

Alan M. Lesgold

Curriculum Vitae

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Education and Degrees

B.A., Psychology (with high honor), Michigan State University, June, 1967.

A.M., Psychology, Stanford University, September, 1968.

Ph.D., Psychology, Stanford University, June, 1971.

Experience

- 2017- Senior Advisor, University Center for Teaching and Learning, University of Pittsburgh
- 2017- Renée and Richard Goldman Dean Emeritus, Professor Emeritus of Education, Psychology, and Intelligent Systems, University of Pittsburgh
- 1971- Senior Scientist (formerly Research Associate), LRDC.
- 1985-2017 University of Pittsburgh, Professor of Psychology and Intelligent Systems (Intelligent Systems appointment since 1987).
- 2014-2016 Renée and Richard Goldman Dean, School of Education, University of Pittsburgh
- 2000-2016 Professor and Dean, School of Education, University of Pittsburgh.
- 1997-2000 Executive Associate Director, Learning Research and Development Center (LRDC), University of Pittsburgh. 1986-1997 Associate Director.
- 1986-1995 Co-Director, Graduate Program in Intelligent Systems Studies, Faculty of Arts and Sciences, University of Pittsburgh.
- 1983-1985 University of Pittsburgh, Director, Learning Skills Research Unit, LRDC.
- 1982-1983 Acting Associate Director, LRDC.
- 1980-1985 University of Pittsburgh, Research Associate Professor of Psychology. 1978-1980: Research Assistant Professor of Psychology. 1971-1978: Assistant Professor of Psychology.
- 1977-1983 Co-Director of the LRDC Computer Facility, University of Pittsburgh.

Awards and Affiliations

Lifetime National Associate of the National Academies, National Research Council, 2004. Doctor Honoris Causa, Open Universiteit Nederland, September, 1999. Educom Medal for contributions to educational technology (awarded by Educom on recommendation of American Psychological Association), 1995. 2001 American Psychological Association Award for Distinguished Contributions of Applications of Psychology to Education and Training. 2004 Human Relations Awardee, Pittsburgh Chapter, American Jewish Committee. 2005 Power of One award, GLSEN. Fellow (Division of Experimental Psychology, Division of Educational Psychology, and Division of Applied Experimental and Engineering Psychologists), American Psychological Association, 1972-present. Fellow, American Psychological Society, 1988-2017. Fellow, American Educational Research Association, 2008-2017. 1983 President, Society for Computers in Psychology (formerly the National Conference for the Use of On-Line Computers in Psychology), 1981 Program Chair, Member, Steering Committee. 1988-1997 Secretary/Treasurer, Cognitive Science Society. 2002-2006 President, Applied Cognitive Psychology Division, International Association of Applied Psychology.

Community Service

Chair, National Academies of Sciences, Engineering, and Medicine Committee on Learning Sciences: Foundations and Applications to Adolescent and Adult Literacy, 2009-2011. Member, National Research Council Board on Testing and Assessment, 1993-1999. Member, Pennsylvania Virtual High School Study Commission, 2008-2009. Governor appointee, 2005-6, Pennsylvania Training America's Teachers Commission. Board member: Pittsburgh Regional Center for Science Teaching. Member, Jewish Learning Commission of United Jewish Federation, 2005-present: First Vice President and then President, Pennsylvania Regional Board, Union for Reform Judaism, 2006. President, 2002-2004, Rodef Shalom Congregation. Member, 2006-2011, Board of YouthWorks. Member, 2005-2013: Board of A+ Schools, 2004-2012. Member, Board of Teaching Matters, 2012-present. Member, executive committee, high school task force, Pittsburgh Public Schools, 2006-2008.

Professional Service

Recent program reviews (since 2017): McGill University, Technion – Israel Institute of Technology.

Member, review panel, Institute of Education Sciences, 2015-2022. Prior service over a number of years.

Member, review committee for all schools of education at Israeli universities, Ministry of Education, Council on Higher Education, Israel, 2014-2015.

Chair, Committee on Learning Sciences: Foundations and Applications to Adolescent and Adult Literacy, National Research Council (2010-2012).

Member, Board on Testing and Assessment, National Research Council, 1993-1998.

Member, Soldier Systems Panel, Army Research Laboratory Technical Assessment Board, National Research Council, 1996-1998.

Chair, Roundtable on Learning, Work, and Assessment, National Research Council, 1997-1998.

Member, Oversight Committee on work force retraining, Working Together Consortium, Pennsylvania Economy League, 1996-7.

Co-Editor, *Machine-Mediated Learning* (1991- 1996). Editorial boards, *Interactive Learning Environments* (until 2000), *Journal of the Learning Sciences* (until 2000), *Journal of Educational Psychology* (1983-5), *Behavior Research Methods and Instrumentation* (1986-1989, 1992-), *Review of Research in Education* (1987-1989). Editor, Ablex book series on applications of cognitive science (with Vimla Patel).

Consultant, Educational Testing Service, 1996. Member, ETS Visiting Panel for Research, 1984-1994 (chair during 1992-4).

Member, IEA National Steering Committee for Computers in Education International Comparisons. 1992-4.

Member, Committee on Strategic Technologies for the Army, Board on Army Science and Technology, National Academy of Sciences, 1989-93.

Consultant, Westinghouse Electric Corporation Science and Technology Center, training studies for Nuclear Regulatory Commission, 1991-1993.

Member, advisory panel, National Science Foundation Science and Engineering Education Directorate, advanced technology, materials production and dissemination, 1987-90, 1992.

Member, Advisory Panel for Computers in Education, Stevens Institute of Technology (1985-91).

Member, Assessment Committee, Secretary's Committee on Acquiring Necessary Skills. U. S. Department of Labor, 1990-1991.

Member, Academic Advisory Committee, Center for Educational Technology, Ramat Aviv, Israel, 1986-90.

Consultant, United Nations Development Programme, 1990. Presentation of workshops on intelligent training systems at National Center for Software Technology, Bombay.

Consultant, Federal Aviation Administration, Air Traffic Training Program Division, air traffic controller training, 1989.

Author of planning paper for Agency for Instructional Technology, 1989.

Author of white paper on intelligent training systems research possibilities for Information Science and Technology Committee, Defense Advanced Research Projects Agency, 1988.

Member, Advisory Panel, Assessment of Computer Uses in U.S. Schools. United States Congress, Office of Technology Assessment, 1986-88.

Consultant, Rothschild Foundation (Yad HaNadiv), Geneva and Jerusalem. 1986.

Commissioned paper, National Academy of Sciences Committee on Military Performance Testing, 1985.

Chair, U. S. Department of Education Conference on Research on Computers in Education, November, 1982.

Reviewer, *American Educational Research Journal*, *American Psychologist*, *Brain and Behavior Sciences*, *Child Development*, *Cognitive Science*, *Journal of Experimental Psychology*, *Journal of Experimental Child Psychology*, *Journal of Research in Personality*, *Journal of Verbal Learning and Verbal Behavior*, *Memory and Cognition*, *Psychological Review*, *Reading Research Quarterly*, *Review of Educational Research*.

Reviewer, National Science Foundation, National Institute of Education, National Library of Medicine, Province of Quebec, Canadian National Research Council, Wadsworth Publishing Company, Worth Publishing Company, Lawrence Erlbaum Associates, Prentice-Hall, Brooks-Cole, Cambridge University Press, MIT Press, Ben Franklin Technology Center of Western Pennsylvania.

Consultant, Advanced Distributed Learning Project, Army Research Laboratory.

Advisory Board, Pittsburgh Science of Learning Center.

Program evaluator, McGill University. Program evaluator, Army Research Institute. Consultant, joint National Institute of Education and Army Research Institute project on future development issues for computer-based instruction.

Consultant, Office of Educational Research and Improvement, U. S. Department of Education.

Consultant, National Institute of Education, Educational Policy.

Consultant, HumRRO, basic skills and technical training.

Consultant, Organization for Economic Cooperation and Development.

Member of various University of Pittsburgh committees and task forces relating to research development and academic computing issues. Provost's appointee to the University Research Council (1984-88) and to the

Executive Committee for Academic Computing (1984-6). Chair, College of Arts and Sciences Natural Science General Education Committee (1989-90). Chair, Education School Dean Search Committee, 1991-1992. Member, Advisory Council on Instructional Excellence, 1998-2000.

Sponsored Research Activity

- 1971-1994: Research supported by contracts between NIE (and predecessors) and University of Pittsburgh, Learning Research and Development Center.
- 1976-1978: With Robert Glaser and James Pellegrino; NATO Award for conference on Cognitive Psychology and Instruction, Amsterdam, 1977.
- 1976-1978: NSF Instructional Scientific Equipment Grant.
- 1978-1981: With James Greeno: Accepted for participation in the SUMEX-AIM computer system for artificial intelligence research related to medical topics. Participation included coverage of all computer and telecommunications costs.
- 1979-1980: With Robert Glaser: Contract from Defense Advanced Research Projects Agency (ARPA) to study skill acquisition and maintenance.
- 1980-1983: With Robert Glaser: Contract from Office of Naval Research (ONR) to study skill acquisition and maintenance.
- 1982-1984: With Isabel Beck and Robert Glaser: Grant from Buhl Foundation for work on computer-based reading instruction.
- 1983-1986: With Robert Glaser and David Bartholomae: Grant from Ford Foundation to develop word processing and text analysis tools for remedial college writing courses, using a data base of errors made in these students' essays.
- 1983: Equipment grant from the Department of Defense to provide artificial intelligence hardware (Lisp engines) needed for prototype intelligent tutor development.
- 1983-1990: Contract from Office of Naval Research to coordinate and develop resources for the network of Lisp engines awarded by DOD and to build prototype examples of intelligent tutoring systems.
- 1983-1985: With Lloyd Bond and Robert Glaser: Contract with Air Force Human Resources Laboratory to analyze cognitive requirements of certain Air Force technical specialties and recommend cognitively-based trainee selection procedures and curriculum modifications.
- 1983: With Norman Bardsley and Wayne Baughman: Microcomputer equipment grant from Digital Equipment Corporation.
- 1984-1990: Development of new approaches to technical training based upon present cognitive task analyses and using intelligent tutoring systems. From The Air Force Human Resources Laboratory through a task contractor. (1984-1986 jointly with Robert Glaser; 1987-1989 jointly with Susanne Lajoie).
- 1985: Second equipment grant from the Department of Defense to provide additional artificial intelligence hardware (Lisp engines) for prototype intelligent tutor development and related research.
- 1985: Substantial additional equipment grant from Digital Equipment Corporation for microcomputers, a VAX-11/750, and Ethernet network tools and equipment.
- 1985: Small grant from System Development Foundation to support incidental costs of the tutoring systems development efforts.

- 1985-1987: (With Jeffrey Bonar) Contracts with Air Force Human Resources Laboratory (through a task contractor) to develop three intelligent tutoring systems for use in a selection research program.
- 1985: (With Harry Pople, Gordon Banks, Jerry May, J. P. Kearns, and Sigfried Treu) Major grant of artificial intelligence work stations and servers from Xerox Corporation.
- 1986-1988: Contract from the Office of Naval Research to study impasses in learning and how they can be avoided.
- 1986-1990: (With a number of colleagues from the University of Pittsburgh and Carnegie-Mellon University) University Research Initiative contract in the area of artificial intelligence.
- 1986-1987: MCC Corporation. Support of a graduate position (working on intelligent tutoring systems at LRDC) for the new Intelligent Systems Studies program.
- 1987: Comite Conjunto Hispano-Norteamericano para la Cooperacion Cultural y Educativa. Support of a cooperative training seminar for the National Center for Educational Research and Documentation (C. I. D. E.) of Spain.
- 1987: Additional equipment grant of Documenter System and laser printer from Xerox corporation.
- 1988-1990: McDonnell Foundation. Argumentation in mathematics and social science.
- 1989-1992: Mellon Foundation. Work on tools for argumentation funded as part of a broad grant to the Learning Research and Development Center.
- 1990-1992: Office of Naval Research University Research Initiative. Hierarchical Group Decision Making: A Multidisciplinary Approach. With John Levine and Kathleen Carley.
- 1991-1994: United States Air Force. Contract for further work on intelligent training systems for technical jobs (with Sandra Katz).
- 1991-1992: Consortium of Sloan Foundation, Heinz Foundation, Pew Charitable Trust, and other sources. Providing content design for a program to integrate high school studies, apprenticeship studies in the machinist trades, and junior college courses. Part of a joint effort with the Commonwealth of Pennsylvania, Jobs for the Future, the U. S. Department of Labor, and several foundations.
- 1992-1995: National Science Foundation. Tools for Thinking About Complex Issues in Science and Public Policy (with Johanna Moore and Arlene Weiner).
- 1994-1996: Office of Naval Research. Conference grant. Training in basic electricity and electronics.
- 1995-1997: Advanced Research Projects Agency. Intelligent learning systems technology for DoD dependent schools. With Dan suthers, Arlene Weiner, and Sandy Katz.
- 1995-1997: Office of Naval Research (through Imetrix and BBN). Teaching collaboration among workers controlling remotely operated underwater vehicles. With Sandy Katz.
- 1996: World Bank. Job analysis of task manager job and design of intelligent training system.
- 1996-1997: Department of Labor. Cognitive extensions of the O*Net model (with Lauren Resnick).
- 1997-1999: Intel Corporation. Joint Development of intelligent coached apprenticeship technology.
- 1997-1998: Russell Sage Foundation. Organizational Facilitation of Job-Related Learning: A Cognitive Science of Work Force Development (With Lia diBello, Ann Majchrzak, Gary Olson, and Steve Reder).

- 1997-2002: National Science Foundation. A Center for the Study of Tutoring (With Kurt VanLehn, John Anderson, et al.).
- 1998-2003: Department of Education. Technology Innovation Challenge Grant (With Lauren Resnick, Anthony Alvarado and Daniel Suthers). Prime grantee is New York City Community District #2. Main activity is at Pitt.
- 1999: U.S. Air Force (via Modus Operandi, Inc.). Improved methods for Cognitive Task Analysis.

Publications

- Bower, G.H., Clark, M.C., Lesgold, A.M., & Winzenz, D. (1969). Hierarchical retrieval schemes in recall of categorized word lists. *Journal of Verbal Learning and Verbal Behavior*, 8, 323-343.
- Bower, G.H., & Lesgold, A.M. (1969). Organization as a determinant of part-to-whole transfer in free recall. *Journal of Verbal Learning and Verbal Behavior*, 8, 501-506.
- Bower, G.H., Lesgold, A.M., & Tieman, D.G. (1969). Grouping operations in free recall. *Journal of Verbal Learning and Verbal Behavior*, 8, 481-493.
- Lesgold, A.M., & Bower, G.H. (1970). Inefficiency of serial knowledge for associative responding. *Journal of Verbal Learning and Verbal Behavior*, 9, 456-466.
- Lesgold, A.M. (1972). Pronominalization: A device for unifying sentences in memory. *Journal of Verbal Learning and Verbal Behavior*, 11, 316-323.
- Lesgold, A.M., & Goldman, S.R. (1973). Encoding uniqueness and the imagery mnemonic in associative learning. *Journal of Verbal Learning and Verbal Behavior*, 12, 193-202.
- Lesgold, A.M. (1974). Variability in children's comprehension of syntactic structures. *Journal of Educational Psychology*, 66, 333-338.
- Lesgold, A.M., McCormick, C., & Golinkoff, R.M. (1975). Imagery training and children's prose learning. *Journal of Educational Psychology*, 67, 663-667.
- Lesgold, A.M., Levin, J.R., Shimron, J., & Guttman, J. (1975). Pictures and young children's learning from oral prose. *Journal of Educational Psychology*, 67, 636-642.
- Levin, J.R., Bender, B.G., & Lesgold, A.M. (1976). Pictures, repetition, and young children's oral prose learning. *AV Communications Review*, 24, 367-380.
- Perfetti, C.A., & Lesgold, A.M. (1979). Coding and comprehension in skilled reading. In L.B. Resnick & P. Weaver (eds.), *Theory and practice of early reading*. Hillsdale, NJ: Erlbaum.
- Perfetti, C.A., & Lesgold, A.M. (1977). Discourse processing and sources of individual differences. In P. Carpenter & M. Just (Eds.), *Cognitive processes in comprehension*, Hillsdale, NJ: Erlbaum.
- Lesgold, A.M., DeGood, H., & Levin, J.R. (1977). Pictures and young children's prose learning: A supplementary report. *Journal of Reading Behavior*, 9, 353-360.
- Lesgold, A.M., & Fitzhugh, R.J. (1977). An on-line laboratory for teaching and research. *Behavior Research Methods and Instrumentation*, 9, 184-188.
- Lesgold, A.M., Pellegrino, J.W., Fokkema, S.D., & Glaser, R. (Eds.). (1978). *Cognitive Psychology and Instruction*. New York: Plenum.
- Glaser, R., Pellegrino, J.W., & Lesgold, A.M. (1978). Some directions for a psychology of instruction. In A.M. Lesgold, J.W. Pellegrino, S.D. Fokkema, & R. Glaser (Eds.), *Cognitive psychology and instruction*. New York: Plenum.

- Glaser, R., Lesgold, A.M., & Pellegrino, J.W. (1978). A letter to be read in a future time. *Educational Psychologist, 13*, 79-85.
- Lesgold, A.M., & Perfetti, C.A. (1978). Interactive processes in reading comprehension. *Discourse Processes, 1*, 323-336.
- Levin, J. R., & Lesgold, A. M. (1978). On pictures in prose. *Educational Communications and Technology, 26*, 233-243.
- Vesonder, G.T., Lesgold, A.M., & Wolf, R. (1978). The use of microprocessors in a time-shared computer facility for research, development, and teaching. *Behavior Research Methods and Instrumentation, 10*, 4, 510-515.
- Lesgold, A.M., Roth, S.F., & Curtis, M.E. (1979). Foregrounding effects in discourse comprehension. *Journal of Verbal Learning and Verbal Behavior, 18*, 291-308.
- Fox, J.L., Jr., Wolf, R.V., & Lesgold, A.M. (1979). Microprocessor uses in a time-shared facility. *Behavior Research Methods and Instrumentation, 11*, 271-280.
- Lesgold, A.M., & Curtis, M.E. (1981). Learning to read words efficiently. In A.M. Lesgold & C.A. Perfetti (Eds.), *Interactive processes in reading*, Hillsdale, NJ: Erlbaum.
- Lesgold, A.M., & Perfetti, C.A. (1981). Interactive processes in reading: Where do we stand. In A.M. Lesgold & C.A. Perfetti (Eds.), *Interactive processes in reading*, Hillsdale, NJ: Erlbaum.
- Lesgold, A.M., & Perfetti, C.A. (Eds.). (1981). *Interactive processes in reading*, Hillsdale, NJ: Erlbaum.
- Lesgold, A.M. (1981). Cognitive simulation modeling on the VAX-11. *Behavior Research Methods and Instrumentation, 13*, 192-194.
- Lesgold, A.M. (1981). Instructional principles for computer-based learning. In M.R. Pitts (Ed.), *A bright promise but a dim future: Researchers examine potential of educational technology*. Washington, DC: Council for Educational Research and Development.
- Lesgold, A. M. (in press). Microcomputers in instructional research. Paper presented at the 1982 University of Arizona conference on Microcomputers in Education. In D. Craighead (Ed.), *Best of Microcomputers in Education*, Potomac, MD: Computer Science Press.
- Lesgold, A.M., & Resnick, L.B. (1982). How reading disabilities develop: Perspectives from a longitudinal study. In J.P. Das, R. Mulcahy, & A.E. Wall (Eds.), *Theory and Research in Learning Disabilities*, New York: Plenum.
- Lesgold, A.M. (1983). A rationale for computer-based reading instruction. In A.C. Wilkinson (Ed.), *Classroom computers and cognitive science*. New York: Academic Press.
- Lesgold, A.M. (1982). Computer games for the teaching of reading. *Behavior Research Methods and Instrumentation, 14*, 224-226.
- Lesgold, A.M. (1984). Acquiring expertise. In J. R. Anderson & S. M. Kosslyn (Eds.), *Tutorials in learning and memory: Essays in honor of Gordon Bower*. San Francisco, W. H. Freeman.
- Lesgold, A. M. (1983). When can computers make a difference? *Theory into Practice, 22*, 247-252.
- Lesgold, A. M. (1983). Experiences in Building a Simulation Environment. *Behavior Research Methods and Instrumentation, 15*, 284-288.
- Lesgold, A., & Reif, F. (1983). *Computers in Education: Realizing the Potential. Report of a Research Conference*. Washington, D.C.: Office of the Assistant Secretary for Educational Research and Improvement, U. S. Department of Education. [U.S. Government Printing Office 1983-381-054-134 and 1983-381-054-135]

- Lesgold, A. M. (1982, November). Paradigms for computer-based education. A paper commissioned by the Office of Educational Research and Improvement, U. S. Department of Education. [Published as part of Lesgold and Reif, 1983.]
- Lesgold, A. (1983). Intelligence: The Ability to Learn, Or More? A Review of Handbook of Human Intelligence by Robert S. Sternberg. *Contemporary Education Review*, 2, 111-120.
- Lesgold, A.M. (1984). Human skill in a computerized society: Complex skills and their acquisition. *Behavior Research Methods, Instruments & Computers*, 16, 79-87. [Presidential address to the Society for Computers in Psychology.]
- Lesgold, A.M., Resnick, L.B., & Hammond, K. (1985). Learning to read: A longitudinal study of word skill development in two curricula. In G. Waller and E. MacKinnon (Eds.), *Reading Research: Advances in Theory and Practice*. New York: Academic Press.
- Lesgold, A. M. (1986). Computer resources for learning. *Peabody Journal of Education*, 62, 2, 60-74.
- Lesgold, A., & Hammond, K. L. (1985). Do We Look for Independence or Near Decomposability. (Commentary on an article by Humphreys & Evett.) *Brain and Behavior Sciences*, 8, 716-717.
- Lesgold, A., Rubinson, H., Feltovich, P., Glaser, R., Klopfer, D., & Wang, Y. (1988). Expertise in a Complex Skill: diagnosing X-ray Pictures. In Chi, M. T. H., Glaser, R., and Farr, M. (Eds.), *The nature of expertise*. Hillsdale, NJ: Erlbaum.
- Lesgold, A. M. (1986). Critical research issues in the implementation of the next generation of educational technology. *Machine-Mediated Learning*, 1, 4, 373-381.
- Lesgold, A.M. (forthcoming). Reading Is a Redundant Collection of Complex Skills. In Rand Spiro (Ed.), *Reading Research into the 90's*. Hillsdale, NJ: Erlbaum. [n.b. This book's completion has been delayed indefinitely by the editor. Copy of chapter available upon request.]
- Lesgold, A. M. (1988). Problem solving. In R. J. Sternberg & E. E. Smith (Eds.), *The psychology of human thought*, Cambridge University Press.
- Lesgold, A. M. (1986, March). Preparing Children for a Computer-Rich World. *Educational Leadership*, 43, 6, 7-11.
- Glaser, R., Lesgold, A., & Lajoie, S. (1987). Toward a Cognitive Theory for the Measurement of Achievement. In R. R. Ronning, J. Glover, J. C. Conoley, & J. C. Witt. *The influence of cognitive psychology on testing*. Hillsdale, NJ: Erlbaum.
- Lesgold, A. M. (1987). Intelligent Computer-Based Instruction. *Encyclopedia of Artificial Intelligence*. New York: Wiley.
- Lesgold, A. (1987). Intelligenter computerunterstuetzter Unterricht. In H. Mandl & H. Spada (Eds.), *Wissenspsychologie: Ein Lehrbuch*. Munich: Psychologie Verlagsunion, Urban und Schwartzberg.
- Glaser, R., Lesgold, A. M., & Gott, S. (1991). Implications of Cognitive Psychology for Measuring Job Performance. In A. K. Wigdor & B. F. Green, Jr. (Eds.), *Performance assessment for the workplace: Technical issues* (pp. 1-26). Washington, DC: National Academy Press.
- Lesgold, A. M. (1986, November). Intelligent Tutoring Systems for Professionals. In H. Stone (Ed.), *Proceedings of the IEEE Fall Joint Computer Conference*, Dallas, TX, pp. 18-23.
- Lesgold, A.M. (Ed.). (1987). *Information technologies and basic learning*. Paris: Organisation for Economic Co-operation and Development. [Also published in French by OECD]
- Lesgold, A.M. (1987). Information technologies and basic learning: Main issues and future prospects. In A. M. Lesgold, A.M. (Ed.), *Information technologies and basic learning*. Paris: Organisation for Economic Co-operation and Development.

- Mandl, H., & Lesgold, A. (Eds.) (1988). *Learning issues for intelligent tutoring systems*. New York: Springer-Verlag.
- Lesgold, A. (1988). Toward a theory of curriculum for use in designing intelligent instructional systems. In H. Mandl & A. Lesgold (Eds.), *Learning issues for intelligent tutoring systems*. New York: Springer-Verlag.
- Lesgold, A., Bonar, J. G., & Ivill, J. (1989). Toward intelligent systems for testing. In L. B. Resnick (Ed.), *Knowing, learning, and instruction: Essays in Honor of Robert Glaser*. Hillsdale, NJ: Erlbaum.
- Rabinowitz, M., Lesgold, A., & Berardi, B. (1988). Modeling task performance: Rule-based and connectionist alternatives. In M. Rabinowitz (Ed.), *Computer simulations as research tools*. Special issue of *International Journal of Educational Research*, 12, 35-48.
- Lesgold, A. (1988). The integration of instruction and assessment in business/military settings. *Proceedings of the 1987 ETS Invitational Conference*. Princeton, NJ: Educational Testing Service.
- Lesgold, A. (1987). Intelligent tutoring systems: practice opportunities and explanatory models. In J. Barrett and J. Hedberg (Eds.), *Using computers intelligently in tertiary education*. (Proceedings of the 1987 meeting of the Australian Society for Computers in Learning, Sydney, December, 1987), pp. 7-24. Kensington, New South Wales: University of New South Wales, Continuing Education.
- Frederiksen, N., Glaser, R., Lesgold, A. M., & Shafto, M. (Eds.) (1990). *Diagnostic monitoring of skill and knowledge acquisition*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lesgold, A., & Glaser, R. (Eds.) (1989). *Foundations for a psychology of education*. Hillsdale, NJ: Erlbaum.
- Lesgold, A., Lajoie, S., Logan, D., & Eggan, G. (1990). Applying cognitive task analysis and research methods to assessment. In N. Frederiksen, R. Glaser, A. M. Lesgold, & M. Shafto (Eds.), *Diagnostic monitoring of skill and knowledge acquisition*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lesgold, A. (1989). Context-specific requirements for models of expertise. In D. A. Evans & V. L. Patel (Eds.), *Cognitive science in medicine: Biomedical modeling*. (Pp. 373-400). Cambridge, MA: MIT Press.
- Lesgold, A. M., Lajoie, S. P., Bunzo, M., & Eggan, G. (1992). SHERLOCK: A coached practice environment for an electronics troubleshooting job. In J. Larkin & R. Chabay (Eds.), *Computer assisted instruction and intelligent tutoring systems: Shared issues and complementary approaches* (pp. 201-238). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lesgold, A. (1990). Tying development of intelligent tutors to research on theories of learning. In H. Mandl, E. De Corte, S. N. Bennett, & H. F. Friedrich (Eds.), *Learning and instruction: European research in an international context*. Vol. 3. Oxford: Pergamon.
- Gabrys, G., & Lesgold, A. (1989, September). Coherence: Beyond constraint satisfaction. Invited commentary on an article by Thagard. *Brain and Behavior Science*.
- Lajoie, S., & Lesgold, A. (1989). Apprenticeship training in the workplace: Computer coached practice environment as a new form of apprenticeship. *Machine-Mediated Learning*, 3, 7-28.
- Lesgold, A., & Lajoie, S. (1991). Complex problem solving in electronics. In R. Sternberg & P. A. Frensch (Eds.), *Complex problem solving: Principles and mechanisms*. Hillsdale, NJ: Erlbaum.
- Lesgold, A., Chipman, S., Brown, J. S., & Soloway, E. (1990). Prospects for information science and technology focused on intelligent training systems concerns. *Annual Review of Computer Science*. Pp. 383-394. Palo Alto, CA: Annual Review Press.

- Keith, W., Weiner, A., & Lesgold, A. (1989). Argument comprehension: Some preliminary findings. In B. E. Gronbeck, R. S. Bjork, D. S. Gouran, D. W. Parson, & M. O. Sillars (Eds.), *Spheres of argument, Proceedings of the 6th SCA/AFA conference on argumentation*, pp. 584-591. Annandale, VA: Speech Communication Association.
- Hativa, N., & Lesgold, A. (1991). The computer as tutor: Can it adapt to the individual learner? *Instructional Science*, 20, 49-78.
- Lesgold, A. (1990). Intelligent computer aids for practice of complex troubleshooting. *Proceedings of the 1990 FAA Symposium on Training Technology*. Oklahoma City: Federal Aviation Administration Academy.
- Lesgold, A. (1994). Assessment of intelligent training technology. In E. Baker and H. O'Neil, Jr. (Eds.), *Technology assessment: In Education and Training (vol. 1)* pp. 97-116. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lesgold, A., Eggen, G., Katz, S., & Rao, G. (1992). Possibilities for assessment using computer-based apprenticeship environments. W. Regian & V. Shute (Eds.), *Cognitive approaches to automated instruction* (pp. 49-80). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lajoie, S. P., & Lesgold, A. M. (1992). Dynamic assessment of proficiency for solving procedural knowledge tasks. *Educational Psychologist*, 27, 365-384.
- Lesgold, A. (1991). Research methodology in the postinformatic age. *Behavior Research Methods, Instruments, and Computers*, 23, 109-111.
- Hativa, N., Sarig, O., & Lesgold, A. (1991). Timing students' answers in CAI. *Journal of Computer-Based Instruction*, 18, 19-29.
- Katz, S. & Lesgold, A. (1991). Modeling the student in Sherlock II. In J. Kay & A. Quilici (Eds.), *Proceedings of the IJCAI-91 Workshop W.4: Agent modelling for intelligent interaction* (pp. 93-127). Sydney, Australia.
- Katz, S., & Lesgold, A. (1993). The role of the tutor in computer-based collaborative learning situations. In S. Lajoie & S. Derry (Eds.), *Computers as cognitive tools* (pp.289-317). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lesgold, A. (1993). Information technology and the future of education. In S. Lajoie & S. Derry (Eds.), *Computers as cognitive tools*(pp. 369-383). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lesgold, A., Katz, S., Greenberg, L., Hughes, E., & Eggen, G. (1992). Extensions of intelligent tutoring paradigms to support collaborative learning. In S. Dijkstra, H. P. M. Krammer, & J. J. G. van Merriënboer (Eds.), *Instructional models in computer-based learning environments*, pp. 291-311. Berlin: Springer-Verlag.
- Eggen, G., & Lesgold, A. (1992). Modelling requirements for intelligent training systems. In S. Dijkstra, H. P. M. Krammer, & J. J. G. van Merriënboer (Eds.), *Instructional models in computer-based learning environments* (pp. 97-111). Berlin: Springer-Verlag.
- Lesgold, A., & Katz, S. (1992). Models of cognition and educational technologies: Implications for medical training. In D. A. Evans & V. L. Patel (Eds.), *Advanced models of cognition for medical training and practice* (pp. 255-264). NATO ASI Series F, vol. 97. Berlin: Springer-Verlag.
- Katz, S., Lesgold, A., Eggen, G., & Gordin, M. (1992). Self-adjusting Curriculum Planning in Sherlock II. *Lecture Notes in Computer Science: Proceedings of the Fourth International Conference on Computers in Learning (ICCAL '92)*. Berlin: Springer Verlag.
- Hativa, N., Swissa, S., & Lesgold, A. (1992). Competition in individualized CAI. *Instructional Science*, 21, 393-428.

- Gabrys, G., Weiner, A., & Lesgold, A. (1993). Learning by problem solving in a coached apprenticeship system. In M. Rabinowitz (Ed.), *Cognitive science foundations of instruction* (pp. 119-147). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lesgold, A. (1993). An object-based situational approach to task analysis. In M. Caillot (Ed.), *Learning electricity and electronics with advanced educational technology* (pp. 291-302). NATO ASI Series F, Vol. 115. Berlin: Springer Verlag.
- Katz, S., Lesgold, A., Eggan, G., & Gordin, M. (1993). Modeling the student in Sherlock II. *Journal of Artificial Intelligence in Education (Special issue on student modeling, G. McCalla & J. Greer, eds.)*, 3, 495-518.
- Cavalli-Sforza, V., & Lesgold, A. (1995). Intelligent learning by doing tools for technical and dialectical knowledge. In C. Zucchermaglio, S. Bagnara, S. Stucky (Eds.), *Organizational learning and technological change* (NATO ASI Series F: Computer and Systems Sciences, Vol 141). Berlin: Springer-Verlag.
- Lesgold, A. (1996). Quality control for educating a smart work force. In L. B. Resnick, J. Wirt, (Eds.), *Linking school and work: Roles for standards and assessment*, (pp. 147-191). San Francisco: Jossey-Bass.
- Lesgold, A. (1994). Ideas about feedback and their implications for intelligent coached apprenticeship. *Machine-mediated Learning*, 4, 67-80.
- Cavalli-Sforza, V., Weiner, A. W., and Lesgold, A. M. (1994). Software support for students engaging in scientific activity and scientific controversy. *Science Education*, 78, 577-599.
- Gott, S. P., Lesgold, A., & Kane, R. S. (1996). Tutoring for transfer of technical competence. In B. G. Wilson, *Constructivist Learning Environments* (pp. 33-48). Englewood Cliffs, NJ: Educational Technology Publications. A more extended version appears in Gott et al., 1997.
- Derry, S. P., & Lesgold, A. M. (1996). Toward a situated social practice model for instructional design. In R. Calfee & D. Berliner (Eds.), *Handbook of Educational Psychology*. New York: Macmillan.
- Lesgold, A. (1995). Educational technology for developing countries. In *Marshaling Technology for Development: Proceedings of a Symposium* (pp. 189-209). Washington, DC: National Academy Press.
- Osin, L., & Lesgold, A. (1996). A proposal for the reengineering of the educational system. *Review of Educational Research*, 66(4), 621-656.
- Frasson, C., Gauthier, G., & Lesgold, A. (Eds.) (1996). *Intelligent Tutoring Systems*. Lecture Notes in Computer Science, No. 1086. Berlin: Springer-Verlag.
- Hativa, N., & Lesgold, A. (1996). Situational effects in classroom technology implementations: Unfulfilled expectations and unexpected outcomes. In S. Kerr (Ed.), *Technology and the future of schooling*. 95th NSSE Yearbook. Chicago: National Society for the Study of Education.
- Lesgold, A. (1997). Wandel in der Arbeitswelt und beim Lernen: Folgerungen für eine anwendungsbezogene Lernforschung [Transitions in Work and Learning: Implications for the Practical Study of Learning]. In H. Gruber & A. Renkl (Eds.), *Wege zum Können: Determinanten des Kompetenzerwerbs* (a Festschrift for Heinz Mandl). Bern: Verlag Hans Huber. Also published in English in Lesgold, Feuer, and Black, 1997.
- Lesgold, A., Feuer, M. J., & Black, A. M. (Eds.) (1997). *Transitions in work and learning: Implications for assessment*. Washington, DC: National Academy Press.

- Gott, S. P., Lesgold, A. M., & Kane, R. S. (1997). Promoting the Transfer of Technical Competency. In S. Dijkstra, et al. (Eds.), *Instructional design: International perspectives* (vol. 2). Hillsdale, NJ: Erlbaum.
- Katz, S., Lesgold, A., Hughes, E., Peters, D., Eggan, G., Gordin, M., & Greenberg, L. (1998). Sherlock 2: An intelligent tutoring system built on the LRDC framework. In C. P. Bloom & R. B. Loftin (Eds.), *Facilitating the development and use of interactive learning environments*. Mahwah, NJ: Erlbaum.
- Gott, S. P., & Lesgold, A. M. (2000). Competence in the Workplace: How Cognitive Performance Models and Situated Instruction Can Accelerate Skill Acquisition. In R. Glaser (Ed.), *Advances in instructional psychology*. Hillsdale, NJ: Erlbaum.
- Lesgold, A. M. (1997, September 22). Internet is actually good for children. *Viewpoints*. Long Island, NY: Newsday.
- Connelly, J., & Lesgold, A. (1999). Intelligent tutoring systems. In J. G. Webster (Ed.), *Encyclopedia of electrical and electronics engineering* (Vol. 10, pp. 529-541). New York: Wiley.
- Soller, A., Lesgold, A., Linton, F., and Goodman, B. (1999). What Makes Peer Interaction Effective? Modeling Effective Communication in an Intelligent CSCL. *Proceedings of the 1999 AAAI Fall Symposium: Psychological Models of Communication in Collaborative Systems*, Cape Cod, MA.
- Soller, A., Lesgold, A. (1999). Analyzing Peer Dialogue from an Active Learning Perspective. *Proceedings of the AI-ED 99 Workshop: Analysing Educational Dialogue Interaction: Towards Models that Support Learning*, LeMans, France, 63-71.
- Soller, A., Linton, F., Goodman, B., Lesgold, A. (1999) Toward Intelligent Analysis and Support of Collaborative Learning Interaction. *Proceedings of the Ninth International Conference on Artificial Intelligence in Education*, LeMans, France, 75-82.
- Lesgold, A. M. (in press). Cognitive Science Society. In A. E. Kazdin (Ed.), *Encyclopedia of Psychology*. New York: Oxford.
- Lesgold, A. (1999). Multiple Representations and Their Implications for Learning. In M. van Someren, E. Boshuizen, P. Reimann & T. de Jong (Eds.), *Learning with multiple representations*. Oxford: Elsevier.
- Greeno, J. G., Clancey, W. J., Lewis, C., Seidenberg, M., Derry, S., Gernsbacher, M. A., Langley, P., Shafto, M., Gentner, D., Lesgold, A., & Seifert, C. M. (1998). Efforts to encourage multidisciplinary in the Cognitive Science Society. *Cognitive Science*, 22 (1), 131-132.
- Lesgold, A. (2000). On the Future of Cognitive Task Analysis. In J. M. C. Schraagen, S. F. Chipman, & V. L. Shalin (Eds.), *Cognitive Task Analysis*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Lesgold, A. (1999). Beginning a Technology of Technical Training for Information Age Manufacturing. *Proceedings of the 1999 al-Shaam Conference*. Damascus: Syrian Computer Society (CD-ROM).
- Lesgold, A. (2000). What are the tools for: Revolutionary change does not follow the usual norms. In S. P. Lajoie (Ed.), *Computers as cognitive tools, Volume 2: No more walls – theory change, paradigm shifts and their influence on the use of computers for instructional purposes*. Mahwah, NJ: Erlbaum.
- Lesgold, A., & Nahemow, M. (2001). Tools to assist learning by doing: Achieving and assessing efficient technology for learning. In D. Klahr & S. Carver (Eds.), *Cognition and instruction: Twenty-five years of progress*. Mahwah, NJ: Erlbaum.
- Lesgold, A. (2001). The nature and methods of learning by doing. *American Psychologist*, 56(11), 964-973.

- Suthers, D., Connelly, J., Lesgold, A., Paolucci, M., Erdosne Toth, E., Toth, J., Weiner, A. (2001). Representational and advisory guidance for students learning scientific inquiry. In K. Forbus and P. Feltovich (Eds.), *Smart machines in education*. Menlo Park, CA: AAAI Press.
- Lesgold, A., & Cho, K.S. (2001, 26 March). The cyber university: Distance education in the United States. *Korean Universities Weekly* (Seoul).
- Soller, A., Wiebe, J., and Lesgold, A. (2002). A Machine Learning Approach to Assessing Knowledge Sharing during Collaborative Learning Activities. *Proceedings of Computer-Support for Collaborative Learning 2002*, Boulder, CO, 128-137.
- Toth, E. E., Suthers, D. D., and Lesgold, A. M. (2002). Mapping to know: The effects of representational guidance and reflective assessment on scientific inquiry skills. *Science Education*, 86, 264-286.
- Lesgold, A. (2003). Intelligent tutoring systems. In L. Nadel (Ed.), *Encyclopedia of Cognitive Science*. London: MacMillan.
- Soller, A., and Lesgold, A. (2003). A Computational Approach to Analyzing Online Knowledge Sharing Interaction. *Proceedings of Artificial Intelligence in Education 2003*, Sydney, Australia. <http://sra.ite.it/people/soller/documents/Soller-Lesgold-AIED2003.pdf>
- Lesgold, A. (2003, October). Determining the effects of technology in complex school environments. In G. Haertel and B. Means (Eds.), *Evaluating Educational Technology: Effective Research Designs for Improving Learning*. New York: Teachers College Press.
- Jermann, P., Soller, A., & Lesgold, A. (2004). Computer software support for CSCL. In P. Dillenbourg (Series Ed.) & J. W. Strijbos, P. A. Kirschner & R. L. Martens (Vol. Eds.), *Computer-supported collaborative learning: Vol 3. What we know about CSCL ... and implementing it in higher education* (pp. 141-166). Boston, MA: Kluwer Academic Publishers.
- Lesgold, A. (2004). Contextual Requirements for Constructivist Learning. *International Journal of Educational Research*, 41, 495-502.
- Resnick, L. B., Lesgold, A., & Hall, M. W. (2005). Technology and the new culture of learning: Tools for educational professionals. In P. Gärdenfors & P. Johansson (Eds.), *Cognition, Education, and Communication Technology*. Mahwah, NJ: Erlbaum.
- Sung, Y.-T., & Lesgold, A. (in press). Software infrastructure for teachers: A missing link in integrating technology with instruction.
- Lesgold, A. (2007.) Towards valued human expertise. In M. Gluck, J. R. Anderson, and S. Kosslyn (Eds.), *Memory and mind: A Festschrift for Gordon H. Bower*. Mahwah, NJ: Erlbaum.
- Soller, A., & Lesgold, A. (2007). Modeling the process of knowledge sharing. In U. Hoppe, H. Ogata, & A. Soller (Eds.) *The Role of Technology in CSCL: Studies in Technology Enhanced Collaborative Learning*. (pp. 63-86). Berlin: Springer Verlag.
- Soller, A., & Lesgold, A. (2007). Collaborative tools in educational practice. In U. Hoppe, H. Ogata, & A. Soller (Eds.) *The Role of Technology in CSCL: Studies in Technology Enhanced Collaborative Learning*. (pp. 117-120). Berlin: Springer Verlag.
- Lesgold, A. (2008). Assessment to steer the course of learning: Dither in testing. In E. L. Baker, J. Dickieson, W. Wulfeck, & H. O'Neil (Eds.), *Assessment of problem solving using simulations*. New York: Erlbaum.
- Lesgold, A. M. (2012). Practical issues in the deployment of new training technology. In P. J. Durlach and A. M. Lesgold (Eds.), *Adaptive Technologies for Training and Education*. New York: Cambridge University Press.

- Durlach, P. J., & Lesgold, A. M. (Eds.). (2012). *Adaptive Technologies for Training and Education*. New York: Cambridge University Press.
- Lesgold, A. M., & Welch-Ross, M. K. (Eds.). (2012). *Improving Adult Literacy Instruction: Options for Practice and Research*. Washington: National Academies Press.
- Lesgold, A., & Graesser, A. (2013). Important considerations for learner models: Transfer potential and pedagogical content knowledge. In R. Sottolare, X. Hu, & A. Graesser (Eds.), *Design recommendations for adaptive intelligent tutoring systems: Learning modeling* (Volume 1). Washington, DC: Army Research Laboratory.
- Lesgold, A. (2014). Newly-acquired complex performance competence and medical errors. In V.L. Patel, D.R. Kaufman, and T. Cohen (Eds.), *Cognitive informatics in health and biomedicine: Case studies on critical care, complexity and medical errors*. New York: Springer.
- Lesgold, A. (2016). It Takes a Village of Mentors. *Education Review // Reseñas Educativas*, 23. doi:<http://dx.doi.org/10.14507/er.v23.2139>.
- Lesgold, A. (2019). *Learning for the Age of Artificial Intelligence: Eight Education Competences*. New York: Routledge.
- Pokorny, R.A., Lesgold, A. M., Haynes, J.A., & Holt, L.S., (in press). Expert policy capture for assessing performance in simulation-based training and games. In H. F. O’Neil, E. L. Baker, R. S. Perez, & S. E. Watson (Eds.), *Using cognitive and affective metrics in education-based simulations and games* (Vol. 2). New York, NY: Routledge/Taylor and Francis.
- Lesgold, A. (2021). James G. Greeno (1935–2020). *American Psychologist*. Doi: <https://doi.org/10.1037/amp0000830>.
- Lesgold, A. (forthcoming). Foreword. In du Boulay, B., Mitrovic, T., & Yasef, K. (Eds.), *Handbook of Artificial Intelligence in Education*. Edward Elgar Publishing.

Unpublished Papers and Reports

- Lesgold, A.M. (1972). Effects of pronouns on children's memory for sentences. LRDC Publication 1972/17. Pittsburgh, PA: University of Pittsburgh, Learning Research and Development Center.
- Lesgold, A.M., Curtis, M.E., DeGood, H., Golinkoff, R.M., McCormick, C., & Shimron, J. (1974). The role of mental imagery in text comprehension: Preliminary studies. LRDC Publication 1974/6. Pittsburgh, PA: University of Pittsburgh, Learning Research and Development Center, 1974.
- Lesgold, A.M., & Danner, F. (1976). Syllables as visual units in letter-string perception. LRDC Publication 1976/11. Pittsburgh, PA: University of Pittsburgh, Learning Research and Development Center.
- Lesgold, A.M. (1981, October). Authoring environments for computer-based instruction. A paper commissioned by the National Institute of Education.
- Lesgold, A.M., Feltoovich, P.J., Glaser, R., & Wang, Y. (1981). The acquisition of perceptual diagnostic skill in radiology. Technical report no. PDS-1. University of Pittsburgh, Learning Research and Development Center, University of Pittsburgh.
- Lesgold, A. M. (1983, April). The role of computers in the schools. Reports to Educators No. RTE/6. Pittsburgh: Learning Research and Development Center, University of Pittsburgh.
- Lesgold, A. M., Glaser, R., Lajoie, S., Eastman, R., Eggan, G., Greenberg, L., Logan, D., Magone, M., Weiner, A., Wolf, R., & Yengo, L. (1985, October). Guide to Cognitive Task Analysis. Technical Report. Pittsburgh, PA: University of Pittsburgh, Learning Research and Development Center.
- Lesgold, A. M., Lajoie, S., Eastman, R., Eggan, G., Gitomer, D., Glaser, R., Greenberg, L., Logan, D., Magone, M., Weiner, A., Wolf, R., & Yengo, L. (1986, April). Cognitive Task Analysis to Enhance Technical Skills Training and Assessment. Technical Report. Pittsburgh, PA: University of Pittsburgh, Learning Research and Development Center.
- Lesgold, A., & Lajoie, S. (1989, July). Preliminary Design Document for Sherlock II. Contract report to Hay Systems under Air Force subcontract. Pittsburgh, PA: University of Pittsburgh, Learning Research and Development Center.
- Cavalli-Sforza, V., Lesgold, A., & Weiner, A. (1992). Strategies for contributing to collaborative arguments. *Proceedings of the Fourteenth Annual Cognitive Science Society* (pp. 755-760). Hillsdale, NJ: Lawrence Erlbaum Associates.

- Katz, S., Lesgold, A., Eggen, G., & Gordin, M. (1992). Approaches to student modeling in the Sherlock tutors. In E. Andre, R. Cohen, W. Graf, B. Kass, C. Paris, and W. Wahlster (Eds.), *Proceedings of the Third International Workshop on User Modeling* (pp. 205-230), Dagstuhl Castle, Germany.
- Lesgold, A. (2022). Enculturating smart learning technology. Presentation to Global Smart Education Conference 2022. Beijing.