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## Critical Thinking Instruction in Academia: What can the U.S. Intelligence Community Expect?

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“I’m calling on our nation’s governors and state education chiefs to develop standards and assessments that don’t simply measure whether students can fill in a bubble on a test, but whether they possess 21<sup>st</sup> century skills like problem-solving and critical thinking and entrepreneurship and creativity [author’s underlines].”<sup>1</sup>

President Barak Obama (2009)

The above remarks by President Obama when presenting his 2009 Education Plan highlight the recent societal emphasis in teaching critical and creative thinking to U.S. students. While this emphasis has been a topic in both the U.S. media and education circles for over two decades, the actual teaching of critical and creative thinking lags far behind the discourse. This presentation reviews the current situation with teaching critical and creative thinking in U.S. post-secondary institutions and offers this situation falls far short of what is needed in Intelligence Community (IC) new employees.

Critical thinking is important because it is important to employers. In a 2012 IBM Global CEO Study, 1,709 CEOs, general managers and senior public sector officials ranked interpersonal skills of collaboration, communication, creativity [critical thinking] and flexibility as the most important factors in employee success in today’s complex, interconnected work environment.<sup>2</sup> In both the public and private sectors employers want employees with critical and creative thinking skills so they can analyze situations, solve problems, make good decisions and communicate their positions clearly and logically.

Since the September 11, 2001 (9/11) terrorist attacks on the United States, an emphasis has been placed on the use of critical thinking in the IC. After 9/11, the National Security Agency, Defense Intelligence Agency and the U.S. military services made critical thinking skills part of basic intelligence analyst training.<sup>3</sup> At the same time, the Central Intelligence Agency and the National Counter-Terrorism Center emphasized the use of structured analytic techniques to improve intelligence analysis.<sup>4</sup> The Office of the Director of National Intelligence in its 2008

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<sup>1</sup> Quoted in “The Partnership’s Statement on President Barack Obama’s Education Plan,” Partnership for 21<sup>st</sup> Century Skills, March 11, 2009, available at: <http://www.p21.org/events-aamp-news/press-releases/628-the-partnerships-statement-on%20-president-barack-obamas-education-plan>.

<sup>2</sup> Creativity is generally defined in the public and private sectors as encompassing critical and creative thinking; “IBM CEO Study: Command & Control Meets Collaboration,” IBM, May 22, 2012, available at: <http://www.ibm.com/news/ca/en/2012/05/22/q198321g11062s84.html>.

<sup>3</sup> David T. Moore, *Critical Thinking and Intelligence Analysis* (Washington, DC: National Defense Intelligence College, Center for Strategic Research, 2009).

<sup>4</sup> US Government, *A Tradecraft Primer: Structured Analytic Techniques for Improving Intelligence Analysis*, (McLean, VA: Sherman Kent School’s Center for Analytic Tradecraft, US Central Intelligence Agency, 2009), available at: <https://www.cia.gov/library/center-for-the-study-of-intelligence/csi-publications/books-and-monographs/Tradecraft%20Primer-apr09.pdf>.

publication Analytic Transformations prescribed IC analyst training should include both critical thinking and structure analysis techniques.<sup>5</sup>

Academia responded to the need for students with critical and creative thinking skills as a result of the growing demands. The U.S. Council for Higher Education Accreditation (CHEA) and regional accrediting bodies for U.S. colleges and universities began requiring institutions to implement quality enhancement programs (QEP), which include teaching of critical and creative thinking. How QEP has been implemented in U.S. colleges and universities differs considerably, thus the actual critical and creative thinking skills of graduates vary widely.<sup>6</sup>

One of the challenges to implementing quality critical thinking instruction is the lack of a clear definition of critical thinking. The concept of critical thinking has existed for centuries. For example:

“Critical thinking is a desire to seek, patience to doubt, fondness to mediate, slowness to assert, readiness to consider, carefulness to dispose and set in order; and hatred for every kind of imposter.”<sup>7</sup>

Francis Bacon (1605)

A more current definition of critical thinking includes:

“Critical thinking is the art of thinking about thinking while thinking in order to make thinking better.”<sup>8</sup>

Richard Paul & Linda Elder (2006)

Differing definitions and views of critical thinking have resulted in a number of approaches to including critical thinking in curriculums. Programs in the Social and Hard Sciences teach the scientific method and often consider it the best approach for teaching critical thinking. In Philosophy and the Humanities the teaching of logical argumentation, having its roots in the works of Socrates, Plato, and Aristotle, is the focus of these disciplines’ critical thinking instruction.<sup>9</sup> In the world of Business and Management, the thinking tools of Edward de Bono are often adopted.<sup>10</sup> The de Bono thinking tools have also been instituted in some secondary school curriculums. Structured analytic techniques are another approach to critical thinking taught mainly in IC training courses and selected academic programs in intelligence studies.<sup>11</sup>

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<sup>5</sup> Office of the Director of National Intelligence, *Analytic Transformation, Unleashing the Potential of a Community of Analysts* (Washington, DC: Office of the Director of National Intelligence, 2008).

<sup>6</sup> An Internet search using key words for U.S. regional accrediting bodies and quality enhancement program or critical thinking (e.g., SACS QEP) will provide a list of college and university differing approaches to teaching critical thinking.

<sup>7</sup> Quoted on homepage of the Foundation for Critical Thinking, available at: <http://www.criticalthinking.org>.

<sup>8</sup> Richard Paul and Linda Elder, *Critical Thinking, Learn the Tools the Best Thinkers Use* (Upper Saddle River, NJ: Pearson-Prentice Hall, 2006): xiii.

<sup>9</sup> Robert H. Ennis, *Critical Thinking* (Upper Saddle River, NJ: Prentice Hall, 1996).

<sup>10</sup> Edward de Bono, *de Bono’s Thinking Course* (New York: Facts on File, Inc., 1994).

<sup>11</sup> Richards J. Heuer, Jr. and Randolph H. Pherson, *Structured Analytic Techniques for Intelligence Analysis* (Washington, DC: CQ Press, 2011).

A comprehensive approach to critical thinking is promoted by the California-based Foundation for Critical Thinking.<sup>12</sup> The Foundation for Critical Thinking framework is the one adopted by the IC and many post-secondary institutions for teaching critical thinking. The Foundation for Critical Thinking framework is widely considered the best approach for teaching and employing critical thinking skills. This approach is both active—meaning it makes users think about their thinking process (i.e., meta-cognition)—and it is systematic—meaning it provides a framework users can adapt for any critical thinking situation. The Foundation for Critical Thinking calls on users to adopt the framework as a system of thought usable for any personal or professional pursuit requiring problem-solving, evaluation, analysis, or reflection and for communicating the results of the thinking.

The Foundation for Critical Thinking framework is based on ten Elements of Thought—purpose, question, information, context, point of view, assumptions, concepts, alternatives, interpretations/inferences and implications/consequences.<sup>13</sup> There is no required order for using the ten elements. The user may employ the elements in the order best fitting the situation under analysis; however, each situation of problem-solving or other analyses should consider each element to make sure the user has not overlooked an important aspect in their thinking. The framework is easy to learn and provides a structure for analysts to organize their thinking. The framework can incorporate other critical thinking frameworks previously discussed. For example, structured analytic techniques provide distinct tools for use with individual elements, such as Deception Detection directly applicable to the information element.<sup>14</sup> The Elements of Thought are designed to help users overcome cognitive bias problems, such as the tendency to jump to conclusions or consider only information supporting pre-conceived views. The Elements of Thought are used in conjunction with a set of Intellectual Standards which allow a check of the quality of the overall analysis and assists the user in preparing quality written or oral presentations of their analytic results.

Creative thinking is closely related to critical thinking, but they are not the same.<sup>15</sup> Creative thinking involves bringing intuition, emotions and other non-systematic techniques into an analysis—aspects normally frowned upon in critical thinking. The best way to conceptualize creative thinking is as “out-of-the-box” thinking resulting in the alternative answers or solutions that would not otherwise be considered in a critical thinking-based analysis. Once the “out-of-the-box” alternatives are developed, then they are inserted into the critical thinking framework for testing and evaluation.<sup>16</sup>

There are a number of reasons critical and creative thinking teaching have found limited acceptance in U.S. post-secondary institutions. First, professors often do not have a strong

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<sup>12</sup> Paul and Elder, *Critical Thinking, Learn the Tools the Best Thinkers Use*.

<sup>13</sup> Gerald M. Nosich, *Learning to Think Things Through, A Guide to Critical Thinking Across the Curriculum* (Boston: Pearson, 2012): 49.

<sup>14</sup> Katherine Hibbs Pherson and Randolph H. Pherson, *Critical Thinking for Strategic Intelligence* (Washington, DC: CQ Press, 2013).

<sup>15</sup> Russell Carpenter, Charlie Sweet and Hal Blythe, *Introduction to Applied Creative Thinking, Taking Control of Your Future* (Stillwater, OK: New Forum Press, Inc., 2012).

<sup>16</sup> Michael Michalko, *Creative Thinking, Putting Your Imagination to Work* (Novato, CA: New World Library, 2011).

understanding of critical and creative thinking.<sup>17</sup> Second, many professors who have used other critical thinking approaches previously discussed feel they are already including critical thinking in their courses. Third, many professors with years of teaching using a passive teaching approach are not inclined to adopt the more active teaching approach required to include critical thinking in their courses.<sup>18</sup> Finally, teaching critical thinking requires curriculum-wide acceptance to allow student skills to be reinforced and frequently practiced—a situation seldom present in most institutions.<sup>19</sup> Even when institutions place a strong emphasis on teaching critical thinking, these reasons may derail their efforts. For example, the author’s institution promoted a major 5-year effort for implementing critical thinking across all undergraduate and graduate degree programs. Instruction was offered to professors on the foundations of critical thinking and how to institute critical thinking in their courses, in addition to providing a variety of Foundation for Critical Thinking references and classroom materials to assist in their teaching. After 5-years, it is estimated only 15 percent or fewer campus-wide professors took advantage of the critical thinking teaching initiatives. Additionally, only a few degree programs implemented curriculum-wide application of the critical thinking teaching.

With this overview of the demand for critical thinking and efforts to meet the demand, there are several key lessons the author offers the IC in the hiring and training of new employees.

- There is little consistency in how, or even if, U.S. post-secondary institutions include critical thinking in their curriculums. Thus, students directly out of undergraduate or graduate programs may or may not have been exposed to or mastered critical thinking skills. This requires the IC to continue intensive critical thinking instruction for its new employees.
- The IC should not expect students directly out of undergraduate or graduate schools to have creative thinking skills. Few U.S. post-secondary institutions teach creative thinking.
- Students from quality U.S. undergraduate and graduate programs should develop critical thinking skills rapidly if they already have strong skills in information literacy and written and oral communication.

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<sup>17</sup> S. Chee Choy and Phaik Kin Cheah, “Teacher Perceptions of Critical Thinking Among Students and its Influence on Higher Education,” *International Journal of Teaching and Learning in Higher Education* 20, no. 2 (2009): 205.

<sup>18</sup> The passive approach to teaching is characterized by students completing readings, listening to lectures, memorizing facts for examinations, and being assessed by mainly recall-type examinations (multiple choice, etc.). The passive approach is weak at fostering student long-term learning. The active approach to teaching fosters long-term learning by having students take a more active role in their learning. In the active approach students are required to come to class prepared, lectures are minimized, individual and small group exercises are maximized and assessment is completed through student response to “thought” questions; John C. Bean, *Engaging Ideas, The Professor’s guide to Integrating Writing, Critical Thinking and Active Learning in the Classroom* (San Francisco, CA: John Wiley & Sons, Inc., 2011).

<sup>19</sup> Choy and Cheah, “Teacher Perceptions of Critical Thinking Among Students and its Influence on Higher Education,” 205.