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Military Leader Development and Autonomous Learning: Responding to the Growing Complexity of Warfare

Kirk G. Mensch, Tim Rahschulte

The complexity in today's operational military environment and the responsibility of leadership in this environment has exponentially increased over the past century. This trend will continue as global economies, political structures, and technologies continue to evolve. Learner autonomy is recognized as a paramount concern in leadership programs, including military programs. The purpose of this article is to increase awareness of the need for learner autonomy among military leaders; however, the implications may be generalizable to any organization responsible for developing leaders who operate in ambiguous and complex environments.

Theoretical understanding and practical application of training and development are distinct on both accounts. However, the words *training* and *development* are commonly associated in the same phrase as well as in the title of many educational programs. If they were synonymous, there would be little need to use both. The distinction is important and a matter of scope. The definition for training might be best articulated as creating proficiency through specialized instruction. The Army operationalizes training by focusing on the measurable aspects of technical and tactical proficiency (Headquarters, U.S. Army, 2002). Development is larger in scope, involving conversion and transformation. The Army defines development as the "deliberate, continuous, sequential, and progressive process, grounded in Army values, that grows soldiers and civilians into competent and confident leaders capable of decisive action" (p. 1–26). More specifically, leader development is achieved through a

lifelong synthesis of the knowledge, skills, and experiences gained through institutional training and education, organizational training, operational experience, and self-development (p. 1–26).

Development is further distinct in that it is a more involved and time-consuming process compared to training. Smith and Pourchot (1998) opined that development is "deep, fundamental, and irreversible processes" (p. 17) thus revealing complexity in its nature. More recently, the distinction between training and development was confirmed following several semistructured interviews with U.S. Army officers associated with the Reserve Officers Training Corps (ROTC). These interviews and findings are detailed herein.

Interviews were initially held to discuss the nature of warfare in the current age and its relation to the training of prospective military officers, leaders in the armed forces. Three of the interviewees were company or field grade officers and seasoned combat veterans of recent campaigns in Iraq and Afghanistan. The remaining three interviewees were junior officers and recent graduates of the ROTC. Several issues were highlighted in the interviews, notably the impact of today's media on the battlefield and its relation to politics and strategic military operations, as well as its impact on the tactical fight. Limited warfare, multifaceted rules of engagement (ROE), complexity and understanding in regard to other cultures, and feelings of a selfish "me-centered" tradition in the United States were issues of interest discussed in the interviews. The nature of the interview conversations was diverse, but there emerged two common themes among the interviewees. First, there is a belief that today's military operations are vastly more complex than in the past. Second, our leaders require different skills and abilities to successfully navigate this environment than required in the past. Both of these themes suggest a new world in which the military engages. The advance of this new world requires development of new leaders and thus requires reassessment of current modes of learning.

A New World: The Need for Autonomous Learners

A New Complexity. Few would argue that today's military operations have not become increasingly complex. This is evident to the point that the term *conventional warfare,* referring to warfare conducted by the guidelines of the Articles of the Geneva Convention and also meaning linear in nature, is seldom heard. The term *linear* is often used to describe a battlefield where the lines between friendly and enemy are clearly established. Today, however, new terminology such as "asymmetric" and "complex" warfare are used by the U.S. military and its allies to describe current and future military operations (Headquarters, U.S. Army, 2004). Furthermore, Bar-Yam (2003) stated:

> In recent years it has become widely recognized in the military that war is a complex encounter between complex systems in complex environments.

> Complex systems are formed of multiple interacting elements whose collective actions are difficult to infer from those of the individual parts; predictability is severely limited, and response to external forces does not scale linearly with the applied force. It is reasonable to postulate that warfare can be better executed by those who understand complex systems than those who focus on simple linear, transparent, classically logical, Newtonian constructs [p. 1].

This revision in defining warfare is attributed to several factors, including technological advancement in the information age, global economies, and complex political structures. The more prolific use of unconventional tactics such as guerrilla warfare and terrorism as well as a difference in the speed of change, flexibility, and adaptation in land warfare also contribute to the complexity (Newell, 1991; Toguchi & Rinaldo, 2004).

The six interviewees all agreed that the complexity in warfare today places a great burden on the leadership. During the interviews, more questions than answers arose as to what to do about this leadership burden, especially relative to its implications for selection and development. Additionally, the topic of critical thinking and its importance to leadership in complex environments was of paramount concern to those interviewed. Critical thinking was noted as a key asset of any leader in today's military due to the complexity of the environment. Specifically related to military decision making, there seems to be a greater danger in satisficing (selecting the first option that meets the standards but may not be the best option) in decision making than in the past (Beach & Connolly, 2005).

The complexity of today's battlefield requires leaders to face situations that are dissimilar from any they have encountered in training. Therefore, they must rely on critical thinking and reasoning skills to help them develop the best course of action *while in action.* Critical reasoning involves deciding what to believe and think beyond analogical experience, which can help one move toward a viable and superior course of action (Cederblom & Paulsen, 2001). In combat environments, the dilemmas encountered are complicated by time constraints not often found in other environments. Toguchi and Rinaldo (2004) identified three elements of land warfare as scientific, cognitive, and moral; all three are described as becoming more complex. Adding complexity to these aspects of warfare makes it more challenging for the leader to function effectively.

Critical thinking was a consistently noted concern during the interviews. Further, the need to incorporate more of this aspect in leader development was unanimous among the sample. One participant specifically noted that the emphasis on critical thinking has been recognized, and there may be plans to restructure the program to reflect this need in the near future. Five of the six persons interviewed believed there was simply not enough structured developmental time in the program and that the only way to progress in this

area was through self-directed learning, which is analogous with autonomous learning (Derrick, 2001). It was also noted that there is the need for students in the ROTC program to become better and more efficient self-learners. Because of the complex and changing environment in which military leaders operate, having autonomous learners is vital for the success of future military officers. This need is expected to continue to grow in significance as the complexity of the battlefield continues to increase (Newell, 1991).

Autonomous Learning: Requirement for Leaders in Today's Armed Forces. In the Foreword of the Army's primary leadership manual, Gen. Peter Schoomaker states:

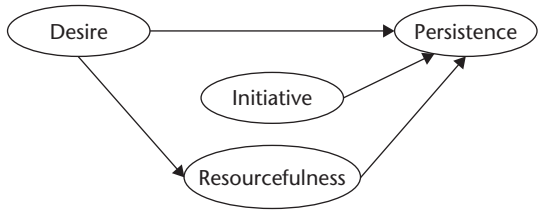
> It is critical that Army leaders be agile, multiskilled pentathletes who have strong moral character, broad knowledge, and keen intellect. They must display these attributes and leader competencies bound by the concept of the Warrior Ethos. Leaders must be committed to lifelong learning to remain relevant and ready during a career of service to the Nation [2006, Foreword].

The element of lifelong learning is significant and implies the desired characteristic of autonomous learning. Knowles (1975, 1980) expressed the importance of autonomy, qualifying that adults are naturally self-directed. This idea of autonomous learning warrants further description and definition because Confessore and Park (2004) indicated a great deal of confusion about the nature of self-directed learning. Therefore, the following sections detail autonomous learning.

Autonomous Learning Defined. Johnstone and Rivera's work (1965) reported findings relative to the self-directed and self-educated aspects of adult learning. Derrick (2001) concluded that the Johnstone and Rivera studies "determined that 'self-learning' activities comprised a major part of the learning that was being undertaken by adults in the United States" (p. 10). With this understanding, Guglielmino, Long, and Hiemstra (2004) contended that learner self-direction is a universal human characteristic. They state, "Although certain learning situations are more conducive to self-direction in learning than others, it is the personal characteristics of the learner—including his or her qualities of mind and behavior (personality) as well as acquired skills and abilities—which ultimately determine whether self-directed learning will take place in a given learning situation" (p. 1).

Guglielmino et al. (2004) suggested that Knowles's definition of self-directed learning (1975) is the most common. Knowles defined self-directed learning as "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (p. 18). Confessore and Park (2004) defined learner autonomy as

Figure 1. Learner Autonomy Construct Model



Source: Ponton, Carr, & Derrick (2004).

"the relative capacity to productively participate in learning experiences" (p. 41). As Ponton and Carr (2000) wrote, "Learner autonomy can be defined as the characteristic of the person who independently exhibits agency (i.e., intentional actions) in learning activities" (p. 273). Although Ponton and Carr (1999) argued learner autonomy is a subset of learner self-directedness, Derrick (2001) suggested that autonomous learning and self-directed learning are analogous. The content of this paper subscribes to Derrick's conclusion in that the terms *self-directed learning* and *autonomous learning* are equivalent.

Constructs of the Autonomous Learner. Confessore and Confessore's learner autonomy construct (1994) contains four components: desire, resourcefulness, initiative, and persistence. The path analysis of each construct, as detailed by Ponton, Carr, and Derrick (2004), presents a conceptual model of learner autonomy. This path analysis is illustrated in Figure 1. Derrick (2001) stated these four components are "identified as conative because each is founded on the individual's psychological intentional characteristics to engage in autonomous learning" (p. 12). *Conative* is defined as internally motivated behavior or behavioral intention. Each component of learner autonomy is defined further hereafter.

Meyer's work (2001) on the desire to learn addresses the formation of learner autonomy intentions. According to Meyer, "Intentionality presupposes the ability to access and direct our power to become the masters of our own destinies" (p. 1). Accordingly, she identified three basic factors: (1) basic human freedoms, (2) powers, and (3) change skills acquired through life experiences. Basic freedoms include perceptions about life acquired from our family and the ability to communicate one's feelings. Powers include the ability to bring order to one's life, maintain character in adversity, and use good judgment in choosing life directions. Change skills include the ability to create an environment where sharing of ideas and feelings occurs. These basic factors serve as precursors to formation of the resourcefulness, initiative, and persistence intentions.

The resourcefulness construct contains four components: "prioritizing learning over other things, making choices in favor of learning when in conflict with other activities, looking to the future benefits of learning undertaken now,

and solving problems" (Carr, 1999, p. 2). Further, Carr noted that each of the components "has particular characteristics that can be used to define the behavior independent of the remaining ones" (p. 5). Ponton (1999) concluded "that a self-directed learner with initiative would exhibit the following behaviors: goal-directedness, action-orientation, persistence in overcoming obstacles, active-approach to problem solving, and self-startedness" (p. 5). Like Carr's observation of resourcefulness, Ponton noted, "Each of the five behaviors associated with initiative has characteristics that can be used to define the behavior independent of the others" (p. 6). As such, displaying any of the respective behaviors represents some degree of resourcefulness or initiative.

Regarding the final conate, Derrick (2001) explained, "[I]nitiative does not imply the capacity to maintain motivation or to sustain goal-oriented activity in the face of frustration, competing goals, or obstacles. It is the sustained maintenance of persistent behavior that enables the individual to obtain the goal" (p. 1). She identified volition, self-regulation, and goal-directedness as the three pieces of persistence. Volition indicates the internal processes directed toward maintaining intention to achieve a goal in the face of obstacles. Self-regulation describes the self-generated cognitions, affections, and behaviors "systematically oriented towards attainment of a goal" (p. 20). Goal-directedness refers to the degree of effort applied to goal attainment. Derrick noted that each of the behaviors associated with persistence possesses specific characteristics related to the persistence construct.

Autonomous Learning for Leaders of Today's Armed Forces. These constructs associated with learner autonomy are of interest to the ROTC program. Even though desire and initiative seem to be assessed and measured to some extent through current practices of the ROTC leader development program, persistence and resourcefulness are only partially measured at best, and the whole construct of learner autonomy is not currently measured at all. The lack of focus regarding development of persistence and resourcefulness in leaders is of concern; the lack of focus in these areas may be detrimental to the operational military because they are the recipients of the product of the ROTC. The ROTC program is currently unable to effectively measure resourcefulness and persistence beyond very subjective questioning of candidates. This is a point that deserves further consideration; there may be better ways to assess one's propensity for autonomous learning beyond standardized test scores such as the SAT and ACT and time-constrained interviews conducted during screening of applicants. Ponton, Derrick, and Carr (2005) wrote:

> If an adult truly values learning, an active consideration of this valuation during periods of discretionary time may lead to choosing learning over nonlearning activities. From a purely agentive perspective, classifying activities as either time spent or time wasted is an important cognitive

> activity that empowers an individual to select activities that promote self-fulfilling lives within the framework of a personal value system [p. 126].

A key insight here is that the valuation process is discretionary and implies measurability, which is important to the practitioner who wishes to construct and implement a screening and development program that integrates the autonomous learning condition.

Impact on Selection and Development. The word *development* is used intentionally in this section heading to highlight what many involved in ROTC have already begun to realize: that the *T* for *training* in *ROTC* be changed to *D* to reflect the growing need for *development* beyond training. This suggestion is valid in that it would exhibit noticeable recognition by the military that the onus in today's highly complex and global operational environment should be on development. This recognition should not be the end state for a program as vital to national security as ROTC. The instructors must have students who are dedicated, lifelong learners. This may be the only way to produce quality leadership for the military of the future. The general consensus in our interviews was that it is simply not feasible for even the most efficient ROTC organization to offer the instruction needed to lead effectively in today's operational environment without the element of autonomous learning added to the leader development equation.

Ponton et al. (2005) wrote a treatise on autonomous learning through active self-monitoring that could serve as a framework to enable ROTC to establish a program that will assist in both screening and development of candidates for ROTC. There are many ways one might establish a viable program focused on development of autonomous learning. A general course of action is offered here.

It seems reasonable that one could develop a valid and reliable questionnaire based on the work of Carr (1999) and Derrick (2001) designed to measure the aspects of autonomous learning relevant to the military's current operating environment and specifically tailored for ROTC. This instrument could be implemented as one additional tool for initial assessment of a candidate for ROTC. At a minimum, this type of assessment could yield information on the current disposition of the candidate so that an individualized development program could be created and implemented. For example, if the candidate is deficient in resourcefulness or persistence, the candidate could either be nonselected outright, or selected and developed appropriately. There is also the possibility that such an instrument might be integrated into one of the many leader assessment tools currently used by ROTC.

Developmentally, Ponton et al. (2005) offered specific ways to encourage autonomous learning through active self-monitoring, including the requirement of a log or journal. Developmental techniques such as this should be explored for relevance and viability; many suggestions might easily be integrated into the current ROTC curriculum. The intent with self-monitoring

is not only to permit additional accountability but to "foster autonomous learning tendencies (i.e., help students choose learning over nonlearning activities)" and help the students see themselves as responsible for their own lifelong learning (p. 126). This is surely a desired effect of the ROTC program.

Initiative, resourcefulness, and persistence are proposed as the primary aspects associated with the autonomous learner (Ponton, Carr, & Confessore, 2000). Later research by Ponton et al. (2004) described persistence as the "defining characteristic of learning" with resourcefulness as a necessary predicator of a successful outcome (Ponton et al., 2005, p. 118). This research enables an understanding of resourcefulness and persistence as generally related to the learner, which can then be applied to leader development and assessment by understanding and applying the subscales of each aspect.

According to Carr's research (1999), *resourcefulness* can be operationalized by anticipation of future reward, prioritization of learning over nonlearning, choosing learning over nonlearning, and the ability to solve problems that interfere with the learning process. Following this, Derrick's research (2001) operationalized *persistence* as goal directedness, self-regulation, and volition.

Each of these subscale aspects of resourcefulness and persistence could be observed throughout the developmental process in ROTC and could be measured, minimally through qualitative observation. A separate interview with Lt. Col. Clark Backus, a senior member of the ROTC program and professor of military science at Marquette University, indicated that current evaluation techniques may be adequate in generally assessing resourcefulness throughout the program but not the specific aspects defined by Carr (1999). Moreover, there is a sense that only limited aspects of the persistence paradigm related to physical fitness are assessed in the program. Backus further stated, "I'm not sure we expose cadets to enough problems that spark their curiosity . . . we don't pose enough questions that require intellectual persistence" (personal communication, Oct. 10, 2007).

The areas related to intellectual learning are congruent with concerns about lifelong and autonomous learning. The current assumption within ROTC is that this aspect is demonstrated in the ability to matriculate successfully through an undergraduate education. But this is faulty reasoning because it follows that all students who graduate with better than a certain grade point average are "lifelong" autonomous learners, and this is certainly not the case.

Conclusion

In our ever-more-global economy, it is easier for students to recognize the importance of working hard to remain competitive. Whether considering a corporation or a military, the realization of the complexity related to global operations is quite evident. ROTC is the top producer of officers for the U.S.

military and must therefore continuously investigate ways to improve the quality of the education it is charged with providing. With the globalization of economic and political systems, technological advancement, and increasing complexity and responsibility on individual leaders, it is important for continued progress in leader development. After review of ROTC needs compared with the aspects of autonomous learner and lifelong learning, it is apparent ROTC educators must develop a greater level of resourcefulness and persistence among the men and women who will become officers and defenders of our nation.

ROTC must continue to strive for excellence to produce the best officers for the most formidable military force in the world. Every mother, father, sister, and brother expects our service men and women to have the best leadership in the world. They expect this of our nation, so that in the moment of life or death, when decisions must be made in an instant, the leader will understand the situation, critically evaluate the possibilities, use good judgment, and execute the decision with confidence.

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