

ANDREW M. ROSE

Education

Ph.D. 1974, University of Michigan, Psychology
M.S. 1970, University of Michigan, Psychology
B.A. 1969, State University of New York at Buffalo, Psychology

Honors and Awards

Member of the National Research Council Panel on Human Error
Panel Reviewer for the National Academy of Science 1990 Science Indicators Study

Present Position

1973-Present **American Institutes for Research**
Principal Research Scientist; Director, Communication Research Group; Chief Scientist of the Washington Research Center
Responsible for ensuring the quality of proposals and project deliverables, and for ensuring scientific rigor in the conduct of all projects. Further responsibilities include directing research and evaluation projects which focus on the analysis of communication effectiveness and performance in applied settings; and designing and conducting field studies, laboratory studies, and theoretical and applied research on communication, cognition, comprehension, and retention.

Professional Experience

1994-1995 ***Project Director, Qualitative study of clinical guideline development processes, for the Agency for Health Care Policy and Research.***
This nine-month study has evaluated users' perceptions of the validity and implementability of clinical guidelines. Responsibilities include overseeing the preparations for twelve discussions groups of physicians and nurses; developing the coding system for analysis; analyzing the development process of the four different guidelines; and developing correlations between the process variables and users' perceptions.

1991-1993 ***Project Director, Evaluation of education materials for potential blood donors at risk for AIDS and other infectious diseases, for the Food and Drug Administration.*** Responsibilities included leading a team which designed and tested a novel, computer-based approach to donor screening. The team also developed and tested a training program for health historians, including the development of

proficiency tests and other assessment techniques like job and task analysis.

- 1992-1994 **Principal Investigator, Recommendations to improve the safety of the blood supply, for the World Health Organization.** This project sent researchers to conduct field site data collections in Zimbabwe, Honduras, and India to study blood donation procedures in developing and economically disadvantaged countries. Two of the results of these efforts were invitations to present at the IXth International AIDS Conference (1994) in Berlin and to speak at the European Council of Blood Transfusion (1994) in Barcelona.
- 1989-Present **Project Director for Subcontract, Task Order Contract to the Bureau of Labor Statistics under contract to Westat.** This contract has included over 14 task orders for the Department of Labor and the Internal Revenue Service. Task orders range in duration from less than one month to 20 months with values from \$7,000 to over \$100,000. Projects have included redesign of IRS forms, cognitive testing of forms, recruiting, testing of scripts for interactive voice response systems, review of literature, and setting of research agenda. Responsibilities include conceptualizing the response to a task order or modifying the client's initial plan as well as budgeting, assigning staff and resources, overseeing the technical work, providing senior review for the written report, and presenting briefings to the client prior to completion of the task. Administrative duties include managing AIR staff, coordinating with Westat and BLS staff, and maintaining a working relationship with the ultimate client.
- 1993-Present **Project Director for Subcontract, Revision of the facilities survey, for the National Science Foundation, a two-year teaming effort with the Gallup Organization and Pelavin Research Institute.** This project to revise NSF's Survey of Scientific and Engineering Research Facilities at Colleges and Universities aims to improve the quality of the data collected and to reduce user burden through improved readability and design. Responsibilities include defining the conceptual frames of the survey's redesign based on an analysis of interview data about how survey respondents collect information, and on information from the Advisory Panel and others.
- 1989-1991 **Director, Document Design Project, for the National Institute of Education, a three-year project concerned with the development of guidelines and principles for the simplification of documents.** Responsibilities included supervising and conducting several experiments investigating the cognitive processes involved in

particular kinds of reading tasks, such as the processing of complex instructions. Additional responsibilities included designing a computer-based information retrieval system for document design principles and their empirical justification and consulting with several technical assistance clients (IRS, FCC) regarding document simplification, evaluation, and experimental design.

- 1989-1990 **Principal Investigator, Study of the acquisition and retention of military skills, for the Army Research Institute.** This three-year, \$1.2 million research program assessed training effectiveness in Army schools and the amount and types of skills retained over time. This program examined the impact of soldiers' ability levels on skill acquisition and retention, and examined the effects of mastery training on skill retention. The results of this project were invitations to give several presentations on skill acquisition and retention to various government and military audiences. An additional result was an invitation to consult at the Royal Army Educational Corps Centre, Army School of Training Support (ASTS) to aid in the design and conduct of a skills retention study aimed at testing the generalizability of the AIR retention model to the British Army.
- 1985-1987 **Director, Field studies, for the U.S. Army Research Institute.** Primary responsibilities included the "Development and Validation of Army Selection and Classification Measures," a major Army-sponsored program (Project A) investigating all phases of development and evaluation of selection tests, school performance, on-the-job performance, and Army-wide measures of effectiveness; designing, conducting, and analyzing several large-scale field studies; and developing job-related performance measures.
- 1985-1987 **Director, Field studies of job performance measurement, for the U.S. Marine Corps.** Responsibilities included developing the behavioral categorization system used to select tasks, designing the data collection and testing administrator consistency plan, training administrators, and serving as Test Site Manager for part of the data collection effort.
- 1984-1988 **Principal Investigator, Assess auditorially-presented messages, for the U.S. Army Human Engineering Laboratory.** This project developed and tested a method for assessing the difficulty of an auditorially-presented message. Primary responsibility was the development of a scale that accurately estimated message transmission errors.

- 1978-1980 **Principal Investigator, An information processing approach to performance assessment, for the Office of Naval Research (ONR).** Responsibilities included leading a program for the study of individual differences and assessment of cognitive abilities. This program was based on previous work on the development of assessment techniques using an information-processing approach to the analysis of human performance. One project output was a test battery for the assessment of cognitive functions. Components of this battery have been used by several groups including the Navy and the Coast Guard (for the assessment of cognitive and behavioral effects of shipboard motion).
- 1974-1978 **Researcher, Analysis of job and task requirements, for the Office of Naval Research (ONR).** Responsibilities included participating in an ONR-supported project directed toward finding new methods of analyzing job and task requirements in terms of the different patterns of abilities which may be needed as systematic variations in task difficulty are introduced. Substantive contributions included design of criterion tasks and the development and modification of assessment tests.
- 1970-1974 **Graduate Assistant**
Training included experimental design and statistics, skilled performance, human perception and problem solving, and performance assessment and evaluation. The assistantship required participation in several research programs, including an ARPA-sponsored program investigating stress and performance. These programs included study of various aspects of stress effects as revealed by skilled performers in a time-sharing situation, and contributed to a psychopharmacological study of high-altitude preadaptation. The experience and training gained as a graduate assistant contributed to a dissertation involving the development and evaluation of a test battery for assessing human information processing skills and abilities. This battery included several perceptual and psychomotor tasks.

Employment History

- 1973-Present Principal Research Scientist; Director, Communication Research Group; Chief Scientist of the Washington Research Center, American Institutes for Research, Washington, DC
- 1970-1974 Graduate Assistant, Human Performance Center, University of Michigan, Ann Arbor, MI

Professional Affiliations

American Psychological Association
Human Factors Society
American Association for the Advancement of Science

Publications

- Rose, A.M. (1993). *The effects of message complexity on performance*. Symposium on speech communication metrics and human performance. Washington, DC: National Academy of Sciences/National Research Council Committee on Hearing, Bioacoustics, and Biomechanics.
- Rose, A.M., & Miscall, P.J. (1993). *Preventing HIV transmission by recruiting, educating, and retaining appropriate blood donors* (Final Report to the World Health Organization, Geneva, Switzerland). Washington, DC: American Institutes for Research.
- Rose, A.M., Miscall, P.J., & Williams, K.M. (1993). *Increasing the safety of the blood supply by screening donors more effectively* (Final Report). Washington, DC: American Institutes for Research.
- Rose, A.M., Miscall, P.J., & Williams, K.M. (1993). *Increasing the safety of the blood supply by screening donors more effectively*. (Report of first-year progress). Washington, DC: American Institutes for Research.
- Wright, A., & Rose, A.M. (1993). *Modifying the IRS Form 2119, Sale of Your Home*. Washington, DC: American Institutes for Research.
- Dutkowski, R., & Rose, A.M. (1992). *The Standard Deduction: Recommendations for form redesign*. Washington, DC: American Institutes for Research.
- Rose, A.M. (1992). *Communicating with blood donors. Recommendations for program development*. Washington, DC: American Institutes for Research.
- Rose, A.M., Miscall, P.J., Williams, K.M., Han, M., & Crafts, J.L. (1992). *Increasing the safety of the blood supply by screening donors more effectively. Formative testing of a new donor screening system*. Washington, DC: American Institutes for Research.
- Rose, A.M., & Wright, A. (1992). *IRS Voice Response System Development Guide*. Washington, DC: American Institutes for Research.
- Wright, A., & Rose, A.M. (1992). *Redesigning and testing the 1992 Survey of Occupational Injuries and Illnesses*. Washington, DC: American Institutes for Research.
- Bagin, C.B., & Rose, A.M. (1991, February-March). Worst forms unearthed. *Modern Maturity*, pp. 64-66.

- Mayo, D.J., Rose, A.M., et al. (1991). Screening potential blood donors at risk for human immunodeficiency virus. *Transfusion*, 31(5), 466-474.
- Rose, A.M. (1991). *Development of a message complexity index: Summary of first year progress*. Washington, DC: American Institutes for Research.
- Rose, A.M., & Bagin, C.B. (1991). *Revision study of the IRS's Form 1040, Schedule C*. Washington, DC: American Institutes for Research.
- Rose, A.M., Bagin, C.B., & Hanfling, S. (1991). *Study to modify the survey to estimate the demand on the IRS toll-free telephone system*. Washington, DC: American Institutes for Research.
- Rose, A.M., Mayo, D.J., Redish, J.C., Birkmire, D.P., Peters, L.J., & Garinther, G.R. (1991). *Modeling the speech communication effect on performance: Message complexity*. Aberdeen Proving Ground, Maryland: U.S. Army Human Engineering Laboratory.
- Bagin, C.B., & Rose, A.M. (1990, February-March). Oh those formidable forms. *Modern Maturity*, pp. 68-71.
- Felker, D.B., Crafts, J.L., Bowler, E.C., Martin, M.F., Hilburn, B.G., McGarvey, D., & Rose, A.M. (1990). *Developing and administering job performance measures for three USMC occupational areas: Mechanical maintenance final report*. Washington, DC: American Institutes for Research.
- Mayo, D.J., Rose, A.M., Matchett, S.E., Martin, M.F., Wheaton, G.R., & Miscall, P.J. (1990). *Intercepting potential blood donors at risk for AIDS or other infectious diseases (AIR FR-65901-8/90)*. Washington, DC: American Institutes for Research.
- Martin, M.F., & Rose, A.M. (1989). Forecasting training device effectiveness using ASTAR. In G.R. McMillan, D. Beevis, E. Salas, M.H. Strub, R. Sutton, & L. Van Breda (Eds.), *Defense research series: Vol. 2. Applications of human performance models to system design* (pp. 443-453). New York: Plenum Press.
- Felker, D.B., Crafts, J.L., Rose, A.M., Harnest, C.W., Edwards, D.S., Bowler, E.C., Rivkin, D.W., & McHenry, J.J. (1988). *Developing job performance tests for the United States Marine Corps Infantry occupational field (AIR-47500-9/88-FR)*. Washington, DC: American Institutes for Research.
- Martin, M.F., & Rose, A.M. (1988). *Implementation of ASTAR: Evaluation of the Portable Aircrew Trainer* (Report No. 49901-TR2-01/88). Washington, DC: American Institutes for Research.
- Martin, M.F., Rose, A.M., & Wheaton, G.R. (1988). *Applications for ASTAR in training system acquisitions* (Report No. 49901-TR1-5/87). Washington, DC: American Institutes for Research.
- Martin, M.F., Rose, A.M., & Wheaton, G.R. (1988). *Implementation of ASTAR: Evaluation of the Precision Gunnery Training System* (Report No. 49901-TR4-03-88). Washington, DC: American Institutes for Research.

- Rose, A.M., & Martin, M.F. (1988). *Implementation of ASTAR: Evaluation of the Combat Talon II Maintenance Trainer* (Report No. 49901-TR3-02/88). Washington, DC: American Institutes for Research.
- Martin, M.F., & Rose, A.M. (1987). *Candidate training systems for ASTAR evaluation* (Report No. 49901-IR1-4/87). Washington, DC: American Institutes for Research.
- Rose, A.M., Evans, R.A., & Wheaton, G.R. (1987). Methodological approaches for simulator evaluations. In S. Cormier & J. Hagman (Eds.), *Transfer of learning*. Orlando, FL: Academic Press.
- Rose, A.M., Felker, D.B., & Martin, M.F. (1987). *The development and validation of a technique for forecasting the effectiveness of training devices. Proceedings of the 1987 National Security Industrial Association Conference on Military Personnel and Training*. Washington, DC: National Security Industrial Association.
- Rose, A.M., & Martin, M.F. (1987). *Training systems selected for ASTAR evaluation* (Report No. 49901-IR2-5/87). Washington, DC: American Institutes for Research.
- Holland, V.M., Rose, A.M., Dean, R., & Dory, S. (1985). *Processes involved in writing effective procedural instructions*. Washington, DC: American Institutes for Research.
- Rose, A.M., Czarnolewski, M.Y., Gragg, F.E., Austin, S.H., Ford, P., Doyle, J., & Hagman, J.D. (1984). *Acquisition and retention of soldiering skills*. Washington, DC: American Institutes for Research.
- Rose, A.M., & Martin, A.W. (1984). *Analytic assessment of DEFT*. Washington, DC: American Institutes for Research.
- Rose, A.M., Radtke, P., & Shettel, H.H. (1984). *User's manual for predicting military task retention*. Washington, DC: American Institutes for Research.
- Rose, A.M., & Wheaton, G.R. (1984). *Forecasting device effectiveness: I. Issues*. Washington, DC: American Institutes for Research.
- Rose, A.M., & Wheaton, G.R. (1984). *Forecasting device effectiveness: II. Procedures*. Washington, DC: American Institutes for Research.
- Hagman, J.D., & Rose, A.M. (1983). Retention of military tasks: A review. *Human Factors*, 25 (6), 199-214.
- Rose, A.M., Manning, C., Radtke, P., & Ford, P. (1983). *Acquisition and retention of soldiering skills: Report of year 2 progress*. Washington, DC: American Institutes for Research.
- Rose, A.M., Allen, T.W., & Johnson, E., III. (1982). *Acquisition and retention of soldiering skills: Development of a task classification system*. Washington, DC: American Institutes for Research.

- Rose, A.M., & Ford, P. (1982). *Acquisition and retention of soldiering skills: Report of year 1 progress*. Washington, DC: American Institutes for Research.
- Felker, D.B., & Rose, A.M. (1981). *The evaluation of a public document: The case of FCC's marine radio rules for recreational boaters*. Washington, DC: American Institutes for Research.
- Rose, A.M. (1981). *Problems in public documents*. *Information Design Journal*, 2 (3 & 4), 179-196.
- Rose, A.M., McLaughlin, D.H., & Felker, D.B. (1981). *Retention of soldiering skills: Review of recent ARI research*. Washington, DC: American Institutes for Research.
- Rose, A.M., Shettel, H.H., Wheaton, G.R., Bolin, S.F., & Barba, M.A. (1981). *Evaluating the effectiveness of Soldier's Manuals: A field study*. Washington, DC: American Institutes for Research.
- Holland, V.M., & Rose, A.M. (1980). *Understanding complex conditional instructions*. Washington, DC: American Institutes for Research.
- Rose, A.M. (1980). Information-processing abilities. In R.E. Snow, P.A. Federico, & W.E. Montague (Eds.), *Aptitude, learning and instruction*. Volume 1: Cognitive process analyses of aptitude. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Rose, A.M., & Cox, L.A. (1980). *Following instructions*. Washington, DC: American Institutes for Research.
- Rose, A.M., Motoyama, T., Allen, T.W., & Drillings, M. (1979). *Performance effectiveness in combat job specialties: Additional studies (Final Report)*. Washington, DC: American Institutes for Research.
- Allen, T.W., Rose, A.M., & Kramer, L. (1978). *An information-processing approach to performance assessment: III. An elaboration and refinement of the information-processing performance battery*. Washington, DC: American Institutes for Research.
- Fernandes, K., & Rose, A.M. (1978). *An information processing approach to performance assessment: II. An investigation of encoding and retrieval processes in memory*. Washington, DC: American Institutes for Research.
- Rose, A.M. (1978). *An information-processing approach to performance assessment (Final Report)*. Washington, DC: American Institutes for Research.
- Rose, A.M., & Wheaton, G.R. (1978). *Performance effectiveness in combat job specialties*. Washington, DC: American Institutes for Research.
- Schubert, J.G., Krug, R.E., & Rose, A.M. (1978). *Consumer fraud: An analysis of impact and opportunities for intervention (Technical Report, Phase II)*. Washington, DC: American Institutes for Research.

- Schubert, J.G., Krug, R.E., & Rose, A.M. (1978). *Consumer fraud: An empirical perspective (Summary Report)*. Washington, DC: American Institutes for Research.
- Boycan, G.G., & Rose, A.M. (1977). *An analytic approach to estimating the generalizability of tank crew performance objectives* (Research Memorandum 77-21). Alexandria, VA: U.S. Army Research Institute.
- Rose, A.M., & Fernandes, K. (1977). *An information-processing approach to performance assessment: 1. Experimental investigation of an information processing performance battery*. Washington, DC: American Institutes for Research.
- Schubert, J.G., Rose, A.M., Zweibel, G.J., & Klaus, D.J. (1977). *Consumer fraud: An analysis of impact and opportunities for intervention* (Technical Report, Phase I). Washington, DC: American Institutes for Research.
- Rose, A.M., Levine, J.M., & Eisner, E.J. (1976). *Measurement of pedestrian behavior*. Washington, DC: American Institutes for Research.
- Rose, A.M., Wheaton, G.R., Leonard, R.L., Jr., Fingerman, P.W., & Boycan, G.G. (1976). *Evaluation of the effectiveness of training devices: Evaluation of two tank gunnery trainers* (Research Memorandum 76-19). Alexandria, VA: U.S. Army Research Institute.
- Wheaton, G.R., Fingerman, P.W., Rose, A.M., & Leonard, R.L. (1976). *Evaluation of the effectiveness of training devices: Elaboration and application of the predictive model* (Research Memorandum 76-16). Alexandria, VA: U.S. Army Research Institute.
- Wheaton, G.R., Rose, A.M., Fingerman, P.W., Leonard, R.L., & Boycan, G.G. (1976). *Evaluation of the effectiveness of training devices: Evaluation of three burst-on-target trainers* (Research Memorandum 76-18). Alexandria, VA: U.S. Army Research Institute.
- Wheaton, G.R., Rose, A.M., Fingerman, P.W., Korotkin, A.L., & Holding, D.H. (1976). *Evaluation of the effectiveness of training devices: Literature review and preliminary model* (Research Memorandum 76-6). Alexandria, VA: U.S. Army Research Institute.
- Fingerman, P.W., Eisner, E., Rose, A.M., Wheaton, G.R., & Cohen, F.P. (1975). *Methods for predicting job-ability requirements: III. Ability requirements as a function of changes in the characteristics of a concept identification task*. Washington, DC: American Institutes for Research.
- Wheaton, G.R., Rose, A.M., & Fingerman, P.W. (1975). *Methods for predicting job-ability requirements: III. Task characteristics, ability requirements, and problem-solving strategies*. Washington, DC: American Institutes for Research.
- Moore, L.G., Brewer, G.J., Oelschlegel, F.J., Jr., & Rose, A.M. (1974). Pharmacological stimulation of red blood cell metabolism for high altitude preadaptation. In Bruley & Bicher (Eds.), *Oxygen transport to tissue: Advances in experimental medicine and biology* (Vol. 37b). New York, NY: Plenum Press.
- Rose, A.M. (1974). *Human information processing: An assessment and research battery* (Technical Report No. 46). Ann Arbor, MI: Human Performance Center.

Rose, A.M., Fingerman, P.W., Wheaton, G.R., Eisner, E., & Kramer, G. (1974). *Methods for predicting job-ability requirements: II. Ability requirements as a function of changes in the characteristics of an electronic fault-finding task*. Washington, DC: American Institutes for Research.

Wheaton, G.R., Rose, A.M., Fingerman, P.W., Korotkin, A.L., & Holding, D.H. (1974). *Evaluation of the effectiveness of training devices: II. evaluation plan for preliminary model*. Washington, DC: American Institutes for Research.

Rose, A.M., & Biederman, I. (1969). *Choice reaction time in a visual information-processing task* (Senior honors thesis). New York, NY: SUNY at Buffalo.

Presentations and Workshops

Rose, A.M. (1993). *Effective communication with blood donors: Decreasing AIDS risk by increasing the safety of the blood supply*. Paper presented at the IXth International Conference on AIDS, Berlin.

Rose, A.M., Crafts, J.L., Han, M., Miscall, P.J., & Williams, K.M. (1993). *Increasing the safety of the blood supply by screening donors more effectively*. Paper presented at the IVth Regional Congress of Blood Transfusion, European Region, Barcelona.

Rose, A.M., & Crafts, J.L. (1988). *Quality control procedures and interrater reliability results*. Paper presented at the 30th Annual Conference of the Military Testing Association, Washington, DC.

Rose, A.M., & Fernandes, K. (1976). *An information-processing approach to personnel management*. Paper presented at the Office of Naval Research Contractors Conference on Job Analysis, Job Design, and Employment Criteria.

Rose, A.M., & Pew, R.W. (1972). *Automation and time-sharing in skilled motor performance*. Paper presented at Midwestern Psychological Association.