NEIL STILLINGS: VITA

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Education

Ph.D. in psychology, Stanford University, 1973
B.A. in psychology, Amherst College, 1966

Awards & Fellowships

NIH predoctoral fellowship, Stanford University, 1969-70
NDEA ttitle IV fellowship, Stanford University, 1966-69
Phi Beta Kappa, Sigma Xi, Honors in Psychology, Amherst College, 1966

Academic Positions

Professor of Psychology, Hampshire College, 1987 – present
(Currently also Dean of the School of Cognitive Science, appointment 2005-2010)
Assistant & Associate Professor of Psychology, Hampshire College, 1971 – 1987
Member of the Graduate Faculty, University of Massachusetts, Amherst, 1977 – present
(uncompensated)
Visiting Assistant Professor of Psychology, Stanford University, 1975-76

Grants

- PI: National Workshop on Research & Undergraduate Education at the Intersections of Culture, Mind, Brain, & Development, 2006-2008. (NSF Grant No. 0623832, $47,000)
- PI: Hampshire College Center for Science Education: Expansion of Science Education Research & Outreach Activities, 2006-2008. (Department of Energy Grant No. DE-FG02-06ER64256, $481,000)
- Co-PI: Assessment of Model-Based Reasoning in Biology, 2005-2008. (NSF Grant No. 0512725, $325,000).
- Co-PI & co-organizer of the workshop, Bringing Research on Learning to the Geosciences. July 8-10, 2002. Co-sponsored by the Johnson Foundation & the NSF (Grant No. 0213065, $57,081). http://www.dlesecommunity.carleton.edu/research_on_learning/workshop02/
- Co-organizer of the Workshop on Molecular Visualization & Science Education: Promoting Collaboration Across Disciplines. January 12-14, 2001. Funded by the NSF (Grant No. 0095023, $208,106). Co-author of final report, available at http://pro3.chem.pitt.edu/workshop/index.html

- PI: The Development of Scientific Thinking and Conceptions of Science in College Science Students, 1999-2004. (NSF Grant No. 9980519, $997,612). A research and instructional intervention project on higher-order cognitive outcomes in college science students.
- Co-PI: An Inquiry-Based Simulation Learning Environment for the Ecology of Forest Growth, 1999-2003. (NSF Grant No. 9972486, $240,406). Development of simulation software and curriculum for inquiry-oriented instruction in ecology for grades 7-16. http://helios.hampshire.edu/~DDC/simforest/
- PI: Inquiry-Based Science Education: Cognitive Measures and Systems Support, 1997-2000. (NSF Grant No. 9720363, $1,092,499). Development of inquiry-oriented educational software based on cognitive principles.
- Co-PI: Program Enhancement and Expansion for the Hampshire College Center for Science Education, 2002-04. (Department of Energy grant DE-FG02-02ER63397, $726,000. http://cese.hampshire.edu/). Work with Springfield, MA schools on science curriculum and teacher development.
- PI & organizer: Workshop on Undergraduate Education in Cognitive Science, May 21-23, 1993. (NSF Grant No. 9215539, $27,458). Author of final report, available at http://helios.hampshire.edu/~nasCCS/nsfreport
- PI & organizer: Summer 1986 National Workshop for Teachers of Undergraduate Cognitive Science. (Alfred P. Sloan Foundation grant no. 1986-14, $24,000).
- PI: Laboratory for Advanced Cognitive Modeling. (NSF Grant No. 9052361).
- PI: Microcomputer Control of Experiments in Cognitive Psychology and Psycholinguistics. (NSF Grant No. 8163019, $7,045).

Selected administrative positions & service activities at Hampshire College

Co-founder & Steering Committee member, Culture, Brain, and Development Program, Hampshire College (5-year, 2003-08, $1 million grant to Hampshire College from The Foundation for Psycho-Cultural Research, http://www.thefpr.org/programs_funding/programs.html)

Co-founder of the School of Cognitive Science and Dean of the School, 1973-74, 1978-80, 1997-98, 2005-2010

Chair, Search Committee for Vice President of Academic Affairs/Dean of Faculty, 2008-09.

Faculty representative (voting member) Hampshire College Board of Trustees, 1990-92

Chair of Budget and Priorities Committee, 1991-92

Member of the College Committee on Faculty Reappointments and Promotions, 1976-77, 1983-84, and 2001-02

Faculty representative to the Finance Committee Hampshire College Board of Trustees, 1977-82

Educational Policy Committee, member 1989-90, chair 2000-2001

Selected professional activities outside of Hampshire College

Member of the expert working group that produced a Synthesis of Research on Thinking & Learning in the Geosciences under NSF grant DRL07-22268 (Kim Kastens & Cathy Manduca, PI's, 2008-08).

Member of NSF proposal review panels for NSF's ROLE, REPP, LIS/KDI, and REU programs (various years)

Member of NSF panels that reviewed the Foundation's priorities in undergraduate education (Workshop on Contributions of the Social Sciences to the NSF Review of Undergraduate Education,1996), educational research (Workshop on Re-conceiving the REPP Program, 1996), instructional technology (Workshop on ITR priorities convened by Nora Sabelli, Palo Alto, 2002), and biology education (Conversation on the Future of Biology Education, July, 2007).

Evaluation research and/or advisory consulting to

The Mind Project, NSF-CCLI funded (2000 – 2008, David Anderson, PI)

Maryland Physics Education Group (July 2007, NSF grant 0440113, David Hammer & Joe Redish PI's)

The Physiology Education Research Consortium, NSF-REPP funded (2000 – 2003, Harold Modell and Joel Michael, PI's))

Mount Holyoke College Geoscience Department, NSF-CCLI funded (2000 – 2003, Lauret Savoy, PI)

Holocene and Modern Climate Change in the High Arctic: Establishing an REU site on Svalbard, Norway, NSF-ARC-REU funded (2003-present, Al Werner, PI)

Organizational work (recruiting cognitive science speakers and organizing panels) for the Gordon Research Conference, Visualization in Science and Education, International (2001, 2003, 2005)

Courses taught

Cognitive Science
Cognitive Psychology
Experimental Psychology
Visual Perception and Cognition
Psychology of language
Brain, Cognition, and Culture
Music Perception
Music: Brain & Development
Sound, Music, & Mind
Cognition and education
Human judgment and rationality

Publications, Major Reports, and Theses

Stillings, N. A. (1967). The effect of fear of failure on choice of strategy in prisoner's dilemma. Technical Report No. 22, ONR contract Nonr 3591(01). B. A. honors thesis, Amherst College.

Estes, W. K., Allen, G. A., and Stillings, N. A. (1968). Reaction time as a function of noncontingent reward magnitude. *Psychonomic Science, 10(10)*, 337-38.

Stillings, N. A. (1973). Experiments on the use of the meaning rules for some English verbs. Ph.D. dissertation, psychology, Stanford University. *Dissertation Abstracts International, 33(12-B)*, 6119-6120.

Stillings, N. A. (1975). Meaning rules and systems of inference for verbs of transfer and possession. *Journal of Verbal Learning & Verbal Behavior, 14(5)*, 453-470.

Stillings, N. A. (1976). Language, culture, and explanation. Review of G. W. Kelling, *Language: Mirror, Tool, and Weapon*, Nelson-Hall, 1975. *Contemporary Psychology, 21(1)*, 48-49.

Stillings, N. A. (1977). Cultural relativity and psychiatric labeling. Letter to *Science*, *196*, 482-84.

Stillings, N. A. (1977). The new psycholinguistics. Review of R. J. Wales and E. Walker (Eds.),

New Approaches to Language Mechanisms, North-Holland, 1977. *Contemporary Psychology, 22(10)*, 752-53.

Bonanno, G. & Stillings, N. A. (1986). Preference, familiarity, and recognition after repeated brief exposures to random geometric shapes. *American Journal of Psychology*, *99(3)*, 403-415.

Rosenbaum, D. A., Gordon, A. M., Stillings, N. A., and Feinstein, M. (1987). Stimulus response compatibility in the programming of speech. *Memory & Cognition*, *15(3)*, 217-224.

Stillings, N. A. (1987). Modularity and naturalism in theories of vision. In Garfield, J. L., Ed., *Modularity in knowledge representation and natural-language understanding*. Cambridge, MA: MIT Press

Stillings, N. A., et al. (1987). *Cognitive science: An introduction (1st ed.)*. Cambridge, MA: MIT Press. [First author, editor, and primary author of four chapters.]

Feinstein, M. and Stillings, N. A. (1987). Linguistics, cognitive science, and the undergraduate curriculum. In D. T. Langendoen (Ed.), *Linguistics in the Undergraduate Curriculum*. Linguistic Society of America.

Stillings, N. A. (1987). Language from another point of view. Review of H. Hörmann, 1986, *Meaning and context: An introduction to the psychology of language*, Plenum Press. *Contemporary Psychology*, *32(8)*, 722-23.

Stillings, N. A. (1989). Inquiry and cognitive psychology. In Frederick Weaver (Ed.), *Promoting Inquiry in Undergraduate Learning, vol. 38 in the New Directions in Teaching and Learning Series*. San Francisco: Jossey-Bass.

Stillings, N. A. (1989). Cognitive Science and Consciousness. Review of R. Jackendoff, 1987, *Consciousness and the computational mind*, MIT Press. *Contemporary Psychology, 34(1)*, 15-16.

Stillings, N. A. (1992). Cultural variation in cognition and theories of cognitive architecture. In J. Miller and P. Glazer Eds., *Words That Ring Like Trumpets*. Amherst, MA: Hampshire College.

Stillings, N. A., et al. (1995). *Cognitive science: An introduction (2nd ed.)*. Cambridge, MA: MIT Press. [First author, editor, and author of four chapters.]

Stillings, N. A. (1995). Cognitive Science in the Undergraduate Curriculum. Final report of the National Workshop On Undergraduate Cognitive Science Education, Washington, D.C., May 1993. Washington, D.C.: National Science Foundation. Available on the World Wide Web at http://helios.hampshire.edu/~nasCCS/nsfreport.html

Jones, L., Jordan, K., and Stillings, N. A. (2002). Molecular visualization in science education. Report from the Molecular Visualization In Science Education Workshop sponsored by the NSF. NCSA Access Center, Arlington, VA January 12-14, 2001. http://pro3.chem.pitt.edu/workshop/index.html

Manduca, C., Mogk, D., & Stillings, N. (2004). Bringing Research on Learning to the Geosciences. Report from a national workshop sponsored by the NSF & the Johnson Foundation. http://serc.Carleton.edu/research_on_learning

Jones, L. L., Jordan, K. D. and Stillings, N. (2005). Molecular visualization in chemistry education: The role of multidisciplinary collaboration. *Chemistry Education Research and Practice, 6(3)*, 146-49.

Selected Presentations

Stillings, N. A., Ramirez, M. A., & Wenk, L. (1999). Assessing critical thinking in a student-active science curriculum. Presented at NARST meeting, Boston, MA March 28-31, 1999.

Stillings, N. A., Ramirez, M. A., & Wenk, L. (2000).Teaching and learning the nature of science in inquiry-oriented college science courses. Presented at the 2000 AERA meeting, New Orleans, LA, April 24-28, 2000.

Stillings, N. A. (2001). From the visual to the mental model and back: A cognitive perspective on molecular visualization. Invited address at Science Education and Visualization: International. A Gordon Research Conference. August 5-10, 2001, Mt. Holyoke College, South Hadley, MA

Stillings, N. A. (2002). An approach to software for college-level inquiry learning. Invited paper presented at Instructional Design for New Technology-Enabled Approaches to Learning, a national workshop sponsored by the Learning Federation, Dec. 5-6, 2002, Orlando, FL.

Stillings, N. A. (2002). Advancing our understanding and assessment of student learning through classroom-oriented research partnerships. Paper presented at Pathways to Change: An International Conference on Transforming Math & Science Education in the K16 Continuum, Washington, DC, April 18-22, 2002.

Stillings, N., Khan, S., & Clement, J. (2002, April). Guiding hypothesis construction & evaluation in college chemistry. Presented at the Annual Meeting of the National Association for Research in Science Teaching, New Orleans, LA.

Kastens, Kim A., Manduca, C. A., Cervato, C., Frodeman, R., Goodwin, C., Liben, L. S., Mogk, D. W., Spangler, T. C., Stillings, N., and Titus, S. (2008). Synthesizing Research on Thinking and Learning in the Geosciences: An Interdisciplinary Collaborative Project. Paper No. 274-7, presented at the Joint Meeting of The Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM, October 5-9, 2008, Houston, TX.

Khan, S., Stillings, N., Tronsky, L., Wenk, L, & Izumi, A. (2002, April). The integration of multiple, compact simulations to achieve process and content goals in an introductory chemistry course. Presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Khan, S., Stillings, N., Tronsky, L., Wenk, L, & Izumi, A. (2002, April). Reasoning processes of introductory chemistry students using multiple compact simulations. Presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

Khan, S., Stillings, N., Clement, J. & Tronsky, L. (2002, April). The impact of an instructional strategy using computer simulations on inquiry skills in chemistry. Presented at the Annual Meeting of the National Association for Research in Science Teaching, New Orleans, LA.

Stillings, N. (2002). How Findings from Cognitive Science Can Improve Molecular Visualization. Presented at the Future Directions for Molecular Visualizations in Education Workshop, Dec. 16, National Science Foundation, Arlington, VA.

Stieff, M., Stillings, N., Taagepera, M., Arasasingham, R. (2003). Characterizing Chemistry Problem Solving With Convergent Approaches From Chemistry, Education & Psychology.

Presented at the Annual Meeting of the National Association for Research in Science Teaching, April 1-4, Vancouver, BC.

Murray, T., Winship, L., Woolf, B., Bruno, M., Stillings, N. (2003). Two Approaches Supporting Scientific Inquiry Skills in Post-Secondary Education: Simulation-based Inquiry and Coached Hypothesis Investigation. Poster presentation at the AACU Technology, Learning, and Intellectual Development Conference, October 2003, Cambridge, Massachusetts.

Murray, T., Winship, L. , Stillings, N. (2003). Toward Characterizing Best-Practice Pedagogy for Inquiry in Simulation-Based Leaning Environments. Proceedings of the Cognitive Science Society, July, 2003, Boston, MA.

Murray, T., Winship, L. , Stillings, N. (2003). Measuring Inquiry Cycles in Simulation-Based Leaning Environments. Proceedings of the Cognitive Science Society, July, 2003, Boston, MA.

Murray, T. Winship, L., Stillings, N. (2004). Evaluation of the SimForest Inquiry Learning Environment: Inquiry Cycles and Collaborative Teaching Practices. Presented at the Annual Meeting of the American Educational Research Association, April, San Diego, CA.

Stillings, N. (2004). Envisioning a Visualization Community. Presented at the Current Issues in Visualization Workshop, Sept. 16, National Science Foundation, Arlington, VA.

Martin, A., Clifton, C., Stillings, N., and Morris, J. (2005). The influence of verb-type on syntactic ambiguity: An ERP study. Poster presented at the 18th Annual CUNY Conference on Sentence Processing, March 31-April 2, Tucson, AZ.