole Publishing Company.
- Gustafson, K. & Bennett, W. (1999). Issues and Difficulties in Promoting Learner Reflection: Results from a Three-Year Study. WWW: <http://it.coe.uga.edu/~kgustafs/document/promoting.html>
- Howell, W. C., & Cooke, N. J. (1989). Training the human information processor: A review of cognitive models. In I.L. Goldstein (Ed.) *Training and development in organizations* (pp. 121-182). San Francisco, CA: Jossey Bass.
- Jacobs, T.O. & Sanders, M.G. (2004). Principles for building the profession the SOF experience. *The Defense Transformation in the Army Profession*. Senior Conference XLI, U.S. Military Academy: West Point, New York. June 3-5, 2004.

- Kilcullen, B. (2004, November). *Test of Adaptable Personality*. Presentation given at the ARI Special Forces User Review, Arlington, VA, November 17, 2004.
- Kilcullen, R.N., Goodwin, G.F., Chen, G., Wisecarver, M.M., & Sanders, M.G. (in review). Psychological predictors of Special Forces leader performance.
- Kilcullen, R.N., Mael, F.A., Goodwin, G.F., Zazanis, M.M. (1999). Predicting U.S. Army Special Forces field performance. *Human Performance in Extreme Environments*, 4, 53-63.
- Kirkpatrick, D. (1998). *Evaluating Training Programs* (2nd edition). San Francisco: Berrett-Koehler Publishers, Inc.
- Klein, G. (1997). The Recognition-primed decision (RPD) model: Looking back, looking forward. In C.E. Zsombok and G. Klein (Eds.) *Naturalistic decision making* (pp. 285-292). Mahwah, NJ: Lawrence Erlbaum.
- Klein, G. (2003). *The power of intuition: How to use your gut feelings to make better decisions at work*. Currency.
- Kozlowski, S. W. J. (1998). Training and developing adaptive teams: Theory, principles, and research. In J.A. Cannon-Bowers & E. Salas (Eds.) *Making decisions under stress: Implications for individual and team training* (pp. 115-153). Washington DC: American Psychological Association.
- LePine, J. A., Colquitt, J. A., & Erez, A. (2000). Adaptability to changing task contexts: Effects of general cognitive ability, conscientiousness, and openness to experience. *Personnel Psychology*, 53, 563-593.
- London, M., & Bassman, E. (1989). Retraining midcareer workers for the future workplace. In I.L. Goldstein (Ed.) *Training and development in organizations* (pp. 333-375). San Francisco, CA: Jossey Bass.
- Lussier, J. W., Ross, K. G., and Mayes, B. Coaching techniques for adaptive thinking. (Discussion of TRADOC Training Initiatives for Army Transformation's draft training circular of Adaptive Thinking Training Methodology.)
- Martin, D., Foster Thompson L., & Barrett, G. (2004, November). *The Automated Survey Process in U.S. Army Special Operations Command*. Presentation given at the ARI Special Forces User Review, Arlington, VA, November 17, 2004.
- McIntyre, R. M., & Salas, E. (1995). Measuring and managing for team performance: Lessons from complex environments. In R.A. Guzzo, & E. Salas and Associates (Eds.), *Team effectiveness and decision making in organizations* (pp. 9-45). San Francisco, CA: Jossey-Bass.

- Morrison, J. E., Smith, D. H., Sticha, P. J., & Brooks, J. E. (1995). Planning in Special Forces Operational Detachment Alpha. Research Report 1672, U.S. Army Research Institute for the Behavioral and Social Sciences.
- Mueller-Hanson, R., & Dorsey, D. W. (2004, November). *Training Adaptable Leaders: Development of the ATL*. Presentation given at the ARI Special Forces User Review, Arlington, VA, November 17, 2004.
- Personnel Decisions International (2000). *Successful Manager's Handbook*. Minneapolis, MN: Author.
- Phillips, J. J. (1997). *Handbook of training evaluation and measurement methods*. Houston, Tex: Gulf Publishing
- Porter, C. O. L. H., Hollenbeck, J. R., Ilgen, D. R., Ellis, A. P. J., West, B. J., & Moon, H. (2001). Backing up behaviors in teams: The role of personality and legitimacy of need. Paper presented at the 16th Annual Conference of the Society for Industrial and Organizational Psychology, San Diego, California.
- Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K. E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. *Journal of Applied Psychology*, 85, 612-624.
- Pulakos, E. D., & Dorsey, D. W. (2000). The development and validation of measures to predict adaptive job performance (Technical Report No. 347). Personnel Decisions Research Institutes, Inc.: Arlington, Virginia.
- Pulakos, E. D., Dorsey, D. W., & White, S.S. (In Press). Adaptability in the workplace: Selecting an adaptive workforce. In S. Burke, L. Pierce, & E. Salas (Eds.), *Understanding Individual and Team Adaptability*. Elsevier Science.
- Pulakos, E. D., Schmitt, N., Dorsey, D. W., Arad, S., Hedge, J. W., and Borman, W. C. (2002). *Human Performance*, 15, 299-323.
- Pulley, M. L., Wakefield, M., and Van Velsor, E. (2001). An ideas into action guidebook: Building resiliency -- How to thrive in times of change. Greensboro, NC: Center for Creative Leadership.
- Ross, K. & Lussier, J. W. (2000). Adaptive thinking seminar. Provided by Army Research Institute.
- Schmeck, R. R. (1988). *Learning strategies and learning style*. New York: Plenum.
- Sherer, M., & Adams, C. (1983). Construct validation of the self-efficacy scale. *Psychological Reports*, 53, 899-902.

- Sherer, M., Maddux, J., Mercandante, B., Prentice-Dunn, S., Jacobs, B., & Rogers, R. (1982). The self-efficacy scale: Construction and validation. *Psychological Reports*, 51, 663-671.
- Smith, E. M., Ford, J. K., & Kozlowski, S. W. (1997). Building adaptive expertise: Implications for training design strategies. In M.A. Quiñones & A. Ehrenstein (Eds.) *Training for a rapidly changing workplace* (pp. 89-118). Washington DC: American Psychological Association.
- Stevens, M., & Campion, M. (1994). The knowledge, skill, and ability requirements for teamwork: Implications for human resource management. *Journal of Management*, 20(2), 503-530.
- Tannenbaum, S. I., Smith-Jentsch, & Behson, S. J. (1998). Training team leaders to facilitate team learning and performance. In J.A. Cannon-Bowers & E. Salas (Eds.) *Making decisions under stress: Implications for individual and team training* (pp. 247-270). Washington DC: American Psychological Association.
- Thompson, J. (2004, November). *Training for Performance in Unconventional Environments*. Presentation given at the ARI Special Forces User Review, Arlington, VA, November 17, 2004.
- Thompson, J.A., Wilson, M.A., and Sanders, M.G. (2002, Winter). Feedback from the field: The SF field performance project. *Special Warfare*, 22-27.
- Waller, D.C. (1994). *The Commandos: The Inside Story of America's Secret Soldiers*. New York: Simon & Schuster.
- West, M. A., & Wallace, M. (1991). Innovation in health care teams. *European Journal of Social Psychology*, 21, 303-315.
- White, S.S., Mueller-Hanson, R.A., Dorsey, D.W., Pulakos, E.D., Wisecarver, M.M., Deagle, E.A., & Mendini, K.G. (2005). *Developing Adaptive Proficiency in Special Forces Officers*. (ARI Research Report 1831). Arlington, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.
- Wisecarver, M. Z., Martin, D., Thompson, J., & Cracraft, M. (2004, November). *Peer Assessment and Feedback*. Presentation given at the ARI Special Forces User Review, Arlington, VA, November 17, 2004.
- Wonacott, M. E. (2001). *Career Portfolios*. Columbus, OH: ERIC Clearinghouse on Adult, Career and Vocational Education.
- Wong, L. (2004). *Developing Adaptive leaders: The crucible experience of Operation Iraqi Freedom*. Carlisle, PA: U.S. Army War College, Special Studies Institute.

- Wong, L., Gerrars, S., Kidd, W., Pricone,, & R. Swengros, R. (2003, September). Strategic Leadership Competencies. Paper developed for the Strategic Studies Institute in the U.S. Army War College.
- Zaccaro, S. J. (2001a). Social complexity and the competencies required for effective military leadership. In J.G. Hunt, G.E. Dodge, & L. Wong (Eds.) *Out-of-the-box leadership: Transforming the twenty-first century army and other top-performing organizations* (pp. 131-151). Stamford, CT: JAI Press.
- Zaccaro, S. J. (2001b). Leader Adaptability course syllabus prepared for the U.S. Army War College.
- Zaccaro, S. J., Burke, C. S., Marks, M. A., & Mathieu, J. E. (1999). Leadership effects on team mental models: Facilitating team adaptation. Paper presented at the 14th annual conference for the Society for Industrial and Organizational Psychology, Atlanta, GA.
- Zakaria, N. (2000). The effects of cross-cultural training on the acculturation process of the global workforce. *International Journal of Manpower*, 21, 492-510.

Appendix A: Adaptability Dimensions with Sample Critical Incidents from Special Forces

Handling Emergencies or Crisis Situations

- Reacting with appropriate urgency in threatening, dangerous, or emergency situations.
- Reacting appropriately in emergency situations, quickly analyzing options for dealing with danger or crises and their implications.
- Making split second decisions based on clear and focused thinking.
- Maintaining emotional control and objectivity during emergencies while keeping focused on the situation at hand.
- Stepping up to take action and handle danger or emergencies as appropriate.

- *En route to a meeting in a small village, one of the detachment vehicles struck a mine. Two men were seriously injured and the detachment medic was mortally wounded. The team sergeant was initially stunned and disoriented due to his injury. This detachment commander ensured that medical treatment was initiated, and that communication was established with higher headquarters, and that medical evacuation was requested. The wounded Soldiers were quickly stabilized and helicopters were on their way as soon as possible.*
- *During OCONUS (Outside Continental US) military operations in urban terrain (MOUT) training, this 18B saw an explosion in an indigenous Soldier's hand. The 18D was on another range and this 18B did not have any bandages. This 18B used an indigenous Soldier's T-shirt to stop the bleeding. The bleeding was stopped until the 18D arrived to suture the wound and treat it for infection.*

Learning Work Tasks, Technologies, & Procedures

- Demonstrating enthusiasm for learning new approaches for conducting work.
- Doing whatever is necessary to keep knowledge and skills current in a rapidly changing environment.
- Quickly and proficiently learning new methods, or how to perform previously unlearned tasks and adjusting to new work processes and procedures.
- Anticipating changes in the work demands and searching for and participating in assignments or training that will prepare self for these changes.
- Taking action to improve work performance deficiencies.

- *The HN post commander curtailed routine communications with the SF team leader because the team leader could not speak the language. This team leader made no attempt to improve his language capabilities, even though he was in an ideal learning environment where many would have volunteered to help him. The HN personnel tactfully ostracized the team leader.*
- *An 18E right out of the Q-course was assigned to an A-team without the benefit of a senior comms sergeant to mentor him. He realized he was not trained on the radio equipment at the team level, nor was he familiar with the base operating procedures for the battalion. On his own, this 18E inventoried team radio equipment, identified equipment he was not familiar with, and asked for and then received classes on all radios and equipment he was not familiar with. He became familiar with all team radio equipment, all company and battalion radio procedures, and all SOPs.*

Handling Work Stress

- Remaining composed and cool when faced with difficult circumstances or a highly demanding workload/schedule.
- Not overreacting to unexpected news or situations.
- Managing frustration well by directing effort to constructive solutions and not blaming others.
- Demonstrating resilience and high levels of professionalism in stressful circumstances.
- Acting as a calming and settling influence that others look to for guidance.

- *While assigned as the senior US advisor to a host nation battalion on a border screen mission, this SF officer was told the unit was under attack. The host nation battalion commander panicked and was ready to evacuate the area of operations. This SF individual lit a cigarette, asked for a cup of coffee, and sat down. After making a humorous remark to a host nation officer, this officer methodically questioned the host nation staff to ascertain the exact situation. Addressing US Soldiers present, he calmly issued instructions to prepare ODA reaction forces and an ODA level of base security. Observing the SF officer's leadership style, the host nation battalion commander began issuing complementary orders to his staff. The battalion responded efficiently to the limited attack and maintained its position on the border.*
- *During a vehicle movement on a major highway in a host nation, a group of SF Soldiers came upon an accident scene; two regular Army medics were upset, running around and alarming the victims. This SF medic assigned onlookers to be litter bearers, splinted the fractures, initiated IVs and talked to victims and onlookers to calm them down. The host nation troops felt confident in the SF medic's abilities.*

Demonstrating Interpersonal Adaptability

- Being flexible, open-minded and cooperative when dealing with others.
- Listening to and considering others' viewpoints and opinions, and altering own opinion when it is appropriate to do so.
- Being open and accepting of negative or developmental feedback regarding work.
- Working well and developing effective relationships with highly diverse personalities.
- Demonstrating keen insight of others' behavior and tailoring own behavior to persuade, influence, or work more effectively with them.

- *A composite team was preparing for deployment to Africa; this new team leader who had just graduated from the Q-course was placed in charge of the core team. This team leader did not ask for help from the experienced 180A on the team, was threatened by criticism, and voiced his anger once by shouting and raving in front of HN personnel.*
- *This junior NCO was given duties as a team sergeant even though another member of the team outranked him. This junior NCO used the input of the senior NCO at all times. The senior NCO felt his opinions were important and the team's morale remained intact.*

Solving Problems Creatively

- Employing unique analyses, and generating new, innovative ideas in complex areas.
- Turning problems upside down and inside out to find fresh, new approaches.
- Integrating seemingly unrelated information and developing highly creative solutions.
- Entertaining wide ranging possibilities others may miss, thinking outside the given parameters to see if there's a more effective approach.
- Developing innovative methods of obtaining or utilizing resources when insufficient resources are available to do the job.

- *The ODA was short of food and still a few days away from exfil. With the food supply low, this 18E ran an antenna lead to a nearby tree noted to harbor a hefty squirrel population. He placed a small amount of peanut butter on the wire to attract the squirrels' attention, then keyed the transmitter and shocked the squirrels when they had the peanut butter in their mouths, stunning them long enough to have someone hastily retrieve the squirrels. The ODA was able to have sufficient food for a couple of extra days.*
- *An SF ODA was tasked with teaching a foreign SF unit technical mountain climbing skills. Although the US SF team had several hundred thousand dollars worth of high speed equipment, they knew the other SF team would never see such equipment. This SFSoldier taught the foreign students using cheap, fabricated equipment such as large nuts and bolts on ropes as pieces for protection. The fabricated equipment was cheap, easy to obtain, and very effective, making the technical mountain climbing techniques applicable to these foreign students.*

Displaying Cultural Adaptability

- Taking action to learn about and understand the climate, orientation, needs, values, etc. of other groups, organizations, or cultures.
- Integrating well and being comfortable with different values, customs and cultures.
- Willingly adjusting behavior or appearance as necessary to comply with or show respect for others' values and customs.
- Understanding the implications of one's actions and taking steps to maintain positive relationships with other groups, organizations, or cultures.

- *While in Africa, this team sergeant was told to meet with the indigenous colonel at 0530. This team sergeant, upon arriving at the colonel's tent, was informed that it was the host nation's tradition that the eldest in the village eat goat's eyes; the team sergeant was the oldest and was to receive this great honor. This team sergeant ate the goat's eyes. The colonel was pleased and impressed as he knew this was not something Americans usually ate, particularly before coffee.*
- *An SF team was tasked to give classes to indigenous personnel in a country where the leadership did not like to associate with the enlisted personnel. The team had to decide what to teach and who to train. This 17C explained to an English-speaking officer that the enlisted team members actually did the teaching, but that they could work something out. He met with the officer separately to determine classes to teach, times, numbers, etc. The host nation officer was able to save face and the Soldiers learned the necessary skills.*

Dealing Effectively with Unpredictable or Changing Work Situations

- Taking effective action when necessary without having to know the total picture or have all the facts at hand.
- Readily and easily changing gears in response to unexpected events and circumstances.
- Effectively adjusting plans, goals, actions, or priorities to deal with changing situations, and doing whatever is necessary to get the job done.
- Imposing structure for self and others that provides as much focus as possible in dynamic situations.
- Not needing things to be black or white, and refusing to be paralyzed by uncertainty.

- *A platoon-type raid was planned to snatch a prisoner. The plan called for a large force to hit the objective and grab the prisoner under cover of darkness. The enemy force size was unknown, but was thought to be squad +. This reconnaissance team leader set up his surveillance team at the objective and saw that the prisoner had been brought out with only two guards far from the camp. This team leader decided to rescue the prisoner there and then. The prisoner was rescued; this mission would probably have failed if it had been executed as planned.*
- *During an actual combat mission, the UH-1D was receiving heavy ground fire. It was relayed to the air crew that friendly indigenous troops were in the field of fire. The order was given to the gunner to ignore this and provide fire. This 18B heard the order and asked for it to be repeated to be sure that he was in fact being told to fire on friendly troops. This 18B shifted his fire in the mean time so that it affected no one. The order had in fact been a mistake.*

Demonstrating Physically Oriented Adaptability

- Adjusting to tough environmental states such as extreme heat, humidity, cold, etc.
- Frequently pushing self physically to complete strenuous or demanding tasks.
- Adjusting weight/muscular strength or becoming proficient in performing physical tasks as necessary for the job.

- *An SF team spent two to three hours a day preparing for its high alpine ski trip with foreign troops that trained in that environment all the time. This SF individual prepared by spending the previous two months running four to six miles a day on mountain trails, doing ski exercises, swimming, and doing ruckmarches. Even though the trip was extremely physically demanding, this individual sustained no injuries.*
- *During team mountain training, an SF Soldier was unable to physically climb a training platform without aid. He knew basic mountain climbing techniques but he was physically unprepared. He modified his PT program to improve his physical condition and didn't quit. On the next mountain training exercise, he easily climbed and maneuvered around the training platform.*

Appendix B: Self Development Tool Example

Identifying your Adaptability Strengths

Step 1. Use the check boxes on the next page to identify your strengths.

- First, consider the feedback you have received on personality or other tests. In the Tests column, check the boxes next to what tests have indicated are your strengths. For example, if you scored high on a measure of Self-Confidence, you might place a check next to "Do I have confidence in my abilities to succeed?" in the Tests column.
- Second, consider the feedback you have received from others (e.g., peers, commanders, subordinates, etc.). In the Feedback from Others column, check the boxes next to what others have indicated are your strengths. (These may or may not be the same things you checked under the Tests column.) For example, if your peers tell you that you are great at getting into other people's heads, you might place a check next to "Do I effectively read others well?" in the Feedback from Others column.
- Third, consider what you know about yourself based on your past performance and experience. In the Self-Knowledge column, check the boxes next to activities that you believe are your strengths. (Again, these may or may not be the same things you checked in the other two columns). For example, if you know you are always eager and willing to learn about new people and cultures, place a check next to "Do I keep an open mind to new people and cultures?" in the Self Knowledge column.
- Look at the checks you made above and identify two or three of your most prominent strengths. These are usually the activities that have the most checks next to them, but not always.

Step 2. Determine how to best use your most prominent strengths on the job.

- Describe how you could best use your strengths to your advantage in on the job.
- *Example: I am very good at critiquing my own thoughts and behaviors. As a leader, I can use this to set an example for my team. When deciding on a course of action, I will involve others in a discussion about what may be wrong with my plan. This will show the other men on the team the good that can come from monitoring what you are doing and carefully thinking things through.*

Identifying your Adaptability Strengths

Do I ...	Tests	FB from Others	Self-Knowledge
• Maintain a good awareness of my surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Have a high level of confidence in my abilities to succeed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Take a critical eye toward my own thoughts and actions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Keep an open mind to new ideas and suggestions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Keep an open mind to new people and cultures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Effectively "read" others?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Stay calm and focused under pressure?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Adjust my plans to the environment as necessary?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Make the right decisions for the environment I'm in?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• Come up with creative solutions to problems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



2 to 3 Most Prominent Strengths

1.

2.

3.

How Can I Capitalize on My Strengths?

Identifying your Adaptability Development Needs

Step 1. Use the check boxes below to identify your weaknesses.

- Follow the same procedures as you did for the Strengths section above, except concentrate on those activities you perform less well – those that could be considered your weaknesses.
- Look at the checks you made and identify your most prominent weaknesses. These are usually the activities that have the most checks next to them, but not always.

Step 2. Develop a plan to best address your most prominent weaknesses.

- Describe how you plan to address each of your development needs to make you more successful on the job.
- *Example: I'm not very open to new ideas. I will work on this by making a conscious effort to think of at least one alternative for every tried and true method I typically use. As a leader, I will identify someone on my team who is especially skilled at developing new ways of doing things, and I will leverage his skills when my usual way of doing something doesn't work.*
- Be specific.
- Choose challenging plans of action -- but be realistic.

Identifying your Adaptability Development Needs

Do I ...	Tests	FB from Others	Self-Knowledge	→	2 to 3 Weaknesses	→	How Can I Address My Weaknesses?
• Fail to maintain a good awareness of my surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
• Have low confidence in my abilities to succeed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
• Fail to take a critical eye toward my own thoughts and actions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
• Fail to keep an open mind to new ideas and suggestions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
• Fail to keep an open mind to new people and cultures?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
• Do a poor job of "reading" others?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
• Become agitated and unfocused under pressure?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
• Fail to adjust my plans to the environment as necessary?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
• Make the decisions that don't fit the environment I'm in?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
• Fail to come up with creative solutions to problems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

1.

2.

3.

Tips for Managing Your Adaptability Development Needs

This section provides some general guidelines for addressing your adaptability weaknesses or development needs. Several general tips are offered, followed by specific ideas for improving in each characteristic. However, these lists don't contain every possible idea, and you might want to get additional ideas from your supervisor or mentor.

Keep in mind that self-development is rarely quick or easy, and you may not be able to overcome every weakness you have. There may be some that you need to figure out how to manage around. Therefore, you'll find suggestions for both "working on" and "working around" your development needs below.

General Tips

- **Continue to practice and get feedback.** For any new skill that you are learning: practice the skill, seek feedback on your performance, adjust your behavior based on this feedback, and repeat. This is an ongoing process – continue to practice, seek feedback, adjust your behavior, and practice some more.
 - **Put your plans in writing.** Develop a concrete, written plan for your learning activities. Use goals and timelines to measure your progress.
 - **Create a "help" system.** This is the same idea as the help function on a computer; you don't need to know everything about a program if you can use the help screen. For a weakness, a help system can enhance your skills in a given area. The system might include:
 - **Cheat sheets.** For example, if you have difficulty with negotiations, develop a short list of the key points you want to get across in these situations. Memorize the list and practice communicating these key points. Then, when faced with an actual negotiation situation, at least you will be prepared to deliver your key points.
 - **Checklists.** Similar to a cheat sheet, a checklist can help remind you to do or consider things that you ordinarily forget.
 - **Use your strengths to overcome your weaknesses.** This is another way of helping yourself, where the help comes from one of your strengths. For example, if problem solving is one of your strong points, but you don't work well under pressure, you may want to search for solutions that reduce the amount of pressure you are under.
 - **Build on the strengths of others.** In the SF environment, most of your work will be done in a team setting. Your team members have been carefully selected and trained, and many of them will have years of knowledge and experience that you won't have yet. Capitalizing on this knowledge and experience will not only help the mission, it will raise the morale of your team by letting your men do what they do best - while you learn from them.
-

Specific Tips

Maintaining Awareness

- Pay close attention to your surroundings – including your social surroundings. Periodically sit down and talk with a friend or coworker about the important characteristics of the environment you're operating in. See what he/she picks up on that you might have missed and vice-versa.
- Talk with an expert decision maker that you know about what factors in the environment he/she considers when making certain types of decisions. Are these the same ones that you would consider? Talk through any differences.
- Consider some recent decisions you have made that have not turned out as well as you had hoped. Did they not work because you failed to consider important aspects of the environment in making them? Don't forget that the social/political environment you work in is also important.

Self-Confidence

- Pep talks – merely telling people they are capable of doing something increases their self-confidence for that task. You can of course, do this for yourself, and/or you can find a mentor who is willing to give you positive encouragement.
- Learn from others – watching a successful role model that is like you can help increase your self-confidence. The process is along the lines of "If he can do it, so can I!" Find others who are successful in the area where you want to excel, and watch what they do.
- Experiencing success – once you have successfully completed a new task, you are likely to feel more confident in your ability to do it successfully again in the future. The flip side of this is that experience with failure with a new task may make you feel less confident. So, the key is to start with tasks you know you can handle and work up to more and more difficult ones. After experiencing several successes, you will be better prepared to overcome obstacles in the future.

Criticizing Yourself

- Ask someone you trust to critique your decision making and problem solving abilities. Carefully consider their feedback and come up with a list of questions to ask yourself that will help you avoid problems they identify. (Did I question all of my assumptions? Do I have all of the information I can get?) Ask yourself these questions before finalizing important decisions.
- Create a regular time for reflection (such as the drive in to work) and take stock of recent actions you have taken/decisions you have made. What has gone well? Why? What has not gone well? Do you have ideas about why? This sort of reflection will help you get into the habit of monitoring and critiquing yourself.

Openness New Ideas/Openness to New People and Cultures/"Reading" Others Well

- Bounce your ideas off other people and see if they have similar viewpoints or if they can offer you different suggestions. Listen carefully to these alternatives and see how they are similar or different from your ideas.
- Make a point of talking with one new person each week who has a different background than you to gain a better understanding of his or her beliefs, values, and culture.
- Make a point of doing one new thing each week (e.g., eating a different kind of food, going to a new place, etc.).
- Read books or articles by people with an opposing view from your own (e.g., if you are a Republican, read some Democrat opinion pieces). As you read, try to think about and understand the person's beliefs, values, and motives.
- Identify individuals on your team who are especially skilled in this area. When the situation requires thinking creatively, call on these individuals for ideas and learn from them as well.
- Rather than treating all your subordinates the same, learn what works best with each one and treat them accordingly. For example, some people like to be praised in front of others while others prefer that praise be given in private. If you are not sure what works best, ask.
- In negotiations, ask questions to try and understand the other person's needs and motives. Use this information to make your own ideas more acceptable to the individual.

Staying Calm Under Pressure

- Practice making decisions quickly and under pressure. If you have trouble thinking when things are noisy and chaotic, try making decisions while you're in noisy and chaotic locations like a crowded restaurant or a busy airport. Keep doing this until you learn to tune out the distractions.
- Practice making your decisions quickly, even when you have time. Then, go back and carefully consider the information you have and what decision you should make. Compare your final decision to the one you made quickly and see how they differ. This should help you get better at making fast decisions and make you more comfortable operating under pressure.
- Learn to recognize the physical cues that indicate that you are losing control (fast breathing, elevated heart rate, etc.). Practice techniques that will help alleviate these symptoms and will help calm you down. For example, you might concentrate on taking deep breaths as a calming mechanism.

Adjusting Plans/Making Decisions/Solving Problems

- Wargame potential courses of action by asking "what if" to help you develop contingency plans. This will prepare you for adjusting your plans when necessary.
- When faced with a new or difficult problem, find out what others have done to solve similar problems.
- Use the collective knowledge of your team to solve particularly difficult problems.
- Stay mentally active by continually reading challenging books, solving puzzles, etc.