

AN ANNOTATED LIST OF CRITICAL THINKING TESTS

Robert H. Ennis, Professor Emeritus, University of Illinois UC. Revised December, 2009

1. GENERAL-CONTENT, MULTI-ASPECT, CRITICAL THINKING TESTS

Assessment of Reasoning and Communication (Reasoning Subtest (offered in conjunction with Writing and Speaking Subtests)), (1986). College Outcome Measures Program, The American College Testing Program (ACT), PO Box 168, Iowa City, IA 52243. Aimed at students finishing college, but probably usable with other levels as well. Open-ended, requiring student to produce three short essays and three short speeches. Locally gradable, requiring graders to make judgments about pertinence, relevance, plausibility, reasonableness, and realism of student responses; graded on the basis of the number of responses judged successful (from 0 to 4). Gradable on request by ACT experts. Yields total subtest score plus part scores in social reasoning, scientific reasoning, and artistic reasoning.

The California Critical Thinking Skills Test: College Level (1990), by Peter Facione. The California Academic Press, 217 LaCruz Ave, Millbrae, CA 94030. Aimed at college students, but probably usable with advanced and gifted high school students. Multiple-choice, incorporating interpretation, argument analysis and appraisal, deduction, mind bender puzzles, and induction (including rudimentary statistical inference).

The California Critical Thinking Dispositions Inventory (1992) by Peter Facione and N. C. Facione. California Academic Press, 217 LaCruz Ave., Millbrae, CA 94030. A multiple-choice attempt to assess critical thinking dispositions. Probably useful for self-appraisal and, as anonymous information, for research and evaluation of groups.

Collegiate Learning Assessment ("CLA"), (no date, but recent). The Council for Aid to Education (CAE), 215 Lexington Ave, Floor 21, New York NY 10016-6023. Constructed response to computer-administered tasks, each of which is to be done within 90 minutes. Each provides a problem and documents to use in producing an answer to a question and a written recommendation accompanied by written justification and consideration of alternatives. Focuses on critical thinking, analytic reasoning, problem solving, and written communication. Generally the institution is the primary unit of an analysis that emphasizes a "value-added" approach to appraising the institution.

Cornell Critical Thinking Test, Level X (2005), by Robert H. Ennis and Jason Millman. The Critical Thinking Company (formerly Midwest Publications), PO Box 1610, Seaside, CA 93955. Aimed at Grades 4-14. Multiple-choice; sections on induction, credibility, observation, deduction, and assumption identification. Fifth Edition of Manual (2005) available.

Cornell Critical Thinking Test, Level Z (2005), by Robert H. Ennis and Jason Millman. The Critical Thinking Company (formerly Midwest Publications), PO Box 1610, Seaside, CA 93955. Aimed at college students and adults, but usable with advanced or gifted high school students. Multiple-choice; sections on induction, credibility, prediction and experimental planning, fallacies (especially equivocation), deduction, definition, and assumption identification. Fifth Edition of Manual (2005) available.

Critical Thinking (1996). Author unlisted, but Alec Fisher has been instrumental in the development of this test. Local Examinations Syndicate, University of Cambridge, Syndicate Building, 1 Hills Road, Cambridge CB1 2EU, United Kingdom. Aimed at post-secondary students. Two parts: a half-hour, 15-item, multiple-choice test of argument assessment; and a one-hour essay test calling for critical evaluation of an argument and for further argumentation.

Critical Thinking Interview (1998), by Gail Hughes and Associates. Minnesota State Colleges and Universities. Available from Gail Hughes, 141 Warwick St. S.E., Mpls., MN 55414 (e-mail: hughe038@tc.umn.edu). Aimed at

college students and adults. About one half hour for a one-to-one interview. People being tested are interviewed about an issue of their choice, and rated on a combination of their displayed subject-matter knowledge and reasoning. Emphasis is on clarity, context, focus, credibility, sources, familiarity with the topic, assumption identification, and appropriate use of such reasoning strategies as generalization, reasoning to the best explanation, deduction, values reasoning, and reasoning by analogy.

Critical Thinking Test (1989). ACT CAAP Operations (85), PO Box 1688, Iowa City, IA 52243. One of a series of College Assessment of Academic Proficiency tests done by ACT, and aimed at students at the end of their second year in college, though probably usable at other levels. Multiple-choice items based on passages to be read. Calls for such things as identifying conclusions, inconsistency, and loose implications; judging direction of support, strength of reasons, and representativeness of data; making predictions; noticing other alternatives; and hypothesizing about what a person thinks.

The Ennis-Weir Critical Thinking Essay Test (1985), by Robert H. Ennis and Eric Weir. Critical Thinking Press and Software (formerly Midwest Publications). Publication discontinued by original publisher. However, together with the "Supplementary Test/Manual" (November, 2005; includes user norms, validity and reliability data), this test is available for downloading at no cost from Ennis' academic Web site (see Note 3 below). Aimed at grades 7 through college. Intended to be used for both formative and summative evaluation, but also as a teaching material, and. Incorporates getting the point, seeing the reasons and assumptions, stating one's point, offering good reasons, seeing other possibilities (including other possible explanations), and responding to and avoiding equivocation, irrelevance, circularity, reversal of an if-then (or other conditional) relationship, overgeneralization, credibility problems, and the use of emotive language to persuade. The last three pages, which constitute the actual test, may be photocopied in quantity.

ICAT Critical Thinking Essay Examination (1996). The International Center for the Assessment of Thinking (under the leadership of Richard Paul), PO Box 220, Dillon Beach, CA 94929. Provides eight criteria (to be shown to students in advance and also to be used for grading by trained graders). Students respond to an editorial (selected by test administrator) by writing an essay summarizing it, identifying its focus, and commenting on its strengths and weaknesses.

James Madison Test of Critical Thinking (2004). The Critical Thinking Company, PO Box 1610, Seaside, CA 93955. Aimed at grade 7 through college. Emphasis on elementary deductive logic; also deals with informal fallacies and assumption ascription. Multiple choice.

Measure of Academic Proficiency and Progress ("MAPP"), (2005). Educational Testing Service, PO Box 6000, Princeton, NJ 08541. A measure of college-level reading, mathematics, writing, and critical thinking in the context of the humanities, social sciences, and natural sciences. Multiple-choice. Standard forms: two hours. Abbreviated forms: 40 minutes. Web or paper-and-pencil delivery.

New Jersey Test of Reasoning Skills (1983), by Virginia Shipman. Institute for the Advancement of Philosophy for Children, Test Division, Montclair State College, Upper Montclair, NJ 08043. Aimed at grades 4 through college. Multiple-choice, incorporates the syllogism (heavily represented), assumption identification, induction, good reasons, and kind and degree. Single copies free. Photocopying requires permission.

Tasks in Critical Thinking (1993). Educational Testing Service, PO Box 6000, Princeton, NJ 08541. A variety of tasks calling for critical thinking. Requires specially trained graders.

The Test of Everyday Reasoning (1998) by Peter Facione. California Academic Press, 217 La Cruz Ave., Millbrae, CA 94030. Derived from *The California Critical Thinking Skills Test* (listed above), with multiple-choice selection of justifications added.

Test of Inference Ability in Reading Comprehension (1987), by Linda M Phillips and Cynthia Patterson. Centre for Research on Literacy, 635 Education Centre South, University of Alberta, Edmonton, Alberta T6G 2G5 Canada. Aimed at grades 6-8. Tests for ability to infer information and interpretations from short passages. Multiple-choice

version (by both authors) and constructed-response version (by Phillips only).

Watson-Glaser Critical Thinking Appraisal (1980), by Goodwin Watson and Edward Maynard Glaser. Harcourt Assessment, Inc., 19500 Bulverde Road, San Antonio, TX 78259. Aimed at grade 9 through adulthood. Multiple-choice; sections on induction, assumption identification, deduction, judging whether a conclusion follows beyond a reasonable doubt, and argument evaluation.

2. GENERAL-CONTENT, ASPECT-SPECIFIC, CRITICAL THINKING TESTS

Cornell Class Reasoning Test (1964), by Robert H Ennis, William L. Gardiner, Richard Morrow, Dieter Paulus, and Lucille Ringel. Illinois Critical Thinking Project, Champaign, IL. Available at no cost on Ennis' academic web site (see Note 3 below). Developed for research purposes, but usable in standard classrooms. The research report with considerable data is *Critical Thinking Readiness in Grades 1-12* (USOE Cooperative Research Project #1680), New York State College of Agriculture, Cornell University, 1965 (ERIC Document # ED 003 818). Aimed at grades 4-14. Multiple-choice. Tests for a variety of forms of (deductive) class reasoning.

Cornell Conditional Reasoning Test (1964), by Robert H. Ennis, William Gardiner, John Guzzetta, Richard Morrow, Dieter Paulus, and Lucille Ringel. Illinois Critical Thinking Project, Champaign, IL. Available at no cost on Ennis' academic web site (see Note 3 below). Developed for research purposes, but usable in standard classrooms. The research report with considerable data is *Critical Thinking Readiness in Grades 1-12* (USOE Cooperative Research Project # 1680), New York State College of Agriculture, Cornell University, 1965 (ERIC Document # ED 003 818). Aimed at grades 4-14. Multiple-choice. Tests for a variety of forms of (deductive) conditional reasoning.

Test on Appraising Observations (1983), by Stephen P. Norris and Ruth King. Department of Educational Policy Studies, University of Alberta, Education North 7-104, Edmonton, Alberta T6G 2G5 Canada. Aimed at grades 7-14. Multiple-choice. Tests for ability to judge the credibility of statements of observation. Multiple-choice and constructed response versions.

3. SUBJECT-SPECIFIC, MULTI-ASPECT, CRITICAL THINKING TESTS

Packets (1994). Made by Educational Testing Service, (ETS), Princeton, NJ 08541; distributed by D.C.Heath and Company, 1157 Eichelberger Street, Hanover, PA 17331. A set of practical real-life problems calling for various aspects of mathematics in deciding on data to be gathered and designing and implementing procedures for drawing conclusions. Aimed at the middle school level.

Science Reasoning (1989). ACT CAAP Operations (85), PO Box 1688, Iowa City, IA 52243. One of a series of College Assessment of Academic Proficiency tests done by ACT, and aimed at students at the end of their second year in college, though probably usable at other levels. Multiple-choice items based on passages, diagrams, and tables. Although not deep in its requirement of science knowledge, this test expects some familiarity with scientific vocabulary and concepts. Asks students to read with comprehension, identify conclusions, interpret data, evaluate experiments, draw probable conclusions from data, and hypothesize best explanations. Uses natural science content.

NOTES:

1. Because I am the co-author of some of these tests, I have a conflict of interest. See Judith A. Arter and Jennifer R. Salmon's *Assessing Higher Order Thinking Skills* (Portland, OR: Northwest Regional Educational Laboratory, 1987) for another listing and discussion.

2. A "general-content" critical thinking test uses content from a number of subject matter areas and/or everyday life experiences, content with which most people at the target level of sophistication can be expected to be familiar. A "subject-specific" critical thinking test uses content from one subject-matter area.

3. A “multi-aspect” critical thinking test assesses more than one aspect of critical thinking, usually the ones that the test maker feels are the most basic and important for the level of sophistication of the target level of sophistication. An “aspect-specific” critical thinking test assesses only one aspect of critical thinking, such as, ability to judge the credibility of sources. I have found no subject-specific, aspect-specific, critical thinking tests.

4. For extended discussions of assessing critical thinking see these items:

- Fisher, Alec & Scriven, Michael (1997). *Critical thinking: Its definition and assessment*. Point Reyes, CA: Edgepress
- Norris, Stephen P. & Ennis, Robert H. (1989). *Evaluating critical thinking*. Pacific Grove, CA: Midwest Publications
- Sobocan, Jan & Groarke, Leo (Eds.), (2009). *Critical Thinking Education and Assessment: Can Higher Order Thinking Be Tested?* London, Ontario: The Althouse Press.

5. If you know of any other published and available critical thinking tests, or of problems in obtaining one of these listed tests, please let me know: 3904 Trentwood Place, Sarasota, FL 34243; e-mail: rhennis@illinois.edu. My academic web site, containing a variety of interdependent references and some free tests, is <http://faculty.ed.uiuc.edu/rhennis>.

6. A number of widely available standardized tests incorporate critical thinking, although critical thinking, I believe, is not an exclusive focus. Among them are ACT (*American College Test*), AP (*Advanced Placement*), GRE (*Graduate Record Examination*), ITED (*Iowa Test of Educational Development*), LSAT (*Law School Admissions Test*), and MCAT (*Medical College Admissions Test*).

7. If you can, take the test yourself and grade yourself. Ask: For these students, is it likely to assess what you want assessed without undue strain on your and your institution’s resources. Also check other aspects of its validity and “reliability” for your situation.

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