

CURRICULUM VITAE
Terrence Verne (Joe) Layng

ADDRESS, TELEPHONE, & PERSONAL INFORMATION

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PERSONAL

Date of birth: 01/25/1950

Married, two children

CURRENT POSITIONS

ChangePartner

Morgantown, WV

2014 – present

Chief Scientist

The company combines state of the art contingency analysis, instructional systems design, and mobile technology to solve complex behavioral problems at scale.

Generategy, LLC

Seattle, WA

2013 – present

Partner

Educational software company whose products are based on generative instruction principles.

EDUCATION

The University of Chicago, Chicago, IL.

1979 – 1994

Ph.D. Behavioral Sciences (Biopsychology)

University of Houston–Clear Lake, Houston, TX.

1977 – 1979

M.A. Behavioral Science

Illinois Board of Governors Bachelor of Arts Degree Program

Governors State University, University Park, IL

1977 – 1978

B.A. Behavior Analysis and Instructional Design

Western Illinois University, Macomb, IL.

1969 – 1971

Rock Valley College, Rockford, IL.

1968 – 1969

AWARDS & HONORS

- Excellence and Innovation in Teaching (CIDPI), Illinois Board of Higher Education, 1972
- Who's Who Among Students in American Colleges and Universities, 1978
- Elected by the faculty of the University of Houston, Clear Lake Campus to Phi Kappa Phi honor society, 1979
- The University of Chicago, Committee on Biopsychology Tuition Fellowship, 1981 - 1982
- NIMH Research Training Fellowship, 1982 & 1983
- Personalized Curriculum Institute Malcolm X College, designated as an example of excellence in Community College education by the Illinois Community College Board, 1993 (Founder)

- Winner 1995 Illinois Community College Board Award for Excellence in Teaching/Learning for the Personalized Curriculum Institute
- City of Chicago, Kathy Osterman Award for public service, 1996
- West Side Organizing Project Award for distinguished service to the Chicago west-side community, 1996
- Subject of an article in *The University of Chicago Magazine*, April, 1996 (<http://magazine.uchicago.edu/9604/9604TOC.html>)
- *Headsprout Reading Basics™* chosen as Best Online Curriculum, Education Clearinghouse, 2003 (Chief Architect)
- Headsprout, Inc. recipient of the 2003 Ellen P. Reese Award of the Cambridge Center for Behavioral Studies for best communication of behavior analysis to the public (Founder)
- *Headsprout Reading Comprehension* recipient of the CODiE Award for best “online instructional solution” from the Software Industry and Information Association, 2010 (Chief Architect)
- Fellow, Association for Behavior Analysis International, elected 2013

CURRENT RESEARCH INTERESTS

Understanding complex behavior of individual and social significance: The experimental and applied analysis of complex behavior within a nonlinear, selectionist framework.

- Providing advanced contingency analytic solutions to human problems using big data and Internet delivery systems in organizational, everyday, and clinical settings.
- Completing a consequential contingency analysis of emotions & emotional behavior, including a contingency analytic framework for understanding the roots of emotional isolation and terrorism
- Developing interactive generative learning strategies and platforms for rapidly establishing intellectual-skill repertoires.

EXPERIENCE

LEARNING SCIENCE, CLINICAL, AND BASIC RESEARCH POSITIONS

Centre For Innovative Design and Programed Instruction (CIDPI) 1971 – 1973

Western Illinois University, Macomb, IL.

Director of CIDPI. With a staff of twenty-three, designed and implemented learner verified instructional programs for nineteen university courses, developed tutoring methods for the Office of Academic Services, and established a university-wide self-paced learning center.

Institute of Psychiatry, Northwestern Memorial Hospital 1973 – 1976

Northwestern University Medical Center, Chicago, IL.

Mental Health Worker and In-service Education Instructor in Behavior Analysis. Developed a functional analysis model for understanding clinically relevant verbal behavior and its relation to treatment planning; applied and taught principles of programed instruction (p.i.) and the nonlinear consequential governance of behavior as a model for psychiatric treatment for in-patient and out-patient populations; and supervised the personal effectiveness group, a research/treatment project that applied the p.i. model in a group format for patients in all diagnostic categories typically admitted to locked, in-patient, psychiatric units.

Department of Behavioral Sciences 1977 – 1979

Behavior Analysis Laboratory

University of Houston, Clear Lake Campus, Houston, TX.

As a research assistant, performed animal (behavioral pharmacology) and human signal detection research, and wrote and developmentally tested a programed manuscript (with H. Karp), An Introduction to Signal Detection Theory. Supervised both undergraduate and graduate student research. Masters thesis investigated the role of response bias and discriminability in behavior established by textual rules (definitions) and textual models (examples and nonexamples) on classifying complex multidimensional textual stimuli (morphemes).

Armand Bayou Recycling Center

1978

Armand Bayou Nature Center, Houston, TX.

Established and managed until profitable, a successful private recycling center for the Clear Lake area of Houston and surrounding communities.

University of Illinois Medical Center

1979 – 1984

Hospital Information Systems, Chicago, IL.

As a procedures and behavioral systems analyst working with hospital administration (part-time position) developed highly successful, hospital-wide, instructional (over 100 self-instruction programs developed) and implementation strategies (based on a systemic, nonlinear analysis of behavior) for a 220 terminal medical-information-system used by five thousand people. Specialized in instructional design and resistance to innovation problems.

The University of Chicago

1979 – 1987

Behavior Analysis Research Laboratory

Department of Psychiatry, Chicago, IL.

Under the supervision of Dr. Israel Goldiamond, performed basic animal research, maintained a clinical case-load, developed community training programs in nonlinear topical and systemic diagnosis and treatment, served as a teaching assistant.

Clinical: Participated in a clinical research-treatment program, which sought to provide treatment for clients and hospital patients by teaching them to perform a nonlinear contingency analysis of their own behavior as a basis for psychiatric intervention. Trained community service workers, whose primary focus was family and child treatment in the home, in nonlinear topical and systemic behavior analytic intervention. Trained in-patient psychiatric staff of Madden Mental Health Center and consulted weekly for six months thereafter.

Laboratory: Conducted basic research on animal models of psychopathology. Specifically, investigated the recurrence of chronic, unreinforced, self-injurious behavior (SIB – head-banging by pigeons) as a function of past selection contingencies for SIB, and current selection contingencies which maintained a different class of behavior (key-pecking). Collaborated with P. T. Andronis on research investigating the adduction of untrained complex symbolic social-behavior by pigeons as a function of the interaction between trained nonsocial, minimal, behavioral components, schedules of reinforcement, and indirect access to another bird.

Teaching: Teaching assistant for Biopsychology/Psychiatry 378 & 379 and Psychiatry 420.

Enabling Technologies, Inc.

1984 – 1990

Chicago, IL.

Enabling Technologies was an international technology leader in full-color graphic design software. The company specialized in the application of advanced behavior analytic research to computer-based training and user-interface design for complex computer software. The company's products were distributed in the USA, in Europe, and in Japan.

Executive Vice-President, Chief Operating Officer, Director, Founder (April 1984 - 1985)
Responsible for day-to-day operations, contract negotiation, & product planning.

President, CEO, & Director (1985 - July 1990); Chairman (July 1990 - October 1990)

Served as principal executive officer; supervised and controlled all of the business affairs of the corporation; presided at all meetings of the Board of Directors; negotiated contracts that allowed the company to penetrate both European and Japanese markets; contributed in the application of behavior analytic research to product design and development.

Malcolm X College, City Colleges of Chicago

1990 – 1996

Chicago, IL.

Director of Academic Support and Dean of Public Agency and Special Training Programs, and member of the President's Executive Committee:

Provided tutorial and academic support for the college's students and developed special training programs for the College and Chicago community. Responsible for all academic support functions, including tutor-based and computer-based support, and all college placement testing. Through the college, trained over 500 Chicago teachers in Generative Instruction, and instrumental in bringing research-based teaching practices to the Chicago Public Schools in the mid 1990's. Founded the Personalized Curriculum Institute (PCI), based on a Generative Instruction Model, for students with high school diplomas who had skills below the eighth-grade level. Served as a member of the College's executive committee, with responsibility for program evaluation, review, and budgeting.

Grant Director: Special Populations Grant, 1991 – 1996, Grant award averaged approximately \$3 million per year.

Celaire Corp.

1994 – 1996

Chicago, IL and Seattle, WA.

Partner in a small firm that applied generative instruction strategies as a solution to workplace literacy problems. Clients included four manufacturing divisions of Motorola, Inc.

Robbins/Layng & Associates

1994 – 1999

Chicago, IL and Seattle, WA

Partner & founder

Consulted with school districts, prison systems, and corporations on how to improve educational, behavior intervention, and training practices. Focused on reasoning, problem-solving, and effective thinking skills.

Headsprout

1999 – 2011

Seattle, WA.

Senior Scientist and Co-founder

Headsprout (www.headsprout.com) is an applied learning sciences company that provides scientifically designed and tested, online learning environments for use in schools and homes. Chief architect of the company's applied learning-science based products, including *Headsprout® Early Reading* and *Headsprout® Reading Comprehension*; and leader of the scientific team that developed Headsprout's patented Generative Learning Technology. Over 500,000 children have learned to read using Headsprout products.

Mimio

Cambridge, MA & Seattle, WA

2011 – 2013

Director, Learning Sciences

Mimio is an interactive classroom technologies company that provides hardware and software classroom and online learning platforms as well as scientifically designed and tested teaching/learning applications for use in schools and homes (acquired Headsprout, 2011). Chief Architect of the Headsprout, interactive whiteboard, NGSS based science curriculum for grades 3 – 8.

FACULTY POSITIONS

Roosevelt University, Chicago, IL 1982 – 1984;1990

Adjunct Psychology Instructor

Courses: Abnormal Psychology, Behavior Therapy, Physiological Psychology, Educational Psychology, Statistics, Advanced Research Methods, and Learning and Behavior.

Instructor Special Programs, IBM (via Roosevelt University) 1982 – 1983

One IBM Plaza, Chicago, IL.

Developed and taught a special two semester course on Instructional Design and Learning for senior instructional designers and managers.

Chicago School of Professional Psychology, Chicago, IL. 1989 – 1994

Teaching faculty

Courses: Behavioral Models and Therapies I & II; Single Subject Research.

Senior Fellow 2008

University of Illinois at Chicago, Chicago, IL. 1990

Lecturer

Course: Methods of Inquiry

The New School for the Learning Sciences, Seattle WA 1998 – 2003

Co-Founder & Core Faculty

Small on-line, non-profit, school founded to provide professional (non-credit) learning science instruction at the graduate level.

CONSULTANT POSITIONS

International Studies Program 1972 – 1973

Western Illinois University, Macomb, IL.

As a consultant, designed and supervised a programed tutoring project, "U.S. History Through Literature", for thirty-seven students from the School of Translation, Tehran, Iran.

Lunar and Planetary Institute and NASA 1977

Houston, TX.

Served on an advisory panel and developed a report on human (behavioral) considerations in space colonization and industrialization.

Office of Academic Affairs, Academic Support Service 1988

Central Office, Chicago City Colleges, Chicago, IL.

As a consultant to the Associate Vice Chancellor, developed system-wide strategies to increase student retention rates in college and improve student GPA. Implemented programs that enhanced thinking skill and problem solving repertoires of at-risk students.

In-Pact 1990

Crown Point, IN.

As a consultant, designed non-aversive, nonlinear systemic, clinical and educational interventions for a residential treatment facility for autistic youth.

Aubrey Daniels & Associates 1992 – 1994

Tucker, GA.

Consultant to a national performance management consulting firm; redesigned initial corporate/client training to incorporate generative instruction strategies and developed new performance analysis and planning tools for the firm.

Continuous Learning Group 1995 & 1999
Morgantown, WV.

Consultant to a national management consulting firm; trained company staff to incorporate generative instruction strategies in their consulting work; Developed guidelines for critical thinking & problem solving training for corporate senior management at Bayer, USA.

Chicago Public Schools 1994 – 1996
Chicago, IL.

Member of the Chicago Public Schools (CPS) High School Redesign Taskforce, Co-chair High School Curriculum & Instruction Redesign Taskforce; member Accountability and School Intervention Taskforce; member of the CPS Alternative Schools Taskforce; member of the CPS School-to-Work Taskforce; member Capital Improvement Taskforce.

Seattle Public Schools 1997 – 1998
Seattle, WA

Consulted with Seattle Public Schools, and advised the late Superintendent, General John Stanford.

Capella University 2006
Minneapolis, MN

Consultant & subject matter expert in helping to improve problem solving and reasoning instruction in early undergraduate coursework.

EDITORIAL BOARDS

Cambridge Center for Behavioral Studies 2001 – present
Concord, MA
Associate Editor *Behavioral Technology Today*

ADVISORY/BOARD POSITIONS

Enabling Technologies 1985 – 1990
Chicago, IL
Board of Directors

Morningside Academy 1989 – 1999
Seattle, WA.

Member, Advisory Board

Morningside Academy is a not-for-profit private school that provides guaranteed educational progress to children and adults who have not been able to succeed in conventional school programs.

Institute for New Cinema Artists (INCA) 1989 - 1991
Chicago, IL.

Member, Board of Directors

A not-for-profit private post-secondary vocational school, that for over eleven years trained predominately minority students to work in the electronics, television, radio, and music industries.

Local School Council, Thomas Edison Regional Gifted Center 1994 – 1996
Chicago, IL.

Publicly Elected Council Member

Headsprout, Inc.

Seattle, WA

Board of Directors

1999 – 2002

Observer status

2002 – 2011

Cambridge Center for Behavioral Studies

Concord, MA

Advisory Board

1994 – 1999

Board of Trustees

1999 – present

Board of Directors

2008 – 2015

The Center for Polytechnical Education

Chicago, IL

Board of Directors

2008 – 2009

The Chicago School of Professional Psychology

Chicago, IL

Board of Trustees

2008 – present

TCS Education System

Chicago, IL

Board of Trustees

2010 – present

Pacific Oaks College

Pasadena, CA

Board of Trustees

2010 – present

National Center on Innovations in Learning

Philadelphia, PA

Scientific Advisor

2012 – present

PUBLICATIONS

Layng, T. V. J., S. Merley, J. Cohen, P. T. Andronis, and M. Layng (1976). Programed Instruction, self-control, and in-patient psychiatry. *Educational Resource Clearinghouse* (ERIC), Document Listing #142 886.

Merely, S. & T. V. J. **Layng** (1976). In-patient psychiatry and programed instruction: application and research in constructional theory. *Improving Human Performance Quarterly*. Spring, 5, (1), 35-46.

Layng, T. V. J. (1977). Telecommunications -- Transportation Trade-offs: a brief social contingency analysis of the relationship of petro-energy scarcity to instructional technology. *NSPI Journal*, 16, (10), 7-9.

Karp, H. and T. V. J. **Layng** (1979). *An introduction to signal detection theory: A self-instructional program*. Houston, Texas: University of Houston, Clear Lake Campus.

Layng, T. V. J. and P. T. Andronis (1984). Toward a functional analysis of delusional speech and hallucinatory behavior. *The Behavior Analyst*, Fall, 7, (2), 139-156.

Layng, T. V. J. (1987). State of the software industry in Illinois. *Proceedings of the Governor's Conference on Science and Technology*, State of Illinois Publications: Springfield, IL.

- Layng**, T. V. J. (1989). A behavioral analysis of current and future trends in user interface design. In, *User Interfaces in the 1990s* (audio tape), Needham, MA: The Interface Group.
- Layng**, T. V. J. (1991). A selectionist approach to verbal behavior: Sources of variation. In L. J. Hayes & P. N. Chase (Eds.), *Dialogues on Verbal Behavior*, Context Press: Reno, Nevada, 146-150.
- Johnson, K. R. and T. V. J. **Layng** (1992). Breaking the structuralist barrier: Literacy and numeracy with fluency. *American Psychologist*. **47**, 1475 - 1490.
- Johnson, K. R. and T. V. J. **Layng** (1994). The Morningside Model of Generative Instruction. In R. Gardner III, D. M. Sainato, J. O. Cooper, T. E. Heron, W. L. Heward, and J. W. Eshleman, (Eds.), *Behavior Analysis in Education: Focus On Measurably Superior Instruction*, Brooks/Cole Publishing Company: Pacific Grove, California.
- Robbins, J. K., T. V. J. **Layng**, & P. J. Jackson (1994). *Fluent thinking skills: A generative approach*. Chicago, IL: Robbins/Layng Associates.
- Layng**, T. V. J. (1994). Programed head-banging by pigeons: Cessation and return. Dissertation: The University of Chicago, Chicago, IL. Available from UMI dissertation services.
- Robbins, J. K., T. V. J. **Layng**, & H. J. Karp (1995). Ambiguity and the abstract tact: A signal detection analysis. *The Analysis of Verbal Behavior*. **12**, 1 - 11.
- Layng**, T. V. J. (1995). Causation and complexity: Old lessons new crusades. *Journal of Behavior Therapy and Experimental Psychiatry*, **26**, 249 - 258.
- Johnson, K. R. & T. V. J. **Layng** (1996). On terms and procedures: Fluency. *The Behavior Analyst*, **19**, 281-288.
- Andronis, P. T., T. V. J. **Layng** & I. Goldiamond. (1997). Contingency adduction of "symbolic aggression" by pigeons. *The Analysis of Verbal Behavior*, **14**, 5-17.
- Layng**, T. V. J., P. T. Andronis & I. Goldiamond (1999). Animal models of psychopathology: The establishment, maintenance, attenuation, and persistence of head-banging by pigeons. *Journal of Behavior Therapy and Experimental Psychiatry*, **30**, 45 – 61.
- Gimenes, L. S., T. V. J., **Layng**, & P. T. Andronis (2003). Contribuições de Israel Goldiamond para o desenvolvimento da análise do comportamento, *Sobre Comportamento e Cognicao*, **11**, 34-46.
- Layng**, T. V. J., J. S. Twyman, & G. Stikeleather (2003). Inside Headsprout Early Reading. *The Current Repertoire*, Fall Edition, Cambridge Center For Behavioral Studies.
- Layng**, T. V. J., J. S. Twyman, & G. Stikeleather (2003). Headsprout Early Reading: Reliably teaching children to read. *Behavioral Technology Today*, **3**, 7-20.
- Layng**, T. V. J., J. S. Twyman, & G. Stikeleather (2004). Engineering discovery learning: The contingency adduction of some precursors to textual responding in a beginning reading program, *The Analysis of Verbal Behavior*, **20**, 99–109.
- Layng**, T. V. J., J. S. Twyman, & G. Stikeleather (2004). Selected for success: How Headsprout Reading Basics™ teaches beginning reading In: D.J. Moran & R. Malott (Eds.) *Evidence-based educational methods*, St. Louis, MO: Elsevier Science/Academic Press.

- Palmer, D. C., J. Eshelman, P. Brandon, T. V. J. **Layng**, C. McDonough, J. Michael, T. Schoneberger, N. Stemmer, R. Weitzman, M. Normand (2004). Dialogue on private events, *The Analysis of Verbal Behavior*, **20**, 111–128.
- Twyman, J. S., T. V. J. Layng, G. Stikeleather, & K. Hobbins (2004). A Non-linear approach to curriculum design: The role of behavior analysis in building an effective reading program. In: W. L. Heward et al. (Eds.), *Focus on behavior analysis in education*, Vol. 3. Upper Saddle River, NJ: Merrill/Prentice Hall.
- Gimenes, L.S., P. T. Andronis, & T. V. J. **Layng** (2005). O questionário construcional de Goldiamond: uma análise não-linear de contingências. Em H.J. Guilhardi & N.C. Aguirre (Orgs.) *Sobre Comportamento e Cognição: Expondo a variabilidade* (Vol. 15, pp. 308-322).
- Merbitz, C., Casson, S., Eshleman, J.W., Hrga, G., Spence, I., **Layng, J.**, Wolking, B., & Hively, W. (2005). Selections from the Standard Celeration listserv's Love to Og. *The ABA Newsletter*, 28(1), 40-41.
- Layng**, T. V. J., G. Stikeleather, & J. S. Twyman (2006). Scientific formative evaluation: The role of individual learners in generating and predicting successful educational outcomes In: Subotnik, R. & Walberg, H. (Eds.) *The Scientific Basis of Educational Productivity*, Charlotte, NC: Information Age Publishing.
- _____. Abridged version in: *LSS Review*, Spring 2005 issue, Laboratory for Student Success, Temple University publishers.
- Layng**, T. V. J. (2006). Emotions and emotional behavior: A constructional approach to understanding some social benefits of aggression. *Brazilian Journal of Behavior Analysis*. **2**, (2), 155–170.
- Layng**, T. V. J. (2009). The search for an effective clinical behavior analysis: The nonlinear thinking of Israel Goldiamond, *The Behavior Analyst*, **32**, (1) 163–184.
- Layng**, T. V. J. (2010). Buying green, *The Behavior Analyst*, **33**, (2) 175–177.
- Twyman, J. S., T. V. J. **Layng**, Z. R. Layng (2011). The likelihood of instructionally beneficial, trivial, or negative results for kindergarten and first grade learners who partially complete Headsprout® *Early Reading. Behavior Technology Today*, 6, 1–19.
- Leon, M, Ford, V., Shimizu, H., Stretz, A., Thompson, J., Sota, M., Twyman, J. S. and **Layng**, T. V. J. (2011). Comprehension by design: Teaching young learners to comprehend what they read. *Performance Improvement Journal*, 50, 40–47.
- Layng**, T. V. J., Sota, M., & Leon, M. (2011). Thinking through text comprehension I: Foundation and guiding relations. *The Behavior Analyst Today*, 12, 1-10.
- Leon, M., **Layng**, T. V. J., & Sota, M. (2011). Thinking through text comprehension III: The programming of verbal and investigative repertoires. *The Behavior Analyst Today*, 12, 11-20.
- Sota, M., Leon, M., & **Layng**, T. V. J. (2011). Thinking through text comprehension II: Analysis of verbal and investigative repertoires. *The Behavior Analyst Today*, 12, 21-33.
- Layng, Z. R. & **Layng**, T. V. J. (2012). Building the case for large scale behavioral education adoptions. *The Behavior Analyst Today*, 13, 1-5.
- Layng**, T. V. J. (2013). Technology changes in the classroom: In search of effective, flexible solutions. *Digital Learning –India*, 9, 40-42.

Layng, T. V. J. & J. S. Twyman (2013). Education + Technology + Innovation = Learning? *Handbook on Innovations in Learning*, Philadelphia, PA: Center for Innovation in Learning.

Mirabito, M. M. & T. V. J. **Layng** (2013). Stimulating innovation (or making innovation meaningful again). *Handbook on Innovations in Learning*, Philadelphia, PA: Center for Innovation in Learning.

Layng, T. V. J. & H. J. Karp (2014). *Decisions and judgments in ambiguous situations: An introduction to Signal Detection Theory*. Seattle, WA, Generategy, LLC (interactive eBook available on the Apple iBookStore).

Layng, T. V. J. (2014). Learning science design and development requirements: an update of Hendrix and Tiemann's "designs for designers." *Mexican Journal of Behavior Analysis*, 40, 39-57.

DIGITAL PUBLICATIONS

Enabling Technologies, Inc., CEO (1984–1990)

Over a six year period, published, guided the development, and contributed to the design of over 20 commercially sold software applications for Enabling Technologies, Inc. The application areas included computer based training, including Framework "SpyAcademy" –the first use of gamification to teach business software, decision modeling, project analysis, financial management, office automation, and 3-D graphics creation, including *Easy3D*, *Pro3D*, and *Zing*.

Headsprout® Early Reading, Chief Architect (2002–2004)

An online, 80 lesson, beginning reading program that takes a non-reading child to mid-second grade-level decoding and comprehension skills in under 30 hours of instruction. Program was an outgrowth of a privately financed, four year, \$6 million, research and development effort. Approximately one million children have benefited from using the program.

Headsprout® Reading Comprehension, Chief Architect (2010)

An online, 50 lesson, program that teaches third through fifth grade students how to comprehend text, includes literal, inferential, main idea, and vocabulary comprehension. Program was an outgrowth of a privately financed, three year, \$3 million, research and development effort. Over 50,000 children have benefited from using the program.

Headsprout® Science, Chief Architect (2013)

An interactive whiteboard sequence of over 225 science lessons for grades 3 – 8 that fully meet the Next Generation Science Standards for those grades. The lessons are designed to be delivered as over 75 interactive books as well. (Product sold to Learning A - Z for 2015 release.)

Music Learning Lab, Co-architect (2013)

An iOS app that teaches the fundamentals of music education including pitch discrimination, music reading and composition.

PATENTS

Layng, T. V. J., Johnson, K., Twyman, J. S. Ford, V., Layng, M. P., Gilbert, M., & Stikeleather, G. (2003). *Teaching method and system*, U.S. Patent No. 6,523,007. Washington, DC: U.S. Patent and Trademark Office.

Layng, T. V. J., Johnson, K., Twyman, J. S. Ford, V., Layng, M. P., Gilbert, M., & Stikeleather, G. (2005). *Teaching method and system*, U.S. Patent No. 7,152,034. Washington, DC: U.S. Patent and Trademark Office.

Layng, T. V., Ford, V., Leon, M., Shimizu, H., Sota, M., Twyman, J. S. 2010. System and Method for Teaching Reading Comprehension. US 2010/0021871 A1, filed July 24, 2009; published January 28, 2011.

Shimizu, H., Andronis, P. T., Sota, M., Rollins, N., Thangvijit, N., **Layng, T. V., Leon, M., Thompson, J., Scone, N.** System and Method for Teaching and Testing Musical Pitch. Patent filed December, 2012.

WHITE PAPERS

Layng, T. V. J. (2011). Mimio Rtl solution: Using integrated formative evaluation and adaptive instruction to ensure response to intervention success. <http://www.mimio.com/en-NA/Content/White-Papers.aspx>.

Layng, T. V. J. (2012). *MimioReading Comprehension Suite*: An effective, flexible solution to the changing technology in the classroom. <http://www.mimio.com/en-NA/Content/White-Papers.aspx>.

Layng, T. V. J. (2012). Technology changes in the classroom: In search of effective, flexible solution. <http://www.mimio.com/en-NA/Content/White-Papers.aspx>.

Layng, T. V. J. (2013). Understanding concepts: Implications for science teaching. <http://www.mimio.com/en-NA/Content/White-Papers.aspx>

INVITED PRESENTATIONS

Layng, T. V. J. (June 1979). Invited symposium: "Cross contributions of operant concept analysis procedures and signal detection theory." Operant analysis and Signal Detection Theory, Sixteenth Annual Convention of the Association for Behavior Analysis, Dearborn.

Layng, T. V. J. (with M. Mauldin and H. Karp) (June 1979). Invited symposium: "The discrimination of sexy versus friendly interpersonal cues: A signal detection analysis." Operant Analysis and Signal Detection Theory, Sixth Annual Convention of the Association for Behavior Analysis, Dearborn.

Layng, T. V. J. (with D. Bussy, M. Wylie, and H. Karp) (June 1979). Invited symposium: "A signal detection analysis of DRL responding by the rat." Operant Analysis and Signal Detection Theory, Sixteenth Annual Convention of the Association for Behavior Analysis, Dearborn.

Layng, T. V. J. (August 1985). Invited address: "Improving the usability of computer software and computer assisted instruction." American Psychological Association Annual Convention, Los Angeles.

Layng, T. V. J. (May 1986). Invited address: "Behavior Analysis applied to designing user-interfaces." Association for Behavior Analysis, Twelfth Annual Convention, Milwaukee.

- Layng, T. V. J. (June 1986). Invited discussion leader: Behaviorists' European Summer Academy. Summer institute on problems in the analysis of verbal relations and language. Bad Kreutznach, West Germany.
- Layng, T. V. J. (June 1986). Invited address: "A systemic contingency analysis of organizational behavior." Behaviorists' European Summer Academy. Summer institute on organizational development. Bad Kreutznach, West Germany.
- Layng, T. V. J. (March 1988). Invited address: "Contingency analysis applied to large scale technology implementations: Overcoming resistance to change." National Society for Performance and Instruction, Denver.
- Layng, T. V. J. (September 1990). Invited address: "Some implications of a selectionist approach to problem solving." Psychology Colloquia, Northern Michigan University, Marquette.
- Layng, T. V. J. (May 1991). Invited address: Instructional design as experimental analysis of behavior. Association for Behavior Analysis, Seventeenth Annual Convention, Atlanta.
- Layng, T. V. J. (May 1992). Invited address: Fluent thinking skills: A selectionist approach to some cognitive issues. Association for Behavior Analysis, Eighteenth Annual Convention, San Francisco.
- Layng, T. V. L. (May 1993). Invited address: Head-banging pigeons may help ease clinician headaches. Association for Behavior Analysis, Nineteenth Annual Convention, Chicago.
- Layng, T. V. J. (March 1994). Invited address: Goldiamond's nonlinear functional analysis: Distinguishing between topical and systemic interventions. Texas Association for Behavior Analysis Annual Meeting, Austin.
- Layng, T. V. J. (May 1994). Invited closing event discussant: Combating handgun violence. Association for Behavior Analysis, Twentieth Annual Convention, Atlanta.
- Layng, T. V. J. (October 1994). Invited address: Some implications of psychophysical research for the study of verbal relations. Northwest Association for Behavior Analysis Annual Conference, Seattle.
- Layng, T. V. J. (October 1994). Invited address: Adult psychotherapy – Nonlinear analysis and systemic intervention. Northwest Association for Behavior Analysis Annual Conference, Seattle, WA.
- Layng, T. V. J. (February 1995). Invited address: Remodeling a remodeled model: A heuristic for analyzing complex behavior. Northern California Association for Behavior Analysis, Oakland.
- Layng, T. V. J. (February 1995). Invited address: Nonlinear functional analysis and adult psychotherapy. Northern California Association for Behavior Analysis, Oakland.
- Layng, T. V. J. (May 1995). Invited address: Why self-generated rules cannot "govern" behavior. Association for Behavior Analysis Twenty-first Annual Convention, Washington, D.C.
- Layng, T. V. J. with Andronis, P. T., & Johnson, K. (November 1996). Invited address: Nonlinear, systemic problem solving. 8th Annual Convention of the Northwestern Association for Behavior Analysis, Ellensburg, WA.
- Layng, T. V. J. (May 1999). Invited address: Emotions and emotional behavior: A consequential contingency approach, 25th Annual Convention of the Association for Behavior Analysis Chicago, IL.

- Layng, T. V. J. (September 2000). Invited convocation speaker: Beyond opportunity: The new struggle for economic inclusion. Riverside College, Riverside, CA.
- Layng, T.V.J. (October 2000). Invited address: Applying the learning sciences to teach reading over the Internet, 30th Annual Meeting of the Brazilian Psychological Society, Brasilia, Brazil.
- Layng, T.V.J. (September 2001). Invited keynote address: Contingencies of isolation: How children can feel so alone while standing in a crowded room, 21st Annual Convention of the Florida Association for Behavior Analysis, Sarasota, FL.
- Layng, T.V.J. (September 2001). Invited address: Behavior analysis meets Hollywood: Applying the learning sciences to teach reading over the Internet, 21st Annual Convention of the Florida Association for Behavior Analysis, Sarasota, FL.
- Layng, T.V.J. (September 2002). Invited address: The nonlinear functional analysis of behavior as a basis for systemic and topical clinical interventions for children and adults, 22nd Annual Convention of the Florida Association for Behavior Analysis, Daytona Beach, FL.
- Layng, T.V.J. (September 2002). Invited address: Engineering discovery learning: Contingency adduction in a beginning reading program, 22nd Annual Convention of the Florida Association for Behavior Analysis, Daytona Beach, FL.
- Layng, T.V.J. (November 2002). Invited keynote address: Teaching beginning reading over the Internet, 15th Annual Conference of the Behavior Analysis Society of Illinois, Orland Park, IL.
- Layng, T.V.J., (May 2003). Invited address: The Roots of Terrorism: A Contingency analysis and prescription, the 29th Annual Conference of the Association for Behavior Analysis, San Francisco, CA.
- Layng, T.V.J., (March 2004). Invited address: The roots of terrorism: A contingency analysis and prescription, the Annual Conference of the Texas Association for Behavior Analysis, Dallas, TX.
- Layng, T. V. J. (May 2004). Invited participant: The Signature Series of National Invitational Conferences, "The Scientific Basis of Educational Productivity." Cosponsored by the American Psychological Association and the Laboratory for Student Success (LSS) and the Mid-Atlantic Regional Educational Laboratory at Temple University Center for Research in Human Development and Education. Arlington, VA.
- Layng, T. V.J. (October 2004). Invited address: Some instructional do's and don'ts, the Mid-American Association for Behavior Analysis Conference, Indianapolis, IN.
- Layng, T. V.J. (May 2005). Invited tutorial: The Importance of understanding and "extending" Skinner's extended facts for behavior analysis applications, the 31st Annual Conference of the Association for Behavior Analysis, Chicago, IL.
- Layng, T. V.J. (May 2005). Invited address: Theory of mind: A behavior analytic perspective, the 31st Annual Conference of the Association for Behavior Analysis, Chicago, IL.
- Layng, T. V.J. (April 2006). Invited presentation: Some roots of terrorism: An analysis and prescription, The University of Chicago Distinguished Speaker Series, Redmond, WA.
- Layng, T.V.J. (May 2008). Invited panelist: Licensing behavior analysts, the 34th Annual Conference of the Association for Behavior Analysis, Chicago, IL.

- Layng, T.V.J. (June 2008). Invited presentation: The importance of careful behavior analytic preparations in the interpretation of neurological data and in the design of experiments, Theoretical and Experimental Neuroscience Conference, Waterloo, Canada.
- Layng, T.V.J. (May 2009). Invited Address: Mainstream behavior analysis: Do we need to go back to meet the future in the 21st century?, the 35th Annual Conference of the Association for Behavior Analysis, Phoenix, AZ.
- Layng, T. V. J. & Andronis, P. T. (September 2010). Invited presentation: The evolution of emotions: A contingency analytic account. 9th International Congress on Behavior Studies, Rethymno (Crete), Greece.
- Layng, T. V. J. (September 2010). Invited presentation: Headsprout *Reading Comprehension*. 9th International Congress on Behavior Studies, Rethymno (Crete), Greece.
- Layng, T. V. J. (March 2011). Invited participant: Emotions and Emotional Behavior: A Distinction of Consequence, Fred S. Keller Distinguished Symposium, Understanding and Managing Fear and Other Emotions: When Stepping Back Means Moving Forward, Eastern Psychological Association, Cambridge, MA.
- Layng, T. V. J. (June 2011). The hard problem: As the radical behaviorist views it, Invited symposium on "The Hard Problem" in History. The International Society for the History of the Neurosciences (ISHN) and The International Society for the History of Behavioral and Social Sciences (Cheiron) joint conference, University of Calgary, June 16-19, 2011, and Banff, Alberta, June 19 to June 23.
- Layng, T. V. J. Keynote address: (March 2012). Meaningful differences and differences in meaning: Teaching others to do what we do. Organization for Reinforcement Contingencies in Animals Annual Conference, Denton, TX.
- Layng, T. V. J. (September 2012). Invited address: Complexity. Nevada Association for Behavior Analysis, Reno, NV.
- Layng, T. V. J. (February, 2013). Invited address: Games and Gamification. Organization for Reinforcement Contingencies in Animals Annual Conference, Denton, TX.
- Layng, T. V. J. (November 2013). Invited keynote address: Complexity and Enquiry. ABAI Conference on Education, Chicago, IL.
- Layng, T. V. J. (November 2013). Invited address: How to avoid using spurious reinforcers: The importance of program intrinsic consequence when building learning environments. ABAI Conference on Education, Chicago, IL.
- Layng, T. V. J. (March 2014). Invited address: Emotions and Emotional Behavior. Organization for Reinforcement Contingencies in Animals Annual Conference, Denton, TX.
- Layng, T. V. J. (March 2015). Invited address: Two essential features of stimulus control and their implications for improving instruction. Seventh annual Comprehensive Application of Behavior Analysis to Schooling Conference, Morristown, NJ.
- Layng, T. V. J. (March 2015). Invited address: Decisions and Judgments in Ambiguous Situations. Organization for Reinforcement Contingencies in Animals Annual Conference, Denton, TX.

WORKSHOPS

Layng, T. V. J. (March 1972). Workshop: Students as educational technologists, National Conference on Educational Technology, New York City.

Layng, T. V. J. (with H. Karp) (June 1979). Invited workshop: "An easy introduction to signal detection theory". Sixth Annual Convention of the Association for Behavior Analysis, Dearborn.

Layng, T. V. J. (with K. R. Johnson) (May 1991). Workshop: Instructional design in schools, colleges, corporations, and other workplaces. Association for Behavior Analysis, Seventeenth Annual Convention, Atlanta.

Layng, T. V. J. (with K. R. Johnson, H. S. Pennypacker, J. W. Donahoe, D. C. Palmer, & P. T. Andronis) (May 1992). Workshop: Selectionism and behavior analysis. Association for Behavior Analysis, Eighteenth Annual Convention, San Francisco.

Layng, T. V. J. (March 1994). Invited workshop: Ensuring success for underprepared students through generative instruction. Texas Association for Behavior Analysis Annual Meeting, Austin.

Andronis, P. T., Layng, T. V. J., & Johnson, K. J. (May 1997). Workshop: Systemic nonlinear, constructional approaches to behavior change in educational, organizational, and clinical settings, 23rd Annual Convention of the Association for Behavior Analysis, Chicago, IL.

Layng T. V. J. & Andronis, P. T. (July 1998). Invited workshop: Introduction to nonlinear functional analysis of behavior. Annual Morningside Academy Summer Institute, Seattle, WA.

Layng, T.V.J. (October 2000). Invited workshop: Emotions and emotional behavior, 30th Annual Meeting of the Brazilian Psychological Society, Brasilia, Brazil.

Layng, T.V.J. (September 2002). Invited workshop: Emotions and emotional behavior, 22nd Annual Convention of the Florida Association for Behavior Analysis, Daytona Beach, FL.

Layng, T.V.J. (November 2002). Invited workshop: Emotions and emotional behavior, 15th Annual Conference of the Behavior Analysis Society of Illinois, Orland Park, IL.

Andronis, P.T., Layng, T.V.J., & Robbins, J.K. (May 2003). Workshop: A (re) introduction to Goldiamond's constructional approach, the 29th Annual Conference of the Association for Behavior Analysis, San Francisco, CA.

Layng, T.V.J., (May 2003). Workshop: Emotions and emotional behavior, the 29th Annual Conference of the Association for Behavior Analysis, San Francisco, CA.

Andronis, P.T. & Layng, T.V.J., (March 2004). Invited workshop: Goldiamond's constructional approach and functional analysis, the Annual Conference of the Texas Association for Behavior Analysis, Dallas, TX.

Layng, T.V.J., Twyman, J. S. & Stikeleather, G. (May 2004). Workshop: What does "research-based" really mean? Evaluating and predicting the likely success of behavioral programs, the 30th Annual Conference of the Association for Behavior Analysis, Boston, MA.

Andronis, P.T. & Layng, T.V.J. (May 2004). Workshop: Seeing the World With X-Ray Eyes: Using Goldiamond's Constructional Questionnaire to Functionally Analyze Disturbing Behavior. the 30th Annual Conference of the Association for Behavior Analysis, Boston, MA.

Gimenes, L., Layng, T.V.J., Andronis, P.T. & Robbins, J.K. (August 2004). Invited Workshop: Using Goldiamond's constructional questionnaire to functionally analyze disturbing behavior: A nonlinear contingency analysis, 13th Annual Meeting of the Brazilian Association for Psychotherapy and Behavioral Medicine and the 2nd International Conference of the Association for Behavior Analysis, Campinas, Brazil.

Robbins, J.K. & Layng, T.V.J. (May 2005). Workshop: The teaching of successful intelligence, the 31st Annual Conference of the Association for Behavior Analysis, Chicago, IL.

Layng, T. V. J. (August 2008). Invited workshop: Complex verbal relations and theory of mind, National Autism Conference, Pennsylvania State University, University Park, PA.

Layng, T. V. J. (August 2012). Invited workshop: Teaching concepts to higher functioning children. National Autism Conference, Pennsylvania State University, University Park, PA.

Layng, T. V. J. (June 2014). Invited workshop: Toward a broader context: understanding and distinguishing between emotions and emotional behavior. The 12th Annual World Conference of the Association for Contextual Behavioral Science. Minneapolis, MN.

Robbins, J. K. & Layng, T. V. J. (August 2014). Invited workshop: Teaching reasoning and problem solving to higher functioning children, National Autism Conference, Pennsylvania State University, University Park, PA.

Robbins, J. K. & Layng, T. V. J. (May 2015). Invited workshop: Teaching reasoning and problem solving to typically developing and high functioning children diagnosed with Autism, The 41st Annual Conference of the Association for Behavior Analysis, San Antonio, TX.

Robbins, J. K. & Layng, T. V. J. (August 2015). Invited workshop: Teaching children to ask meaningful questions, National Autism Conference, Pennsylvania State University, University Park, PA.

PAPERS, PANELS, SYMPOSIA

Layng, T. V. J. and M. Layng (May 1975). "A programmed tutoring approach to overeating." Paper presented at the Second Annual Convention of the Midwestern Association of Behavior Analysis, Chicago, IL.

Layng, T. V. J. and S. Merley (July 1975). "Behavior analysis and group work: A constructional model." Paper presented at The University of Chicago Center for Continuing Education Summer Institute on Applied Behavior Analysis, Chicago, IL.

Layng, T. V. J. and S. Merley (August 1975). "Application of programmed instruction to psychiatry." Paper presented at the Midwest Chapter Meeting of the National Society for Performance and Instruction, Chicago, IL.

Layng, T. V. J. and J. Cohen (May 1976). "A constructional approach to chronic hallucinatory behavior a case study." Paper presented at the Third Annual Convention of the Midwestern Association of Behavior Analysis, Chicago, IL.

Layng, T. V. J. (May 1976). "A Functional analysis of delusional speech and hallucinatory behavior." Paper presented at the Third Annual Convention of the Midwestern Association of Behavior Analysis, Chicago, IL.

- Layng, T. V. J., S. Merley, J. Cohen, P. T. Andronis, and M. Layng (May 1976). "Programed instruction, self-control, and in-patient psychiatry: Three case studies." Paper presented at the Third Annual Convention of the Midwestern Association of Behavior Analysis, Chicago, IL.
- Layng, T. V. J. (May 1977). "Social contingency analysis and the creation of settings." Paper presented at the Lunar and Planetary Institute Conference on Human Considerations in Space Colonization, Houston, TX.
- Layng, T. V. J. (May 1977). "Cognitive behavior modification and behavior analysis: An extrapolation from a brief historic contingency analysis to a possible trend." Paper presented at the Fourth Annual Convention of the Midwestern Association of Behavior Analysis, Chicago, IL.
- Layng, T. V. J. and H. Karp (May 1978). "Of contingencies and symptoms: Making sense of clinical behavior problems." A videotape presented at the Fifth Annual Convention of the Midwestern Association of Behavior Analysis, Chicago, IL.
- Layng, T. V. J. (with H. Karp) (November 1978). "Instructional control and congruence with a score sheet: Effects on sensitivity to a multidimensional stimulus -- nonfluency." Paper presented at the Association for the Advancement of Behavior Therapy Convention, Chicago, IL.
- Layng, T. V. J., A. M. Wylie, and P. T. Andronis (September 1980). "A constructional approach to delusional speech and hallucinatory behavior." Paper presented at the New Mexico Conference on Behavior Therapy, Ghost Ranch, NM.
- Layng, T. V. J. (May 1983). "Social behavior and behavior of social consequence: Head-banging by pigeons." Paper presented at the Tenth Annual Convention of the Association for Behavior Analysis, Milwaukee, WI. B. F. Skinner, Discussant.
- Layng, T. V. J. (with I. Goldiamond and P. T. Andronis) (May 1983). "Experimental, applied, and formal analysis of behavior: Can the bell toll for just one?" Paper presented at the Tenth Annual Convention of the Association for Behavior Analysis, Milwaukee, WI.
- Layng, T. V. J. and C. Buchignani (May 1983). "Training 3000 people to use computers." Paper presented at the Tenth Annual Convention of the Association for Behavior Analysis, Milwaukee, WI.
- Layng, T. V. J. (May 1988). "Problem Solving: The role of metaphorical extension." Symposium, Problem Solving: The State of the Science, Association for Behavior Analysis, Fourteenth Annual Convention, Philadelphia, PA.
- Layng, T. V. J. (May 1988). "Commercially available software suitable for laboratory data management." Paper presented, Association for Behavior Analysis, Fourteenth Annual Convention, Philadelphia, PA.
- Layng, T. V. J. (May 1989). "Problem Solving: Elements made absent." Symposium, Problem Solving: The State of the Science II, Association for Behavior Analysis, Fifteenth Annual Convention, Milwaukee, WI.
- Layng, T. V. J. (May 1990). "The search for behavioral database standards: Lessons learned from commercial software." Paper presented at the Association for Behavior Analysis, Sixteenth Annual Convention, Nashville, TN.
- Layng, T. V. J. and M. Gibson (April 1991). Creative learning environments: College preparation beyond the basic skills. Paper presented at the City Colleges of Chicago Sixth Annual Developmental Conference, Chicago, IL.

- Layng, T. V. J. (May 1991). Systemic approaches to clinical problems and nonlinear relations in the analysis of behavior. Symposium, An Examination and Appreciation of Israel Goldiamond's Contribution to Behavior Analysis: Part I, Association for Behavior Analysis, Seventeenth Annual Convention, Atlanta, GA.
- Layng, T. V. J. (May 1992). Reform outside the mainstream. Symposium: Educational reform II: Ways to get programs adopted, Association for Behavior Analysis, Eighteenth Annual Convention, San Francisco, CA.
- Layng, T. V. J. (May 1992). Panel member: How to produce generalization. Association for Behavior Analysis, Eighteenth Annual Convention, San Francisco, CA.
- Layng, T. V. J. (May 1993). Panel member: Positive strategies for effective education in American urban schools. Association for Behavior Analysis, Nineteenth Annual Convention, Chicago, IL.
- Layng, T. V. J. & M. Collins (March 1994). The Precollege Institute: Establishing intellectual skills in underprepared students. Paper presented at the National Youth Professional's Institute, Washington, D.C.
- Layng, T. V. J. & V. S. Perkins (April 1994). College showcase: The Personalized Curriculum Institute of Malcolm X College. Paper presented at the American Association of Community Colleges Annual Convention, Washington, D.C.
- Layng, T. V. J. (May 1994). Panel member: Converting the infidels: How we talk about what we do. Association for Behavior Analysis, Twentieth Annual Convention, Atlanta, GA.
- Layng, T. V. J. (May 1994). Panel member: Contingency adduction: Foundling events and founding repertoires. Association for Behavior Analysis, Twentieth Annual Convention, Atlanta, GA.
- Layng, T. V. J. (May 1994). Panel member: Stimulus equivalence, fluency, and generative instruction: Same puzzle, different pieces? Association for Behavior Analysis, Twentieth Annual Convention, Atlanta, GA.
- Layng, T. V. J. (October 1994). Program extrinsic adduction. Symposium: "Contingency adduction – retrospective, current, and prospective aspects." Second International Congress on Behaviorism and the Sciences of Behavior, Palermo, Italy.
- Layng, T. V. J. (February 1995). Panel member: Effective education – Progress, problems, & possibilities. Northern California Association for Behavior Analysis, Oakland, CA.
- Layng, T. V. J. (May 1995). It could be you: Contingency adduction and higher order thinking skills, Symposium: Adduction: A principle uniting the science of behavior and the art of teaching and training. Paper presented at the 21st Annual Convention of the Association for Behavior Analysis, Washington, D. C.
- Layng, T. V. J. (May 1995). Symposium Discussant: College preparation and literacy at Malcolm X College. the 21st Annual Convention of the Association for Behavior Analysis, Washington, D.C.
- Layng, T. V. J. (April 1996). The Morningside model of generative instruction in the Chicago public schools. Masters Series Presentation at the 34th Annual Conference, of the International Society for Performance Improvement, Chicago, IL.
- Layng, T. V. J. with Andronis, P. T. & Michael, J. (May 1996). Special symposium: "Israel Goldiamond: A most scientific life," presented at the 22nd Annual Convention of the Association for Behavior Analysis, San Francisco, CA.

- Layng, T. V. J. (May 1996). Symposium discussant: Method of separating the effects of practice from rate-building effects in generative instruction, 22nd Annual Convention of the Association for Behavior Analysis, San Francisco, CA.
- Layng, T. V. J. (May 1996). Some implications of the panselectionist versus naturalist debate for biobehavioral accounts of complexity, Symposium: The contributions of evolutionary biology to behavior analysis, 22nd Annual Convention of the Association for Behavior Analysis, San Francisco, CA.
- Andronis, P. T., Gilis, J., Hamel, J. & Layng, T. V. J. (May 1996). Stimulus equivalence using a free–operant indicator response. Poster presented at the 22nd Annual Convention of the Association for Behavior Analysis, San Francisco, CA.
- Layng, T. V. J. (May 1996). Panel member: Positive strategies for effective education in American schools –number three, 22nd Annual Convention of the Association for Behavior Analysis, San Francisco, CA.
- Layng, T. V. J. (May 1997). The system variables, Symposium: Large scale implementation of an instructional system: Lessons and plans. Paper presented at the 23rd Annual Convention of the Association for Behavior Analysis, Chicago, IL.
- Layng, T. V. J. (May 1997). Virtual realities and real laboratories, Symposium: The devil is in the details: Characterization of the environment adequate to an understanding of behavior. Paper presented at the 23rd Annual Convention of the Association for Behavior Analysis, Chicago, IL.
- Layng, T. V. J. (May 1997). Roundtable discussant: Promoting behavioral educational strategies in America's schools: Rewards and challenges, 23rd Annual Convention of the Association for Behavior Analysis, Chicago, IL.
- Layng, T. V. J. (May 1997). The case for "the program" as a unit of analysis. Paper presented at the 23rd Annual Convention of the Association for Behavior Analysis, Chicago, IL.
- Layng, T. V. J. (May 1998). Panel member: Effective educational strategies in America's schools, 24th Annual Convention of the Association for Behavior Analysis, Orlando, FL.
- Layng, T. V. J. (May 1998). Why the new age needs a new professional, Symposium: Methodologies of precision teaching: Informational technologies that promote behavioral fluency in the age of the information revolution, the 24th Annual Convention of the Association for Behavior Analysis, Orlando, FL.
- Layng, T. V. J. (May 1999). Panel member: On the definition of 'contingency' and its importance to a science of behavior, 25th Annual Convention of the Association for Behavior Analysis Chicago, IL.
- Layng, T. V. J. (May 1999). Reasoning and inquiry: A procedural interpretation, Symposium: Toward and inquiry model: Unhitching from teacher–directed instruction, 25th Annual Convention of the Association for Behavior Analysis Chicago, IL.
- Layng, T.V.J. (May 2000). Panel member: leveraging the internet and the learning sciences to teach children to read, the 26th Annual Conference of the Association for Behavior Analysis, Washington, DC.
- Layng, T.V.J. (May 2000). Symposium Discussant: Multimedia and adaptive behavioral instruction: Theory, practice, and technology, the 26th Annual Conference of the Association for Behavior Analysis, Washington, DC.

Layng, T. V. J. (February, 2001). Neglected areas in programming for stimulus control. Paper presented at the Annual conference of the California Association for Behavior Analysis, Redondo Beach, CA.

Layng, T. V. J. (February, 2001). Panel member: Toward a new digital learning environment: Leveraging the Internet for teaching children to read, at the Annual conference of the California Association for Behavior Analysis, Redondo Beach, CA.

Layng, T.V.J. (May 2001). Panel member: The teaching machine comes of age, the 27th Annual Conference of the Association for Behavior Analysis, New Orleans, LA.

Layng, T.V.J. (May 2002). Discussant: Adult literacy at Hawaii State Hospital: an evaluation of morningside model of generative instruction, the 28th Annual Conference of the Association for Behavior Analysis, Toronto, Canada.

Layng, T.V.J. (May 2002). Contingencies of Isolation: Non-linear contingencies and understanding disturbing behavior of societal consequence. Symposium: The analysis of complex contingencies: A prospective appreciation of Israel Goldiamond's contributions to behavior analysis, the 28th Annual Conference of the Association for Behavior Analysis, Toronto, Canada.

Layng, T.V.J. (May 2002). Panel member: Headsprout Reading goes public, the 28th Annual Conference of the Association for Behavior Analysis, Toronto, Canada.

Layng, T.V.J., Twyman, J. S. & Stikeleather, G. (June 2002). Engineering Discovery: Contingency Adduction in a Beginning Reading. Poster presented at the Annual Meeting of the Society for the Scientific Study of Reading, Chicago, IL.

Layng, T.V.J. (May 2003). Moore 's *The Dependent Gene: The Fallacy of Nature versus Nurture*. Symposium: Darwin Updated: Three Contemporary Books on Evolution Behavior Analysts Should Know About, the 29th Annual Conference of the Association for Behavior Analysis, San Francisco, CA.

Layng, T.V.J. (May 2003). The Role of Alternative Contingencies in the Analysis of Behavior: Nonlinear Relations in the Laboratory, Instruction and Clinic. Symposium: The Nonlinear Analysis of Behavior as a Basis for Systemic and Topical Clinical Interventions for Children and Adults, the 29th Annual Conference of the Association for Behavior Analysis, San Francisco, CA.

Robbins, J.K. & Layng, T.V.J. (May 2003). A Matched-pair controlled investigation of problem solving acquisition: Effects of setting timed practice aims. Poster presented at the 29th Annual Conference of the Association for Behavior Analysis, San Francisco, CA

Ford, V., Layng, T.V.J., Twyman, J., Hobbins, K, Stikeleather, G & Johnson, K. (May 2003). Teaching beginning reading online the Headsprout way. Symposium: "What we know about teaching reading", the 29th Annual Conference of the Association for Behavior Analysis, San Francisco, CA.

Layng, T.V.J., Twyman, J. S. & Stikeleather, G. (June 2003). Headsprout Early Reading: The research base. Poster presented at the Annual Meeting of the Society for the Scientific Study of Reading, Broomfield, CO.

Layng, T. V. J., Twyman, J. S., & Stikeleather, G. (February, 2004). Deconstructing decoding & comprehending comprehension: Understanding early reading. Paper presented at the Annual conference of the California Association for Behavior Analysis, San Francisco, CA.

Layng, T.V.J. (May 2004). Panel member: Skinner Was Right: Why We Still Need Teaching Machines on His 100th Birthday, the 30th Annual Conference of the Association for Behavior Analysis, Boston, MA.

Layng, T.V.J. (May 2004). Symposium discussant: Applications of behavior analysis to math education, the 30th Annual Conference of the Association for Behavior Analysis, Boston, MA.

Layng, T.V.J. (August 2004). Understanding early reading: The necessary precursors for Headsprout Early Reading. Paper presented at the 13th Annual Meeting of the Brazilian Association for Psychotherapy and Behavioral Medicine and the 2nd International Conference of the Association for Behavior Analysis, Campinas, Brazil.

Layng, T.V.J. & Twyman, J. S. (March 2005). Technology and NCLB: Helping teachers provide individualized early reading instruction. Paper presented at the Northwest Council for Computer Education, Seattle, WA.

Layng, T.V.J. (November 2005). Panel chair: Using technology to provide research based interventions to large populations outside the united states, 3rd International Association for Behavior Analysis Conference, Beijing, China.

Layng, T.V.J. (November 2005). Panel member: Clinical behavior analysis: The effect experience has on clinical practice and how we talk about it, 3rd International Association for Behavior Analysis Conference, Beijing, China.

Sotta, M., Twyman, J., Layng, T.V.J., & Stikeleather, S. (May 2006). Formative and summative data collected from students using headsprout early reading, Symposium: Teaching young children to read: formative and summative evaluation of Headsprout Early Reading in school settings, the 32nd Annual Conference of the Association for Behavior Analysis, Atlanta, GA.

Layng, T.V.J. (May 2006). Symposium discussant: Negative reinforcement: Some lessons from animal training, the 32nd Annual Conference of the Association for Behavior Analysis, Atlanta, GA.

Layng, T.V.J. (May 2006). Panel member: Non-traditional research questions and the expansion of behavior analysis, the 32nd Annual Conference of the Association for Behavior Analysis, Atlanta, GA.

Layng, T.V.J. & Robbins, J.K. (May 2006). Contingencies of isolation: non-linear contingencies and understanding disturbing behavior of societal consequence. Symposium: The analysis of complex contingencies: a prospective appreciation of Israel Goldiamond's contributions to behavior analysis, the 32nd Annual Conference of the Association for Behavior Analysis, Atlanta, GA.

Layng, T.V.J. & Twyman, J. S. (November 2006). Headsprout Early Reading: The role of scientific formative evaluation in program development, National Reading Conference, Los Angeles, CA

Twyman, J. S. & Layng, T.V.J. (November 2006). Headsprout Early Reading: Effect on reading outcomes for kindergarten and first grade students, National Reading Conference, Los Angeles, CA

Layng, T.V.J. (February 2007). Symposium discussant: Headsprout and its use of the basic, applied, and formal analysis of behavior, the 25th Annual Conference of the California Association for Behavior Analysis, Burlingame, CA.

Layng, T.V.J. (May 2007). On the distinction between meaning and meaningful: a contingency analysis, the 33rd Annual Conference of the Association for Behavior Analysis, San Diego, CA.

- Leon, M. & Layng, T. V. J (May 2007) Basic, applied, and conceptual behavior analysis contributions to instructional content analysis, Symposium: Contributions of the basic, applied, and conceptual analysis of behavior to Headsprout program design, the 33rd Annual Conference of the Association for Behavior Analysis, San Diego, CA.
- Robbins, J.K. & Layng, T. V. J. (May 2007). Fluent thinking skills: Creating question-generating repertoires in elementary-aged learners in the U.S. and South Africa, Symposium: Higher order behaviors and instructional design, the 33rd Annual Conference of the Association for Behavior Analysis, San Diego, CA.
- Sota, M. & Layng, T. V. J (May 2007) Basic, Applied, and Conceptual Behavior Analysis Contributions to Instructional Design and Development, Symposium: Contributions of the basic, applied, and conceptual analysis of behavior to Headsprout program design, the 33rd Annual Conference of the Association for Behavior Analysis, San Diego, CA.
- Twyman, J. & Layng, T. V. J, & Haas, D. (May 2007) Headsprout Early Reading: Multi-year, multi-site measures of effectiveness., Symposium: Empirical validation of Internet-based curriculum, the 33rd Annual Conference of the Association for Behavior Analysis, San Diego, CA.
- Layng, T. V. J. & Twyman, J. (February 2008). An introduction to a contingency analysis of comprehension, Symposium: Can comprehension be taught, the 26th Annual Conference of the California Association for Behavior Analysis, Orange County, CA.
- Stretz, A., Shimizu, H., Sota, M., Twyman, S. & Layng, T. V. J. (May 2008). Definition and identification of high-fidelity implementations of an instructional technology program, Symposium: Factors contributing to a high-fidelity implementation of an instructional technology program: A preliminary analysis, the 34th Annual Conference of the Association for Behavior Analysis, Chicago, IL.
- Webb, J., Shimizu, H., Walton, B. Sota, M., Twyman, J., & Layng, T. V. J. (May 2008). Customer/system characteristics related to fidelity of implementation of an instructional technology program, Symposium: Factors contributing to a high-fidelity implementation of an instructional technology program: A preliminary analysis, the 34th Annual Conference of the Association for Behavior Analysis, Chicago, IL.
- Haas, D., Clayton, J., Shimizu, H., Stretz, A., Twyman, S., Layng, T. V. J., & Webb, J. (May 2008). Socially-mediated contingencies related to fidelity of implementation of an instructional technology program, Symposium: Factors contributing to a high-fidelity implementation of an instructional technology program: A preliminary analysis, the 34th Annual Conference of the Association for Behavior Analysis, Chicago, IL.
- Clayton, J., Shimizu, H., Sota, M., Twyman, J., & Layng, T. V. J. (May 2008). Time- and phase-based considerations related to fidelity of implementation of an instructional technology program, Symposium: Factors contributing to a high-fidelity implementation of an instructional technology program: A preliminary analysis, the 34th Annual Conference of the Association for Behavior Analysis, Chicago, IL.
- Sota, M., Twyman, J., Haas, D., Clayton, J., & Layng, T. V. J. (May 2008). Applications of behavioral contingency analysis in education, Symposium: Behavioral contingency analysis in management and education, the 34th Annual Conference of the Association for Behavior Analysis, Chicago, IL.
- Layng, T. V. J. (May 2008) Paper presentation: The search for an effective clinical behavior analysis: The nonlinear thinking of Israel Goldiamond, the 34th Annual Conference of the Association for Behavior Analysis, Chicago, IL.

- Layng, T.V.J. (May 2009). The importance of dimensional and abstractional/Instructional stimulus control to analyzing complex behavior and designing generative instruction, Symposium: Engineering discovery learning: Generativity and contingency adduction, the 35th Annual Conference of the Association for Behavior Analysis, Phoenix, AZ.
- Layng, T. V. J. (May 2010). Symposium Discussant: Nonlinear applied behavior analysis and challenging behavior: Implications and applications, the 36th Annual Conference of the Association for Behavior Analysis, San Antonio, TX.
- Layng, T. V. J. (May 2010). "Predictably irrational": Sense making in behavioral economics and behavior analysis, Symposium: No more nickel and diming: Behavioral economics bestsellers that take behavior analysis seriously (even when they don't recognize it), the 36th Annual Conference of the Association for Behavior Analysis, San Antonio, TX.
- Leon, M., Layng, T. V. J., Ford, V., Sota, M., Stretz, A. Shimizu, H., Donish, C., & Twyman, J. S. (May 2010). Design of a reading comprehension program: Building learner repertoires, Symposium: The design, testing, and implementation of *Headsprout Reading Comprehension*, the 36th Annual Conference of the Association for Behavior Analysis, San Antonio, TX.
- Osnes, P., Webb, J., Twyman, J. S., Sota, M., Leon, M., & Layng, T. V. J. (May 2010). Implementation of a reading comprehension program: The role of the teacher, Symposium: The design, testing, and implementation of *Headsprout Reading Comprehension*, the 36th Annual Conference of the Association for Behavior Analysis, San Antonio, TX.
- Layng, T. V. J. (May 2011). Panel member: A contingency analysis account of emotions. The 37th Annual Conference of the Association for Behavior Analysis, Denver, C.O
- Shimizu, H., Sota, M., Marta Leon, Layng, T. V. J., Stretz, A., Ford, V. & Thompson, J. (May 2011). An Addition to *Headsprout Reading Comprehension*: the "Look Back" Contingency, Symposium: Evaluating and supporting the use of Headsprout® *Early Reading* and *Headsprout Reading Compression* with diverse learners. The 37th Annual Conference of the Association for Behavior Analysis, Denver, C.O
- Layng, T. V. J. & Mahon, K. (June 2011). Effective instruction in the digital classroom. ISTI Annual Conference, Philadelphia, PA.
- Layng, T. V. J. (January 2012). Effective instruction in the digital classroom: Designing a quality framework for world-class teaching and learning within the new pedagogical landscape. British Educational Training and Technology (BETT) Conference and Exhibition, London, England.
- Layng, T. V. J. (May 2012). Panel: Exploring the frontiers of behavior analysis and technology. The 38th Annual Conference of the Association for Behavior Analysis, Seattle, WA.
- Shimizu, H., Layng, T. V. J., Heimlich-Stretz, A., Ford, V., Thompson, J., Leon, M. (May 2012). When learners have to look back in the passage before answering questions. Symposium: Evaluating the Use of Headsprout Early Reading with Diverse Learners, The 38th Annual Conference of the Association for Behavior Analysis, Seattle, WA.
- Layng, T. V. J. (May 2013). What can we Learn From pre-Skinnarian behaviorism: Was John B. Watson really wrong about private events? The 39th Annual Conference of the Association for Behavior Analysis, Minneapolis, MN.
- Layng, T. V. J. (May 2013). Symposium Discussant: Fangs, fans, and brains: Using science fiction and horror to explore behavior analysis, The 39th Annual Conference of the Association for Behavior Analysis, Minneapolis, MN.

Layng, T. V. J., Andronis, P. T., Layng, R. R. (May 2014). Philosophy, neuroscience, and behavior analysis: is there a converging consensus? Panel. The 40th Annual Conference of the Association for Behavior Analysis, Chicago, IL.

Layng, T. V. J. (May 2014). Discussant, Nonlinear approaches to behavior: Kantor, Kuo, Goldiamond, & Schiller, Symposium. The 40th Annual Conference of the Association for Behavior Analysis, Chicago, IL.

Layng, T. V. J. (June 2014). Panelist, Perspectives on ontology in functional contextualism. The 12th Annual World Conference of the Association for Contextual Behavioral Science. Minneapolis, MN.

Layng, T. V. J. (June 2014). Panelist, Can the CBS community benefit from (and extend) Goldiamond's prolific thinking? The 12th Annual World Conference of the Association for Contextual Behavioral Science. Minneapolis, MN.

Layng, T. V. (March 2015). Invited presentation, Decisions and judgments in ambiguous situations: Signal Detection Theory, Wicked Minds Invitational Conference, Denton, TX.

Layng, T. V. J. (May 2015). Panelist, A home for the academic-homeless: Alternative learning approaches to continuing education and teaching behavior analysis. The 41st Annual Conference of the Association for Behavior Analysis, San Antonio, TX.

Layng, T. V. J. (May 2015). Panelist, Putting context into context. The 41st Annual Conference of the Association for Behavior Analysis, San Antonio, TX.

Layng, T. V. J. (May 2015). Discussant, Non-linear approaches to behavior: Israel Goldiamond's *Blue Books*. The 41st Annual Conference of the Association for Behavior Analysis, San Antonio, TX.