Evaluating and Educating for Optimal Generalship: Technical Approaches with Potential

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ABSTRACT

Both retrospective reproaches and current criticisms have called into question the adequacies of the education, evaluation, and selection of general officers. These analyses have examined the generals' involvement in military conflicts and in the formulation of national policy. The authors of this paper are pedagogical and computer scientists who have conducted research and development across a range of promising concepts, new pedagogies and advanced digital technologies, some of which they view as having a critical role in the improvement of the flag officer promotion process. These improvements would help assure more precise selection and produce more effective generalship. This paper begins with a brief review of the perils of past flag officer selection processes and the concomitant costs of the procedure of successive appointments, ensuing disasters, and then humiliating reliefs as a method of winnowing out those with gifts other than command in combat. New pedagogical concepts of cognitive processing are discussed, including examples from the authors' experience in educating students to improve cognitive abilities. Using previously validated instruments, the authors have recently polled both civilian and military populations to ascertain the cognitive and analytic patterns within those populations. They discuss both the results of that research and the conclusions that may be drawn therefrom. This research has led to the preliminary design of an interactive-program architecture to both enhance and evaluate the structure of cognitive processes in individuals. The potential dissemination of this capability via distributed high performance computing is laid out in detail and its feasibility is analyzed in the light of the authors' decades of experience in very large-scale battlefield simulations, *e.g.* their work at the U.S. Joint Forces Command. They conclude with an analysis of the ways in which these technologies would have a beneficial impact on the future education and selection of flag officers.

ABOUT THE AUTHORS

Laurel K. Davis is the President and CEO of Next Generation Leaders, Inc., an independent educational consulting and research organization in Culver City, California. A special focus of hers has been the practical application of insights from meta-cognitive research. She is an experienced classroom educator who has served in several public schools in the Los Angeles basin. Her current activities include teacher training, consulting on the transition from one school environment to another, creation of materials to address skills shown to impact academic success such as decision-making and learning style awareness. She has developed and fielded several programs on leadership training and assessment. She received a B.A. in Communications and a teaching credential and M.Ed., all from the University of California, Los Angeles.

Craig E. Ward is a Parallel Computer Systems Analyst at the Information Sciences Institute. His recent research includes work on large-scale data management for climate simulations in the Earth Systems Grid and Pegasus scientific workflows. He has also applied quality software engineering standards for a student-built nanosatellite project and the web-based document workflow applications for the RFC Editor. Craig was one of the principal engineers on the JESPP Scalable Data Grid effort. His concentration has been on integration of open source tools into the product as well as code development. Previously, he performed analysis and development of software systems for courts and law enforcement agencies in California, including CCHRS, a centralized repository of criminal history data. He has a B.A. in History from the University of California, Irvine, and an M.S. in Computer Science from Loyola Marymount University.

Jacqueline M. Curiel is a co-founder of Behavioral Cognition and is a consultant to IdeaDaVinci. Recent research by her has been in the area of behavioral observations of participants in large-scale simulations, many run by the U.S. Joint Forces Command in Suffolk, Virginia. Her research has been focused on spatial cognition and mental

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Dan M. Davis is a consultant for the Information Sciences Institute, University of Southern California (USC), focusing on large-scale distributed DoD simulations, including being the Director of the JESPP project for a decade. As the Assistant Director of the Center for Advanced Computing Research at Caltech, he managed Synthetic Forces Express, bringing HPC to DoD simulations. Prior experience includes being a Director at the Maui High Performance Computing Center and as a Software Engineer at the Jet Propulsion Laboratory and Martin Marietta. He was the Chairman of the Coalition of Academic Supercomputing Centers and has taught at the undergraduate and graduate levels. He saw duty in Vietnam as a USMC Cryptologist and retired as a Commander, Cryptologic Specialty, U.S.N.R. He received B.A. and J.D. degrees from the University of Colorado in Boulder.