

VITA
PAUL WANGEMANN

Current Work Address:

CITES
149 E MCKB
BYU
Provo, Utah

Education

Ph.D. Degree, Curriculum & Instructional Science, Brigham Young University, 1988.
Honors: Golden Key National Honor Society

Elementary Education Certification, State of Utah, 1988.

B.S. Degree, Business Management, BYU, 1981.
Special Emphasis: Marketing. Minors: Accounting and Economics

Experience & Accomplishments

Center for the Improvement of Teacher Education and Schooling **2001-Present**

- Associate Director of Communications and Education

Motorola, Motorola University **Schaumburg, IL** **1989-2001**

Senior Project Manager

- Senior project manager for Business Improvement Campaigns developed for the US Department of Defense with over \$1 million annual revenue while meeting strict government compliance and financial requirements.

Education Manager 1992-2001

- Provided the design, development, training, project management and delivery of over 120 problem-based learning programs at 30 sites worldwide over a nine year period.
- Developed yearly proposals funded by the Office of the CEO for a minimum of \$250,000 over nine years for a total exceeding \$3 million.
- Trained and managed implementation teams at multiple settings in China, Singapore, Malaysia, Russia, South Africa, Slovakia, Romania, Germany, England, Scotland, and in the United States.

- Co-developed an internet based system and set tools allowing communities of youth worldwide to communicate and collaboratively solve problems and generate solutions to authentic challenges.
- Created and delivered teacher/facilitator development programs involving partnerships with universities and school districts with both pre-service and in-service teachers. Several programs were approved for college credit.
- Developed and delivered programs in both classroom and web-based formats involving local teams as well as interconnecting international locations.
- Conducted and published research of active learning for an international organization OECD (Organization For Economic Co-Operation and Development)
- Participated on expert panels focusing on learning, technology and web applications for the Council on Competitiveness, the 21st Century Learning Initiative and the Center for Educational Research and Innovations (CERI).
- Served as the interface with educational systems worldwide on issues of leaning and technology.

Museum Education Director

1989-1992

- Served as the founding director of education for the Motorola Museum of Electronics
- Developed educational programs for middle and high school students and media enhanced tools for visitor experiences.
- Trained and managed docents capable of interacting with diverse audiences form businesses, government officials, schools and general public.
- Designed museum exhibits and computer interactives winning 2 Gold CINDY Awards and the Gold Medal at the New York Film Festival.
- Co-developed district specific science curriculum integrating knowledge and experiences at the museum with classroom teaching. Curriculum was adapted by local districts.

Brigham Young University
College of Education

Provo, Utah

1988-1989

Research/Evaluation Specialist

- Assisted in the evaluation and instruction of pre-service teachers in a field based program.
- Conducted research on teacher evaluation and on the university-public school partnership/

Larsen Elementary School

Spanish Fork, Utah

1987-1988

Fourth Grade Classroom Teacher

- Taught all curriculum areas, served as a cooperating teacher, established computer lab and provided in-service training with computers.

AT&T

Cincinnati, Ohio

1986

Training Technologist

- Developed and evaluated teletraining applications for both internal training needs and customized for external clients.
- Co-facilitated client visits and provided instruction of telecommunications delivery systems.

Brigham Young University

Provo, Utah

1984-1987

BYU—Public School Partnership

Education Specialist

- Served as the university's liaison with public schools in organizing and promoting the Ramses II Egyptian Exhibit as an education experience.
- Developed instruction materials used in hundreds of schools/
- Provided teacher in-service training and lecture/slide shows for students at over 50 schools.
- Evaluated instructional materials, museums visits, and student attitudes regarding the Ramses II exhibit.

Program Evaluator

1984-1986

- Conducted pre-ordinate evaluation of several semester sessions for the Jerusalem Study Abroad Program.

Researcher—Department of Ancient Scriptures

1984-1987

- Conducted research on Egyptian funerary documents and objects.

Program and Product Development

Explorations

Motorola University

1983-2001

- Classroom-based programs for youth providing a real world challenge in which the participants must collaborate, solve problems, and generate and present solutions to actual stakeholders. Trained facilitators provide guidance and support to help youth develop meta-cognitive skills.

Expeditions

Motorola University

1999-2001

- Internet-based program that allows youth from around the world to collaborate and generate ideas in response to challenges from the business community.

Support is provided through on-line mentors and a tool set designed for both synchronous and asynchronous modes.

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|---|---------------------|-----------|
| Cognitive Coach | Motorola University | 1997-1998 |
| <ul style="list-style-type: none">▪ CD-ROM provides a library of video clips demonstrating the multiple roles of facilitators. Users can create their own understandings of coaching by accessing a knowledge base, participating in self-reflection and interacting with others. | | |
| Guided Museum Audio Tours | | 1990-1991 |
| <ul style="list-style-type: none">▪ Self-paced audio tours developed for visitors to the Motorola Museum of Electronics in English, French, Chinese, and Spanish. | | |
| Museum Exhibit on Radio Communications | | 1989-1991 |
| <ul style="list-style-type: none">▪ This exhibit focuses on the fundamental principles of radio, the equipments used and the operations involved in the design and utilization of radio for communications. The exhibit incorporated the use of four separate multimedia computer interactives. | | |
| SEEK (Simulated Exploration of Electronic Knowledge) | | 1989-1991 |
| <ul style="list-style-type: none">▪ A multimedia interactive computer program and kiosk offering 19 activities that allow the user to explore and experience the basic principles of electricity, magnetism and electronics. | | |
| Silicon Chef | | 1989-1991 |
| <ul style="list-style-type: none">▪ A multimedia computer interactive program with touch screen monitors that allow visitors to find and identify ingredients necessary to produce microelectronics components. | | |
| Binary Bingo | | 1989-1991 |
| <ul style="list-style-type: none">▪ A multimedia computer interactive program which enables users to test their binary arithmetic skills in a series of activities using 1s and 0s. | | |
| Emergency 911 | | 1989-1991 |
| <ul style="list-style-type: none">▪ A multimedia computer interactive program which allows visitors to play the role of a radio dispatcher on a radio systems designer. | | |
| Electronics Experiment Kit | | 1989-1990 |
| <ul style="list-style-type: none">▪ Instructional material and components with activities that range from building a simple radio to a more complex radio using computer chips. Designed for the high school physics curriculum. | | |

Instructional Design and Development

Program design and development for Explorations and Expeditions has been a yearly event. The challenges selected had to be current (not yet solved), ill-defined, and of high

interest to youth. Instructor guides, Train-the-trainer guides and participant guides were developed for all programs. Some of the topics included:

- Design for Excellence in China (2001)
- Personal Communication Devices: Marketing Mixes for Teens of the World (2000)
- Expeditions 2000: PCS in Europe (2000)
- Marketing, Communications Devices, and Eastern Europe (2000)
- Communication and Technology at China's Motorola Towns (2000)
- IExpeditions: System Guide and Tutorials (1999)
- Telematics: What do you want to be able to do in your car? (1999)
- Telematics in Eastern Europe (1999)
- Marketing Talk About Radios (1998)
- Singapore: The Intelligent Island (1997)
- Managing Environmental Concerns in Texas (1997)
- Ferien-Forscher Camp: Designing Environmentally Compatible Space for Communities in Germany (1997)
- The 1996 Summer Olympic Games: From Atlanta to all the World (1996)
- Singapore: Rise to the Ultimate Challenge: The Olympics and Me (1996)
- Making the Recycling of Hi-Tech Products in Germany (1995)
- Developing the Communications System for the 1996 Olympic Games (1995)
- Eureka: Innovation and New Product Development (1994)
- The Power of Collaboration (1994)
- Preventing Pagers from becoming Illegal for Teenagers (1994)
- Iridium: Creating the World's first Global Communications System (1993)

Awards

- Exemplary Partnership (1993) State of Illinois Business-Education Partnerships, Community Consolidated School District 15 and Motorola Museum of Electronics.
- Outstanding Performer (1993) Motorola University, Special Performance Achieving Total Customer Satisfaction
- Best in Class (1992) The Conference Board, Best Business-School Partnership: Motorola Museum and Community Consolidated School District 15.
- Gold Medal (1991) New York Film Festival, *SEEK (Simulated Exploration of Electronic Knowledge)* Computer Interactive.
- Gold CINDY Award (1991) Association of Visual Communicators, *SEEK (Simulated Exploration of Electronic Knowledge)* Computer Interactive.
- Special Achievement (1991) Association of Visual Communicators, *SEEK: Innovative Touch Activities*.
- Gold CINDY Award (1991) Association of Visual Communicators, *Binary Bingo*.
- Special Achievement (1991) Association of Visual Communicators, *Binary Bingo: For Intuitive Learning*.

Professional Development

Project Management, The George Washington University, 2001

Educational Communications and Technology: A Cognitive Odyssey in Greece. New York University, 1998.

Voyageur Outward Bound School: Life and Career Renewal Course: Dog sledding in Boundary Waters, 1995

Interactive Video, Bloomsburg University: School of Extended Programs, 1991

Community Leadership

SciTech: Science and Technology Interactive Museum, Aurora, Illinois, 1998-Present
Member of the Board of Directors and Committee for Educational Programs

Junior Achievement: Central & Eastern Europe, Russia, 199-Present
Planning Committee for Strategy and Program Development

FIRST Robotics (For Inspiration and Recognition of Science and Technology),
1998-2000
Committee for Midwest Regional Competition

AFFECT (Academic Foundations for Future Economic Competitiveness Through
Technology), Arlington Heights, Illinois, 1997-2001.
Member of the Advisory Committee

Children's Museum & Imaginarium, Hoffman Estates, Illinois, 1990-1994
Member of the Board of Directors.

Publications & Scholarly Work

Paul Wangemann

Book Chapters:

- Wang, M.J., Rossett, A., & Wangemann, P. (2001). An exploration of engagement and mentoring in online problem solving. In C. Sleezer & R. Cude & T. Wentling (Eds.), *Human resource development in a networked world: Building competitive advantage*. Kluwer Academic Publishers.
- Harris, R.C. & Wangemann, P. (1997). Motorola summer program: United States. In d. Stern & G. Huber (Eds.), *Active learning for students and teachers: Reports from eight countries*. Peter Lang Publishers.
- Wangemann, P. & Harris, R.C. (1995). A case study on active learning. In J. Frasier (Eds.), *First Motorola Worldwide Learning, Training, and Education Research Conference: Selected Papers*. Motorola University Press.
- Flinders, N. & Wangemann, P. (1986). Ancient Hebrew “psychology”: A radical option for educators in the latter days. In *Proceedings of the 14th Annual Sidney B. Sperry Symposium*, Salt Lake City: Randall Book Company.

Journal Articles:

- Wang, M.J., Laffey, J., Harris, B. & Wangemann, P. (submitted). Promoting online collaborative learning experiences for teens. *Educational Media International*.
- Wangemann, P., Lewis, N. & Squires, D. (November, 2003). Portable technology comes of age: The utilization of handhelds in a pilot teacher education program. *Technology Horizons in Education*, Vol. 31(4).
- Wangemann, P. (First Quarter, 2000). From Explorations to Expeditions. *Opportunities*, Volume 17(1).
- Wang, M.J., Laffey, J., Harris, R.C., Wangemann, P. & Tupper, T. (December, 1999). How youth and mentors experience project-based learning in the Internet-based Shared Environment for Expeditions (iExpeditions). *Proceedings of the Third International Conference on Computer Support for Collaborative Learning (CSCL '99)*.
- Wangemann, P. (1999). Explorations, Youth Discovery, and Expeditions. In Resnick, K. & Weaver, D., 1999 *Pre-University Activities, Educational Systems Alliances*, Motorola University Press.
- Wangemann, P. & Resnick, K. (Fourth Quarter, 1995). Explorations '95: Developing a love for lifelong learning. *Opportunities*, Volume 12, (3).

Wangemann, P. & Sweitzer, J. (Summer 1995). Motorola and CARA (Center for Astrophysical Research in Antarctica): Partners in education. *Chicago Connections: The University of Chicago*.

Wangemann, P. (September, 1994). Lifelong learning: Providing opportunities for today and tomorrow. Inventing Tomorrow's Schools: *The Journal of the Global Village Schools Institute*.

Wangemann, P. (Winter 1993). Multimedia at the Motorola Museum of Electronics. *Journal of Instruction Delivery Systems*.

Wangemann, P. & Ingram, C. (Spring, 1989). A successful university-public school partnership: The union of theory and practice. *Teacher Education in Special Education*.

Wangemann, P. (1988). How research is included in giving feedback to preservice teachers. *Proceedings of the Partner School Mentor Networking Conference*.

Wangemann, P. & Flinders, N. (1986). The terms heart, mind, might, and strength as used in the standard works. *Proceedings of the 12th Annual Deseret Language and Linguistics Society*, Provo, BYU Press.

Course Development & Instructional Materials:

Wangemann, P. (2001). *Design for excellence in China: TalkAbout and youth*. Instructor guide and participant guide. Motorola University Press.

Wangemann, P., Milligan, K. & McClure, M. (2000). *Personal communication devices: Marketing mixes for teens of the world*. Instructor guide and participant guide. Motorola University Press.

Wangemann, P. (2000). *Marketing, communication devices, and Eastern Europe*. Instructor guide and participant guide. Junior Achievement International.

Wangemann, P. (2000). *Communication and technology at China's Motorola towns*. Instructor guide and participant guide. Motorola University Press.

Laffey, J., Tupper, T. & Wangemann, P. (1999). *iExpeditions: System guide and tutorials*. Center for Technology Innovations in Education.

Wangemann, P., Milligan, K. & McClure, M. (1999). *Telematics: What do you want to be able to do in the car?* Instructor guide and participant guide. Motorola University Press.

Wangemann, P. (1999). *Telematics in Eastern Europe*. Instructor guide and participant guide. Junior Achievement International.

- Harris, R. C. & Wangemann, P. (1998). *Marketing TalkAbout radios*. Instructor guide and participant guide. Motorola University Press.
- Wangemann, P. (1997). *Singapore: The intelligent island*. Instructor guide and participant guide. Motorola University Press.
- Wangemann, P. (1997). *Managing environmental concerns in Texas*. Instructor guide and participant guide. Motorola University Press.
- Wangemann, P. & Ehlert, S. (1997). *Ferien-Forscher camp: Designing environmentally compatible space for communities in Germany*. Instructor guide and participant guide. Motorola University Press.
- Wangemann, P. (1996). *The 1996 Summer Olympic Games: From Atlanta to all the world*. Instructor guide and participant guide. Motorola University Press.
- Wangemann, P. (1996). *Singapore: Rise to the ultimate challenge: The Olympics and me*. Instructor guide and participant guide. Motorola University Press.
- Wangemann, P. & Ehlert, S. (1996). *Making the recycling of hi-tech products in Germany*. Instructor guide and participant guide. Motorola University Press.
- Wangemann, P. & Carpenter, J. (1995). *Developing the communications system for the 1996 Olympics in Atlanta*. Instructor guide and participant guide. Motorola University Press.
- Wangemann, P., Sanderson, S. & Andrew, M. (1994). *Design and manufacturing learning environment*. CD-ROM and instructor notes. Rensselaer Polytechnic Institute.
- Wangemann, P. (1994). *Eureka: Innovation and new product development*. Instructor guide and participant guide. Motorola University Press.
- Wangemann, P. (1994). *The power of collaboration*. Instructor guide and participant guide. Motorola University Press.
- Wangemann, P. & Gallagher, S. (1994). *Preventing pagers from becoming illegal for teenagers*. Instructor guide and participant guide. Motorola University Press.
- Wangemann, P. & Carpenter, J. (1993). *Iridium: Creating the world's first global communications system*. Instructor guide and participant guide. Motorola University Press.
- Schuster, E., Wangemann, P. et al. (1993). *A journey through time and technology: Exhibit handbook*. Motorola Museum of Electronics.

Zwicker, E. (Eds.). (1991). *Electronics Experiment Kit*. Kit, teachers guide and train-the-trainer guide. Motorola University Press.

Wangemann, P. (1991). *The Motorola Museum of Electronics tour guide manual*. Guide book. Motorola University Press.

Wangemann, P., Muse, I. & Ingram, C. (1986). *Ramses II: The pharaoh and his time: Learning resource packet for teachers, parents, and students*. Provo, Utah: Brigham Young University.

Instructional Products & Exhibits:

Wangemann, P. & Harris, R.C. (1997-1998). *Cognitive Coach*
CD-ROM provides a library of video clips demonstrating the multiple roles of facilitators. Users can create their own understandings of coaching by accessing a knowledge base, participating in self-reflection and interacting with others.

Wangemann, P. & all. (1990-1991). *Guided Museum Audio Tours*
Self-paced audio tours developed for visitors to the Motorola Museum of Electronics in English, French, Chinese, and Spanish.

Wangemann, P. & all. (1989-1990). *Museum Exhibit on Radio Communications*
This exhibit focuses on the fundamental principles of radio, the equipment used and the operations involved in the design and utilization of radio for communications. The exhibit incorporated the use of 4 separate multimedia computer interactives.

Wangemann, P. & all. (1989-1991). *SEEK (Simulated Exploration of Electronic Knowledge)*
A multimedia interactive computer program and kiosk offering 19 activities that allow the user to explore and experience the basic principles of electricity, magnetism and electronics.

Wangemann, P. & all. (1989-1991). *Silicon Chef*
A multimedia computer interactive program with touch screen monitors that allow visitors to find and identify ingredients necessary to produce microelectronics components.

Wangemann, P. & all (1989-1991). *Binary Bingo*
A multimedia computer interactive program which enables users to test their binary arithmetic skills in a series of activities using 1s and 0s.

Wangemann, P. & all. (1989-1991). *Emergency 911*
A multimedia computer interactive program allows visitors to play the role of a radio dispatcher or a radio systems designer.

Wangemann, P. & all. (1989-1991) *Electronics Experiment Kit*

Instructional material and components with activities that range from building a simple radio to a more complex radio using computer chips. Designed for the high school physics curriculum.

Paper Presented at Professional Conferences:

Wang, M.J. Harris, B., & Wangemann, P. (2001, November). *Promoting Online Collaborative Learning Experience for Youth: Lessons Learned*. Distance Learning Roundtable Program accepted for presentation at the Association for Educational Communications and Technology (AECT) 2001 International Conference, Atlanta, Georgia

Harris, B., Wang, M.J., & Wangemann, P. (2001, November). *Do people learn from Problem solving online?* Paper accepted for presentation at the Association for Educational Communications and Technology (AECT) 2001 International Conference, Atlanta, Georgia.

Wang, M.J., Laffey, J. & Wangemann, P. (2001 April). *The Construction of shared Knowledge in an Internet-based shared environment for Expeditions (iExpeditions)*. Symposium presented at the American Educational Research Association (AERA) Annual Meeting, Seattle, Washington.

Harris, B.R., & Wangemann, P. (2000) *Best practices for promoting online collaborative learning experiences*. Paper presented at the annual convention of the Association for Educational Communications & Technology, Denver, Colorado.

Wangemann, P. (2000, July). *Matching people's dreams with the promise of technology*. Workshop presented at the 2nd Annual Junior Achievement Conference for Central and Eastern Europe, Bratislava, Slovakia.

Wangemann, P. (2000, June). *Problem-based learning and youth development for teacher education*. Presentation at the Promising Practices of Teacher Education in the 21st Century Conference, Beijing China.

Wang, M.J., Laffey, J. Harris, C., Wangemann, O., & Tupper, T. (1999, December). *How youth and mentors experience project-based learning in the Internet-based Shared Environment for Expeditions (iExpeditions)*. Paper presented at the Third International Conference on Computer Support for Collaborative Learning (CSCL), Stanford University.

Wangemann, P. (1999, October). *Creating an on-line global learning community*. Paper Presented at the WebNet 99 Conference, Honolulu, Hawaii.

Wangemann, P. (1999, October). *Preparing for global team learning utilizing technology*. Paper presented at the International Conference on Technology and Education (ICTE), Tampa, Florida

- Wagemann, P. (1999, July). *Linking your world to the global community*. Workshop Presented at the 1st Annual Junior Achievement Conference, Bucharest, Romania.
- Wagemann, P. (1998, January). *Lifelong learning captured in the business world*. Paper Presented at the Conference of Business Anthropologists, Miami, Florida
- Wagemann, P., (1995, September). *Learning: All day, every day*. Paper presented at the Work and Family Conference, Schaumburg, Illinois
- Wagemann, P. (1995, April). *Can businesses and schools work together?* Panel Presentation at the 2nd Annual Global Village Schools Conference, Atlanta, Georgia.
- Wagemann, P. & Harris, R.C. (1995, April). *All in the family: learning environments*. Paper presented 2nd Annual Global Village Schools Conference, Atlanta, Georgia
- Wagemann, P. (1995, April). *Case Study of active learning: Explorations*. Paper Presented at the First Motorola Worldwide Learning, Training and Education Research Conference, Kuala Lumpur, Malaysia.
- Wagemann, P. (1995, April). *Careers in science and technology*. Keynote presentation At Turkey's National Youth Day Celebration, Istanbul Turkey.
- Wagemann, P. & Milligan, K. (1995, January). *Problems as a base for learning*. Paper presented at the Business/Education Partnership Conference, Chicago, Illinois.
- Wagemann, P. (1994, November). *Teachers and students as active learners: A case study*. Paper presented at the Conference for the Center for Educational Research and Innovation, Paris, France.
- Wagemann, P. & Harris, R.C. (1994, September). *Active learning: Results from the CERI study*. Paper presented at the Annual Partnership Conference, Brigham Young University, Provo, Utah
- Wagemann, P. (1994, September). *Learning with the family*. Paper presented at the Work and Family Conference, Atlanta Georgia.
- Wagemann, P. (1994, April). *Problem-based learning*. Paper presented at the First Annual Global Schools Conference, Atlanta, Georgia.
- Wagemann, P. (1994, April). *Making the learning organization work*. Paper presented at the International Learning Organizations Conference, Paris, France.

- Wangemann, P. (1993). *Problem based learning and teacher education*. Paper presented at the Conference for the Coalition of University and Businesses in Education, Chicago, Illinois.
- Wangemann, P. (1993, January). *Multimedia in the museum environment*. Paper presented at the Association for Educational Communications and Technology (AECT) 1992 International Conference, New Orleans, Louisiana.
- Wangemann, P. (1992, November). *Empowerment through museums and multimedia*. Paper presented at the 34th International ADCIS Conference, Norfolk, Virginia.
- Wangemann, P. (1992, February). *Business/universities relations to public schools*. Paper presented at Annual Conference for the Association for Teacher Education, Orlando, Florida.
- Wangemann, P. (1992, February). *Multimedia at the Motorola Museum of Electronics*. Presentation made at the Association for Educational Communications and Technology (AECT) 1992 International Conference, Washington, D.C.
- Wangemann, P. (1991, November). *The utilization of multimedia in a museum environment*. Paper presented at 33rd International ADCIS Conference, St. Louis, Missouri.
- Wangemann, P. (1991, February). *Impact of interactive videos*. Presentation made at the Association for Educational Communications and Technology (AECT) 1991 International Conference, Orlando, Florida.
- Wangemann, P. (1990, November). *Are museums legitimate settings for educational research in the 90's?* Paper presented at the 69th Annual Meeting of California Educational Research Association, Santa Barbara, California.
- Wangemann, P. (1990, February). *How multimedia can be used in museum settings*. Presentation made at the Association for Educational Communications and Technology (AECT) 1990 International Conference, Anaheim, California.
- Wangemann, P. (1989, November). *School/university partnerships: Making it work*. Paper presented at the 68th Annual Meeting of California Educational Research Association, San Francisco, California.
- Ingram, C. & Wangemann, P. (1988, November). *Characteristics of successful partnerships in serving exceptional populations*. Paper presented at the Eleventh Annual Teacher Education Division-Council for Exceptional Children Conference, Salt Lake City, Utah.

Wangemann, P. (1987, March). *How research is included in giving feedback to preservice teachers*. Paper presented at the Partner School mentor Networking Conference, Provo, Utah.

Wangemann, P. (1986, August). *University-public school partnership: A case study of the BYU-Public School Partnership and the Ramses II exhibit*. Paper presented at the Seventh Annual World Conference on Gifted and Talented Children, Salt Lake City, Utah.

Flinders, N. & Wangemann, P. (1986, February). *Ancient Hebrew "psychology": A radical option for educators in the latter-days*. Paper presented at the Fourteenth Annual Sidney Sperry Symposium, Provo, Utah.

Wangemann, P. & Flinders, N. (1986, February). *The terms heart, might, mind and strength as used in the standard works*. Paper presented at the Twelfth Annual Symposium of the Deseret Language and Linguistics Society, Provo, Utah.

Wangemann, P. (1985, October). *Design and use of independent learning stations using the Ramses II exhibit as a unifying theme*. Paper presented at the annual conference of the Utah Association for Gifted Children, Provo, Utah.