

# Catherine C. Saldutti

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## EDUCATION

Harvard Graduate School of Education, Ed.M., 1993 Teaching and Curriculum

- Chair of the Dean's Advisory Committee

Stanford University, B.A., 1992 Human Biology with a Concentration in Education Policy

- Cap and Gown Women's Honor Society; Independent Study: International Technology Education—manuscript used by professor J. Myron Atkin to inform section of original TIMSS study; TA: Public Speaking; TA: Science Education policy

## EXPERIENCE

**Inventor:** Holds United States Patent #7,896,651 dated March 1, 2011 for a System and Method for Educational Instruction.

### **2000-present —President & Founder, EduChange, Inc., Los Angeles, CA**

Leader of educational products and services S-corporation founded in New York City, moved to Los Angeles in 2014. Supervise employees, manage finances, steer strategy and development, manage all corporate operations. Lead consultant on all professional development projects & lead editor for all instructional materials and products. Design Lead, [Open Learning Architecture](#)™ using [10 macro design shifts](#) that re-engineer secondary academic systems and corresponding educational publishing workflows. Design and Operations Lead, [The Integrated Science Program](#), a multi-year curriculum, instruction, community partnership and assessment solution demonstrating Open Learning Architecture. Implemented the Alpha model in 10 schools with ~40 teachers in the greater NY area over six years (2002-2008) and externally evaluated (2002-2006). Launched NGSS, IB and AP Beta with 5 international schools in Brazil, Malaysia, Japan and Mexico (2014-2019). Launched California place-based partnerships in 2021-22 with six high schools. Launching in 4 secondary schools in China and Singapore in 2024-25.

### **Clients & Projects include:**

- *Chappaqua Independent School District*—Strategic Professional Development Design, Leadership Capacity-building (2013-2018)
- *Educational Testing Service*—National Assessment Design Consultation, online standardized testing development (2000)
- *Expeditionary Learning/Outward Bound Schools*—National Partner, Science Curriculum and Instruction (2004-2009)
- *Hastings-on-Hudson Public Schools*—K-12 Science, Foreign Language, & Music Program Restructuring Initiatives (2001-2007)
- *The Howard Hughes Medical Institute*— External Evaluation Team Leader, Locally Funded Programs, MD (2007-2008); External Evaluation Team Leader, Middle School Curriculum & Professional Development, Loudoun Cty, VA (2005-2006)
- *The Institute for Writing and Thinking, Bard College*—Pilot Program Consultant & Evaluator (2003-2004)
- *Inverness Research Associates*—NSF Program Evaluation, Informal Science Institutions (2003-2004)
- *The Milwaukee School of Engineering*—Lead Evaluator for nation-wide scale-up of SMART Teams, The Center for Biomolecular Modeling (2007-2013)
- *National Institutes of Health (NIH) Bridge2AI Consortium*—Teaming Core Consultant, Bridge Center (2022-2023)
- *New Visions for Public Schools*—Professional Development Provider for 3 Networks (Writing for ELA, Science & Social Studies; Academic Vocabulary for ELA, Science & Social Studies); Consultant to Small Learning Communities Project, Queens, NY (2003-2014)
- *New York City Department of Education*—Contracted Vendor for Professional and Curriculum Development Services; Science and Literacy professional development contracts serving over 350 schools across all 5 boroughs (2003-2014)
- *New York State Teacher Centers*—Consultant to Evaluation and Strategy Committee, Teacher Centers network (2008)

- *OECD e2030 Project*—Themed Working Group member for *Aligning pedagogies & assessment with curriculum change* and *Engaging & growing with Learning Compass 2030*. (2020-2022)
- *Oracle Education Foundation*—Advisory Board Member (2008-2011); Judging Process Development and Implementation for ThinkQuest International Competition for student technology projects (2009-2012); Online project development for elementary, middle and high school students, ThinkQuest Projects (2007)
- *Rockefeller University's Science Outreach Program*— Research & Program Evaluation (2000-2005)
- *SciPlay*—Content development, organizational partner coordination and school liaison for playground science learning project across 6 pilot schools in NYC; part of the schoolyards to playgrounds program and Mayor Bloomberg's PlaNYC (2008-2010)
- *Kaplan Tutoring, Kaplan, Inc.*—Luminary Review of elementary math and reading online tutorial programs (2007); Writing Program Conceptual Development (2008-2009)

#### **2006-2018 —Founder, Teachers for Learners, LLC, San Francisco, California**

Founder of manufacturer and distributor of productivity tools and systems for K-12 teachers and learners, university and technical programs, corporate training, inter-industry collaboration, and international collaboration. Maintains R&D and professional development partnership with EduChange, Inc. for all tools. Led market research team; developed Asian-US supply chain, QA protocols, and manufacturing safety data sheets; organized US-based marketing and sales efforts. Named inventor for patent on [\*Concept Construxions\*](#)<sup>®</sup> (2007 launch) district implementation includes trained and equipped teachers in: New York City; Fairfax County Public Schools, VA; Richmond Public Schools, VA; Commonwealth of the Bahamas; Perris Union High School District, CA; Seminole County, FL; various single schools across the USA. *Differentiated Planning Assistant*<sup>™</sup> software for teachers (2010 launch). International pilots launched in 2014.

#### **1995-1999— Science Coordinator & Teacher, Attleboro High School, Attleboro, Massachusetts**

Department Chair for 15 teachers and 1650 science students. Teacher of Honors Biology and AP Biology.

- *Curriculum Development* Restructured entire 9-12 science curriculum, including development of two-year, lab intensive, integrated Unified Science Program aligned with MA Framework. Created graduated skills schema for all 20 courses. Constructed 5-year implementation plan, including seminars for various community constituents.
- *Professional Development* Led over 20 workshops in assessment design, curriculum development, student-centered learning, technology integration, interdisciplinary themes, and biology content to transition all science staff into restructured curriculum. Directed the creation and implementation of 7 new science courses.
- *Student Pathways* Increased science enrollment from 75% to 91% of total student population. Increased number of upper-level students to graduate with 6 full years of coursework from under 5 to over 110 per graduating class. Established 3-year high school graduation requirement in science.
- *Resource Management* Developed annual departmental budget for all text and laboratory materials and equipment. Managed the systemic reorganization of laboratory facility, including a maintenance plan with proper safety checks.
- *Instructional Technology* Secured funds to obtain and maintain computer hardware, instructional software, probes, a local weather station transmitter, and Internet access on 6 mobile laboratory computers. Led students to design science student database using Microsoft Access<sup>™</sup> software.
- *Teacher Recruitment* Spearheaded school-wide teacher recruitment effort. Hired 7 of 15 science staff, interviewed for all departments, worked with system administrators to attract science teachers to all K-12 levels.
- *Vertical and Horizontal Articulation* Co-chaired K-12 science and technology committee and led development of MA Framework-based K-8 curriculum modules. Coordinated and managed meetings for 8<sup>th</sup> and 9<sup>th</sup> grade teachers focused on all aspects of high school transition. Developed entrance criteria for prospective 9<sup>th</sup> grade honors students.
- *Teacher Evaluation* Conducted classroom observation series for all 15 staff members. Mentored 7 new staff members.
- *Organizational Leadership* Attained Professional Status (tenure) after 2 years instead of 3. Actively participated on PALMS Leadership Team (MA State Systemic Initiative) and AHS Leadership Team. Elected secretary-treasurer of regional SEMASS organization and nominated for statewide position.

**1994-1995—Consultant, Stanford Human Genome Center, Palo Alto, California**

Co-designed NIH-funded interdisciplinary high school curriculum unit with team of UCSF and Stanford University specialists and genetics researchers, focused on ethics & bioremediation. Piloted 6-week curriculum in 4 biology classes of 40 students each.

**1993-1995—Biology/Health Ed. Teacher, George Washington High School, San Francisco, California**

Taught 5 classes of 40 students each on campus of 3000 students. Designed lab-centered biology course culminating in state exam (The Golden State Exam) with written and practical sections. Developed semester-long health course, including conflict resolution, narcotics, alcohol and tobacco education, domestic violence, AIDS week, body image and disorders, decision-making skills.

**1992-1993—Student Teacher, South Boston High School, South Boston, Massachusetts**

**CONTINUING EDUCATION**

**Spring 2020—From Linear to Circular, The Ellen MacArthur Foundation, UK (10 Weeks)**

**Summer 2020—Designing the Cycling City, Humankind, Netherlands (4 weeks + 1 project: Google Earth, Streetmix, SketchUp; Placed in the Best 3 Street Re-design Projects, judged by International Panel of Urban Designers/Planners)**

**Fall 2020—Data Analytics, General Assembly, New York, NY (10 weeks + 3 projects: Excel, PostgreSQL (Earned a perfect score), Tableau (Earned Instructor Commendations))**

**Spring 2021—System Dynamics for Sustainability, Erasme Jean Monnet Centre of Excellence on Sustainability, France (4 weeks: Computer Modeling with Vensim, STELLA)**

**2024—EDSAFE AI Ally Program, EDSAFE AI Alliance, InnovateEDU (1 year: seminars, events and networking with a community focused on developing a safer, more secure, more equitable, and more trusted AI education ecosystem through a focus on research, policy, and practice.)**

**MENTORSHIP**

**2020-2021—External Advisor & Partner, Thesis Committee, Penny W. Stamps School of Art & Design, Ann Arbor, Michigan**

Advised Larrea Young, MDes Integrative Design, 2021 // GSI, at the University of Michigan. Larrea developed a digital platform for high school students to redesign their school cafeteria food offerings and overall dining experience.

**Summer 2020—Mentor, Summer Intern, Seattle, Washington**

Provided mentorship and career program talks for Liam Stone, Art & Design, 2022, at the University of Washington. Liam created & produced a videography portfolio for our global case study on water quality & access in Mexico, which will be enjoyed by participating teachers & students in our Integrated Science Program.

**2019 & 2021—Roundtable Discussion Leader, Across the STEMVerse, Graduate Women in Science, Los Angeles Chapter**

**SELECT PUBLICATIONS**

- Gottfried, N. and Saldutti, C. [Changes in student and teacher attitudes and behaviors in an integrated high school science curriculum](#). Paper presented at the Annual Meeting of the National Association for Research in Science Teaching, Vancouver, British Columbia, (April 1-4, 2004). **\*\*Nominated for The NARST Outstanding Paper Award.**
- LoMonico, C. and Saldutti, C. (October, 2007). Vocabulary instruction meets concept-building. *Language Magazine*, pp. 26-30.
- Rubin, Catherine S. and Wilson, S. (2001). Inquiry by design: Creating a national and state-standards-based high school science program. *The Science Teacher*. Washington, D.C.: National Science Teachers Organization.
- Rubin, Catherine S. (2000). *New Jersey GATEWAYS: A primer and companion guide to the K-12 curriculum standards*. New York, NY: EduChange, Inc.

- Rubin, Catherine S. (2001). Two standards-based checkpoints: Social promotion and curriculum articulation. New Jersey: *ASCD Journal*, Vol. 45, pp. 43-50.
- Saldutti, C., Springel, M., Ho-Shing, O. (January 2018). [Building a robust secondary STEM continuum: Supporting students from project to publication](#). *Clute Education Conference Proceedings*, paper #367.
- Saldutti, C. (2005). Embarking on a science expedition: Inquiring teachers want to know. Dubuque, IA: *Fieldwork: Notes From an Expeditionary Learning Classroom*, Vol. XIII, Number 4, pp. 3-4.
- Saldutti, C. (January 2014). Next generation teaching & learning tools. Kuala Lumpur, Malaysia: *HOTS e-magazine*, pp. 6-7.
- Saldutti, C. (Fall 2014). STEM curricular designs for an information age. *AdvancED: The Source, Teaching and Learning*.
- Saldutti, C. (January 2015). [Defining and tracking skills for intentional curriculum design](#). Association of American Schools in South America (AASSA) Newsletter, pp. 71-75.
- Saldutti, C. (July 2017). [Open but not free: Sustainable Open Educational Resources \(SOER\) in a Secondary/Polytechnic STEM Curriculum](#). *EDULEARN17 Proceedings*, pp. 6752-6760.
- Saldutti, C. (October 2017). [The design process doesn't work](#). *Learning Spaces*, Vol. 3.4, pp. 35-39.
- Saldutti, C. (January 2018). [Vision matters: Sustaining an 18-year STEM EdTech Journey](#). *Clute Technology in Education Conference Proceedings*.
- Saldutti, C. (May/June 2019). [Equity and representation in STEM: Giving students functional access to 21<sup>st</sup>-century STEM literacies](#). *Literacy Today*, pp. 8-9.
- Saldutti, C. (Autumn 2020). [Spectrum thinking: The great equalizer for resilient organizations](#). *Horizons Magazine*, pp. 15-18.
- Saldutti, C. (March 2021). [Open learning architecture: Curricular resilience for a VUCA world](#). *InterACT Magazine*, pp. 19-21.
- Saldutti, C. (October 2023). [Integration with integrity: Reflections on a decades-long design journey](#). *Teacher-powered Schools*.
- Weinbaum, A., Allen, D., Blythe, T., Simon, K., Seidel, S., and Rubin, C. (2004). *Teaching as inquiry: Asking hard questions to improve practice and student achievement*. New York: Teachers College Press.

## SELECT PRESENTATIONS

- The Association for the Advancement of International Education (AAIE)—Facilitated the EdTech Roundup at the 49<sup>th</sup> Annual Conference for Schools Heads from around the world and Bay Area start-ups (February 2015)
- The Association for American Schools in South America (AASSA)—Presented at the Spring Educators' Conference with teacher leaders Trish Beck & Erin Copeland, and Teaching & Learning Director Amaris Obregon, to share experiences with and design of the [Integrated Science I course](#) launched in August 2013; Presented at the Spring Educators' Conference in Curacao (2014, 2015)
- The Association for Supervision & Curriculum Development (ASCD)-- *Concept Construxions & The Individualized Learning Assistant*, co-presented with Teachers for Learners (2008) and the staff of Perris Union High School District, CA (2011)
- California Science Teachers Association/California Association of Science Educators – Presented in-person sessions at the annual conference in Palm Springs, California (2009 & 2023)
  - *Stories in Statistics: Data Interpretation for Middle School Students* (2009)
  - *Environmental & Social Justice: Integrating Personal, Local & Global Perspectives* (2023)
  - *Innovations for Rigor & Equity: Integrated Science Pathways Supporting UC, IB & AP* (2023)
  - *Inspired by Evidence: Integrating Published & Student-collected Data Sets* (2023)
- Center for Applied Special Technology (CAST) – Presented in-person and virtual sessions at the Annual Universal Design for Learning (UDL) Symposium, Boston, Massachusetts (2019) and Virtual (2021)
  - No More One-and-Done: Re-engineering Secondary Assessment to Cue Lifelong Learning (2019)
  - Using a Sustainable Open Education Resources (SOER) Model to Build Recognition Networks (2019)
  - [Programs, Courses, Projects, Lessons: Reshaping High School Content for Equity](#) (2021)

- The Chilean Ministry of Education--Presentation of Teachers for Learners instructional tools and EduChange projects, to the ENLACES department for Technology Education and Teacher Professional Development (2010)
- The 5<sup>th</sup> China Education Innovation EXPO—Invited by U.S. Commercial Services as a Presenter & Panelist representing U.S. EdTech Companies, Zhuhai, China (2019)
- The CLOSE IT Summit—Co-Presenter with Amy Freedman, Senior Trade Specialist for U.S. Commercial Services in the U.S. Department of Commerce, Santa Fe, NM (2019)
- EdActive Summit—Presented [\*Built for Growth: How Open Learning Architecture Supports Diverse Learners\*](#) (Online, 2022)
- EdTech Team Google Summit – Presenter, North Sydney, Australia (2017)
- Education Evolution Podcast – Interviewed by Dr. Maureen O’Shaughnessy for [\*Episode 93: Time, Trust and Mastery in Education\*](#) (January 2022)
- Expeditionary Learning Schools—Designed and Led Residential K-12 and High School Science Institutes around the nation focusing on literacy, rigor and differentiated instruction:
  - Bainbridge Island, WA—5-day high school science institute (2004, 2005)
  - Seattle, WA—National Conference; led 4 Master Classes and structured discussion group (2005)
  - Boston, MA—5-day high school science institute (2005, 2006)
  - Minneapolis, MN—3-day K-12 science institute (2005)
  - Oakland, CA—National Conference; led 4 Master Classes and structured discussion group (2006)
  - Phoenix, AZ—3-day K-12 science institute (2006 & 2008)
  - Atlanta, GA—3-day K-12 science institute, in conjunction with The CDC (2007 & 2008)
  - Portland, ME—National Conference; led 4 Master Classes, full-day expedition slice, and structured discussion group (2007)
  - San Francisco, CA—3-day K-12 science institute, in conjunction with the SF Dept. of Public Health (2007)
  - Kansas City, KS—3-day K-12 science writing institute, co-led with Dr. Beverly A. Chin of the University of Montana (2008)
  - Denver, CO—National Conference; led 3 Master Classes, full-day expedition slice, and structured discussion group (2008)
- Global Education Conference—Presenter and Conference Sponsor (2014)
- Higher Education Partnership Conference, hosted by Partners of the Americas—2 presentations, Guanacaste, Costa Rica (2019)
  - Teaching All 17 Sustainable Development Goals (SDGs) Through STEM Education
  - Adult Education for the SDGs: Reaching Community Leaders Taking Action
- International Conference on Transnational Collaboration in STEAM Education—[\*3 presentations\*](#) and a Keynote Address, UNIMAS, Kota Samarahan, Sarawak, Malaysia (2013)
- Technology and the Mind Podcast – Interviewed by Dr. Nicolle Gottfried Zapien for [\*Season 2, Episode 5: Are the Kids Alright? Motivations, Decisions and Values Embedded in Educational and Consumer Technologies\*](#) (March 2024)
- The International Literacy Association (ILA) Intensive, Equity & Access to Literacy—2 presentations, Las Vegas, Nevada (2019)
  - Want to Increase Equity and Representation in STEM? Give Students Functional Access to 21st-century Literacies
  - Closing Gaps, Providing Access, Equipping Teachers: The Administrator’s Role in Increasing Equity in STEM
- The International Society for Technology in Education (ISTE)—4 presentations, Philadelphia, Pennsylvania (2019)
  - STEM Playground: Free, Authentic, Digital, Under-the-Radar STEM Resources for Secondary Classrooms
  - BYOD Session: Sustainable Open Education Resources: The Way Forward for Digital Curriculum Delivery
  - STEM Panel: Serving the Underserved through STEM: Experts Share Successes
  - Poster Session: Grades 8-12: Shifting from Siloed Science to Globally Relevant Integrated STEAM
- The Malaysian Ministry of Education –Invited Keynote Speaker at [\*Seminar Kreativiti Dan Inovasi Kurikulum\*](#), Kuala Lumpur, Malaysia (2013)
- The National Association for Research in Science Teaching (NARST)—2 presentations, Annual Conference (2004)
- The National Committee on United States-China Relations—Presentation to Chinese Ambassadors on standards-based education in the United States (2001)
- The National Council for Teachers of Mathematics (NCTM) Annual Meeting—*Concept Construxions*, co-presented with Teachers for Learners & Joshua Paris, Math Teacher, Brookline HS, MA (2008)

- The National Council of Teachers of English (NCTE) Annual Conference—*Crafting Writing to Deepen Reading Comprehension*, co-presented with Dr. Beverly Ann Chin, Director of Writing Instruction, The University of Montana (2009)
- The National Science Foundation (NSF) Research Experience for Teachers (RET) National Conference—*On Many Levels: Understanding the Impact of RET Programs on Students* (2003)
- The National Science Teachers Association (NSTA), Annual & Regional Conventions
  - Assessing Process and Content in the Laboratory (2002)
  - Interactive Word Walls (2006)
  - Concept Construxions & The Individualized Learning Assistant, co-presented with Teachers for Learners (2007 & 2008)
  - Secondary Student Research Projects: Free Support from Planning to Publication (2019)
- The New York State STEM Collaborative—3 presentations at inaugural conference, New York (2010)
  - Text and Tech: Broadening Our Idea of Reading for Math & Science in The Digital Age
  - A System of Systems: Coordinating Math and Science Academic Vocabulary Through the Grades
  - The Ups & Downs of CO<sub>2</sub>: Using Mathematical Modeling to Explore a Real Scientific Data Set, co-presented with Bruce Mallory of Brookline High School, MA
- The New Zealand Ministry of Education—Presentation of EduChange proprietary science curriculum, *Investigations in Biology & Chemistry*, to the Project Manager of the New Zealand Curriculum Project, and to the Office of Education for Sustainability and Science (2007)
- OE Global Conference—2 presentations, Milan, Italy (2019)
  - The Change We Seek: An Invitation to Brainstorm and Collaborate to Advance SDGs in Local Communities
  - The Future is Here: Powering Lifelong Learning Architecture & Competency-based Education with Sustainable OER
- The Peruvian Ministry of Education—Presentation of Teachers for Learners instructional tools, to the Director of Technology Education and the Director of Secondary schools (2010)
- The Rockefeller University’s Science Outreach Program (Various sessions, summers 2001-2007)
  - Inquiry-based instruction: translation from research lab experience to classroom practice
  - Classroom Assessment
  - Program Evaluation
  - Scientist mentor-student & Scientist mentor-teacher relationships
- Science Teachers Association of Texas (STAT) CAST Conference in Houston, Texas—*Innovations for High School Rigor and Equity: Interdisciplinary Science Pathways from TEKS to Graduation* (2023)
- Shanghai Science Education Development Forum for Adolescents, Hosted by the Shanghai Association of Science & Technology and the China Association of Children’s Science Instructors—Keynote Speaker, Shanghai, China (2019)
- Thinking Schools International Annual Conference, UK---Presentation to Member Thinking Schools on Visual Tools for Content Learning (June 10-11, 2013)
- U.S. Commercial Service & Partners of the Americas Education Technology Certified Trade Mission to Columbia & Peru (2018)

## TEACHING CERTIFICATIONS

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| • New York Provisional Certificate, Biology 7-12                   | Permanent                      |
| • Massachusetts Standard Certificate, Biology 9-12                 | 1993-Life, Recertified in 1999 |
| • California Prelim. Single Subject Teaching Credential, Life Sci. | 1993-1998                      |