



NDU Special Collections

What's in a Name?

The Future of the Industrial College

By PAUL B. DAVIS, JR.

The Industrial College of the Armed Forces (ICAF) is fortunate to be able to build on traditions of excellence in the education of uniformed military and civilian Government executives. ICAF was founded on the recognition that the Nation could ill afford to repeat the mistakes of the past, that

the nature of warfare had changed, and that the executive leaders required for future endeavors would demand significantly different education and training than their predecessors received. The 80th anniversary of the founding of the Industrial College creates an excellent opportunity to critically evaluate its future relevancy.

Organizationally, ICAF is one of the elite senior schools providing Government executives (uniformed military and civilians alike) a degree in leadership. It is a premiere postgraduate college

Colonel Paul B. Davis, Jr., USAF (Ret.), is professor of logistics in the Industrial College of the Armed Forces.

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE 2005		2. REPORT TYPE		3. DATES COVERED 00-00-2005 to 00-00-2005	
4. TITLE AND SUBTITLE What's in a Name? The Future of the Industrial College				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) National Defense University, Institute for National Strategic Studies, Fort Lesley J. McNair, Washington, DC, 20319				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

awarding a fully accredited Masters in Resource Management on completion of the intensive 10-month curriculum. The Industrial College, along with the National War College, is one of the only two truly joint senior educational institutions within the Department of Defense. While often referred to as senior service schools, the colleges of the National Defense University (NDU) are not service affiliated. The distinction appears academic to most, until uniformed officers consider the credential process under which graduates of the Army, Navy, Marine, and Air Force war colleges require an additional educational experience ranging from a short executive course to several weeks at the Joint Forces Staff College in Norfolk, Virginia, to meet the mandated joint service training requirements. The President of NDU, moreover, reports to the Chairman of the Joint Chiefs of Staff. Their relationship is close and direct.

With a student-faculty ratio of 3.65 to 1, seminar sizes of 15 or 16, and classroom contact hours managed to just over 14 hours per week,

ICAF concentrated on executive leaders versed in the demands mandated by increasingly joint endeavors at all levels

student-faculty interchanges are diverse and unique. Faculty members facilitate discussions rather than lecture. The almost daily out-of-class interfacing is even more individualized. In this sense, the faculty act as

intellectual mentors, concentrating on relevant reasoning and supporting positions. In another sense, the faculty work to position themselves as contemporarily relevant and dealing with the most strategically critical issues that might face the graduates.

A Commitment to Looking Ahead

The issue today is how to retain interests that may be important in the uncertainty of the future. What worked to our institutional and national advantage in the middle of the last century may only lead us to misapply critical resources such as time and attention in the emerging environment.

The best example of the Industrial College's commitment to looking ahead and jointness melds large portions of adaptation and leadership components in strengthening the core curriculum, which must include an emphasis on the skills required by senior leaders. ICAF needed to link scholarship and practical necessity. It concentrated on the issue of executive leaders versed in the demands mandated by increasingly joint operations and endeavors at all levels.

What began just over a decade ago as administering an executive skills set has evolved into

comprehensive examinations by the students of factors and issues impacting organizational change and transformation. The students now participate in a battery of executive skills assessments and make personal decisions regarding how they need to continue their professional development in order to contribute most effectively at the executive level of knowledge-centric organizations. These same students will move to critical positions leading service and governmental transformations that address the demands of the systems dynamics on all fronts and levels.

In this manner, the Industrial College has proven responsive to the changes in the external environment and has adapted the curriculum as it modernized for relevancy in an era in which thinking in a totally integrative/joint manner is imperative. This example of adapting to meet newly emerging demands of the military educational system, while interesting and critical, does not represent the most arduous contemporary example of building on a legacy. That distinction has to do with the college's original purpose and most long-standing legacy: industrial mobilization/demobilization supporting the national strategy.

The current industry study program offers one of the major avenues of research and study for students as they examine the national and global resource base to support national security strategy. Students have the opportunity to assess the ability of 1 of the 20 selected industrial sectors to support national security in both the near and midterms. They also develop a strategic perspective of one industry and its role in supporting the technology and materiel requirements of national defense in normal and emergency conditions. They do this by completing a comparative analysis of U.S. and international members of these industries in both defense and nondefense environments and by preparing policy options to enhance industrial preparedness.

Examining how various industry sectors identify and manage their most pressing problems is providing certain benefits as the students observe the old and new, the traditional and novel industrial sectors. One example comes from the Strategic Materials Industry Study. What it examines is especially informative. On one hand, there are the traditional materials, those that are extracted from the ground: iron, aluminum, titanium, and so forth. Additionally, the study examines sectors that include manmade materials such as ceramic polymers and carbon fibers. It goes so far as to include what might be

better characterized as processes such as nanotechnology and molecular manufacturing.

Critical Evaluation

Identifying the differences in concerns among firms in the traditional sectors, the man-made sectors, and the manufacturing processes sectors highlights issues that are otherwise difficult for students to address. And these are the issues critical for transition, incorporation, or generalization within the military. Is there anything rationally constituting a strategic materials industry? Is the concept of “industry” useful or even relevant to this sector of manufacturing? How do firms in the industry characterize their competition? What makes a material strategic? As we gain a greater appreciation for the complexities of this “industry,” what are the attributes of competitive advantage; how are they arrayed and related; how and at what pace are they evolving? Generalizing such understandings and appreciations to potential military applications proves exciting for innovative students.

today, we more fully understand how the means of war give character to the eventual peace

The most interesting avenues of study recently have concerned the nature of the changing relationships among the various elements of some of the firms. Two years ago, the director of a nationally recognized research institution startled a group by beginning a 4-hour visit with the question: “How do you treat the kids?” He was asking those present to consider the relationship between the senior leadership and staff directors and the youth of the organization. He wanted the group to examine its acculturation techniques, beliefs, assumptions, and even basic value structure. This researcher proceeded to tell how excited he had been recently as his young postdoctoral researchers gave him a valuable lesson in solving problems they did not know could be solved. The experience has changed an entire industry sector.

This was not an isolated experience. A Nobel Laureate nominee related how he and his staff of renowned experts had been wrestling with a nanotechnology theory when a college summer intern dared to walk to the board, erase much of what had been developed, and replace it with an elegantly simple alternative. The “breakthrough” is of the prize-winning category.

In a recent lecture to the college, Greg Foster, a colleague from the Political Science and Regional Studies Department, raised exactly these kinds of points about the changing relationships among various institutional elements. Initially, institutions tend to organize the way their leadership thinks. Afterward, there is a tendency or

intellectual proclivity to think the way the institution is organized. Foster suggests that a solution to this conundrum is to reorganize. While that might be a distinct possibility, such turbulent action may not be necessary. What seems critical is for the institution to recognize the possibility of falling into legacy-system thinking and to question whether or not this has indeed occurred. People versed in the theories of complexity and chaos understand that a system in stasis, at rest, or overly comfortable lacks the dynamics necessary for comparative advantage in a complex adaptive world. In such environments, relevancy, adaptation, and growth are found closer to the “edge of chaos” than in the comfort zones.

This is the challenge for today’s Industrial College: how to critically evaluate all that it does and the strategies for accomplishing the mission. This challenge includes the necessity to go back to such basics as questioning our institutional values, beliefs, and the assumptions derived from them. It requires a constant evaluation of institutional measures of merit, excellence, and performance. Such a chore is more about examining *what* the institution does than *how* it does it. Once satisfied with the *what*, recrafting the *how* is necessary. If we have learned anything from recent military excursions in places like Bosnia, Kosovo, Afghanistan, and Iraq, it may be that how we do what we do may be more strategically important than what we do initially—a contemporary wrinkle to the more traditional “ends justifying the means.” Today, we more fully understand how the means of war give character to the eventual peace.

Perhaps what all this suggests is something that the Industrial College observes in every one of its studies: an entrepreneurial spirit. Harnessing this spirit, incorporating it into the ICAF culture, and reinforcing it are becoming touchstones for enlightened strategic leadership facing the complexities of knowledge-based globalization. The significance of its contributions, as well as the future relevancy of the Industrial College of the Armed Forces, is inextricably linked to vigorous entrepreneurship. We have a proud history of being the scholar-practitioners.

An Incomplete Metaphor

It is perhaps only fitting to conclude with an appraisal of our name. The earlier reference to Dr. Foster’s caution about falling into the legacy thinking trap is of great concern to the college’s leadership. To date, that leadership has repeatedly found wisdom in retaining the powerful metaphorical link with the institution’s legacies.

Multiservice students attending procurement seminar, 1952



NDU Special Collections

In *Images of Organization*, Gareth Morgan seriously questions any use of the quintessential instrument of industry, the machine, as a metaphor for any organization, much less as a basis for thinking:

Consider the popular idea that the organization is a machine. The metaphor may create valuable insights about how an organization is structured to achieve predetermined results. But the metaphor is incomplete: it ignores the human aspects. The metaphor is biased: it elevates the importance of the rational structured dimensions. The metaphor is misleading: the organization is not a machine and can never really be designed, structured, and controlled as a set of inanimate parts. . . . Metaphor is inherently paradoxical, as the way of seeing created through a metaphor becomes a way of not seeing.

The debates are frequent and heated: leave the anomalous, but for what? More often than not the consensus is that we are leaving (some would go so far as to say we have left) the industrial age and should move to a keener sense of reality for the basis of our dominant theories and strategies. In the rush to change, we must be careful not to be swept up in the excitement of the “here-and-now,” the short term. The feeling that the world has moved into an information age is ubiquitous. Yet we may be witnessing

the opening stages of something we have yet to understand fully. The industrial age required generations of visionaries before it took hold and its power was felt. The institutions and organizations within them that engaged in the debates about the transition or transformation, that exhibited energy and created new dynamics, were the ones that retained and grew in power, stature, and relevancy.

Retaining the name Industrial College is a conscious act, not of defiance or a consequence of a resistance to leave the familiar, but of vision. It reflects a critical appreciation for the legacies that drove the college in its journey to the present focus on leadership, a strategic perspective, adaptation, integration (jointness), and mobilizing the elements essential to contemporary necessity. The Industrial College of the Armed Forces is doing this for itself and, in doing so, is relevantly preparing future Government and industry leaders to meet the uncertainties of what will unfold as we pass through what might be the information/knowledge phase of what will eventually become the next “age.” We are helping to discipline tomorrow’s leaders in how to think relevantly about an environment daily becoming exponentially more complex.

JFQ