Project Zero

Annual Report 2018 - 2019

OUR MISSION

Project Zero (PZ), a research center at the Harvard Graduate School of Education, has investigated the development of learning processes in children, adults, and organizations since 1967. PZ's multiple research projects are driven by fourteen Principal Investigators whose work is synergistic and focuses on topics of human potential: the nature of intelligence, creativity, thinking, learning, ethics, and understanding.

Our mission is to understand and enhance such human potentials at the individual, group, and institutional levels. To accomplish this, PZ's research produces frameworks and practices to help educators design experiences that support the development of human potentials in a variety of formal and informal learning contexts, such as schools, museums, businesses, and online. PZ strives to be a vibrant participant in the academic life of HGSE students and faculty.
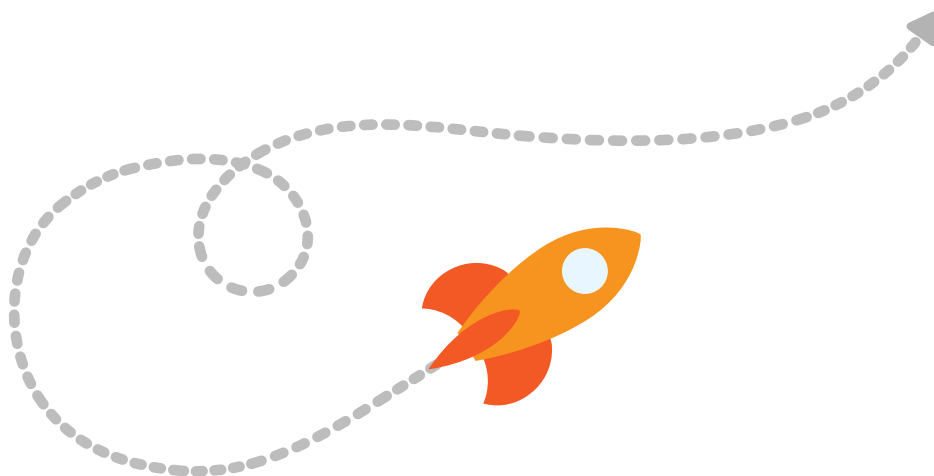
LETTER FROM THE DIRECTOR

I am pleased to share the Project Zero (PZ) Annual Report for FY2019 (July 1, 2018 – June 30, 2019). This document provides an overview of PZ's research, publication, and professional learning activities.

Project Zero continues to be a vibrant research organization hosting 27 active research projects across the globe. As you continue reading this report, you will see snapshots of current investigations, recent publications, and other outputs of our work. We invite you to learn more about the topics therein through the PZ website.

Last year, we were pleased to announce a number of initiatives launched to honor Project Zero's 50th anniversary, including a fundraising effort which collected more than a million dollars to increase access to Project Zero professional learning offerings for educators working in under-resourced contexts and/or with historically marginalized students. After piloting scholarship application and award processes in FY18, FY19 saw the public debut of the Project Zero Zaentz Professional Learning Scholarships. With this exciting funding opportunity, PZ has supported more than 320 educators in the United States and around the world to participate in local workshops, online courses, offsite conferences, as well as our flagship summer institute, the Project Zero Classroom. In FY19, we granted more than $150,000 in scholarships.

As we look toward FY20, PZ anticipates further exciting research endeavors and contributions to the field of education. On behalf of our whole center, I thank you for your continued interest in Project Zero research and ideas.

Dr. Daniel Gray Wilson
Director, Project Zero

QUICK FACTS

27 ACTIVE RESEARCH PROJECTS

PUBLICATIONS
Books, Chapters, and Articles **78**

10 HGSE/HU COURSES
Taught by PZ researchers
Enrolled 260 students

10,000+ NEWSLETTER SUBSCRIBERS
PZ's bi-annual newsletter Zero In

TWITTER FOLLOWERS
A 29% increase from FY18.
33,000+

13,000+ FACEBOOK FOLLOWERS
An 18% increase from FY18.

WEBSITE VISITS
An 18% increase from FY18.
420,000+

2,820+ ENROLLED IN ONLINE COURSES

INTERNATIONAL PD ATTENDEES
An 18% increase from FY18.
1,380+

326 SCHOLARSHIPS AWARDED
Totaling over $156,000 across PZ's professional development opportunities.

ACTIVE RESEARCH PROJECTS

Agency *by* Design ● Aligned Programs for the 21st Century
Arts as Civic Commons ● Creating Communities of Innovation
Creating Communities of Inquiry/Creando Communidades de Indagaciōn
Cultures of Thinking ● Digital Dilemmas ● Early Childhood in the Making
EcoXPT ● Educating Global Citizens through a US and China Lens
The Family Dinner Project ● The Global Children Project ● The Good Project
Humanities and Liberal Arts Assessment Lab ● Idea into Action ● Inspiring Agents of Change
Investigating Impacts of Educational Experience ● Leading Learning that Matters
Learning Innovations Laboratory ● Learning to Think, Thinking to Learn
Liberal Arts and Sciences in the 21st Century ● Making Across the Curriculum
Making Learning and Thinking Visible ● Out of Eden Learn ● Pedagogy of Play
Re-Imagining Migration ● The World in Washington DC

Agency *by* Design (A*b*D)

Exploring documentation and assessment strategies for maker-centered learning.

pz.harvard.edu/projects/agency-by-design

Funder(s): The Abundance Foundation

Aligned Programs for the 21st Century (ALPS21)

Aiming to identify exemplary programs in higher education—courses, programs, and co-curricular activities—that can bridge differences in perspectives among the major stakeholders on college campuses.

pz.harvard.edu/projects/aligned-programs-for-the-21st-century

Funder(s): The Teagle Foundation

Arts as Civic Commons (ArtsC)

Exploring the arts as a civic space for learning, dialogue, and action.

pz.harvard.edu/projects/arts-as-civic-commons

Funder(s): Independent Schools Victoria, Australia

Creating Communities of Innovation (CCI)

Exploring educational innovations through networked inquiry.

pz.harvard.edu/projects/creating-communities-of-innovation

Funder(s): GEMS Education

Creating Communities of Inquiry/Creando Comunidades de Indagación (CCI)

Collaborating with Innova Schools Network to develop a culture of inquiry-driven teaching and learning.

pz.harvard.edu/projects/creando-comunidades-de-indagación-creating-communities-of-inquiry

Funder(s): Gabriela Perez Rocchietti and Carlos Rodríguez Pastor

Cultures of Thinking (CoT)

Improving learning and collaboration by honing group and individual thinking processes.

pz.harvard.edu/projects/cultures-of-thinking

Funder(s): Bialik College

Digital Dilemmas (DD)

Conducting research and developing classroom tools and parenting approaches to support youth in today's connected world.

pz.harvard.edu/projects/educating-with-digital-dilemmas

Funder(s): The Germanacos Foundation, Common Sense Media

Early Childhood in the Making (ECM)

Exploring effective ways to incorporate maker-centered and STEAM learning in the early childhood classroom, a continuation of Agency *by* Design.

pz.harvard.edu/projects/early-childhood-in-the-making-an-initiative-of-agency-by-design

Funder(s): Cheng Yu Tung Research Innovation Fund

EcoXPT

Supporting experiment-based inquiry in immersive virtual environments.

pz.harvard.edu/projects/ecolearn

Funder(s): National Science Foundation

Educating Global Citizens through a US and China Lens

Enhancing students' understanding of the world and nurturing global thinking dispositions.

pz.harvard.edu/projects/educating-global-citizens-through-a-us-and-china-lens

Funder(s): WeiMing Education Group

The Family Dinner Project (FDP)

Teaching families the value of meaningful mealtime interaction.

pz.harvard.edu/projects/the-family-dinner-project

Funder(s): The Poses Family Foundation, The Oread Fund of the Community Foundation of New Jersey

The Global Children Project

Connecting teachers in the US and Japan to nurture global competence in early childhood.

pz.harvard.edu/projects/global-children

Funder(s): Poppins Corporation

The Good Project

Understanding the nature of various "goods" and promoting their realization in our time.

pz.harvard.edu/projects/the-good-project

Humanities and Liberal Arts Assessment (HULA) Lab

Identifying and illuminating the implicit internal logics of humanistic crafts in order to develop appropriate tools to assess, evaluate, and advance projects and pedagogy in the humanities.

pz.harvard.edu/projects/humanities-liberal-arts-assessment-hula

Idea into Action (I2A)

A quest to translate ideas (principles, plans, good intentions, etc.) into action on the ground.

pz.harvard.edu/projects/idea-into-action

Funder(s): Independent Schools Victoria, Australia

Inspiring Agents of Change

Schools that invite, expand, and sustain the creative mindsets of our youngest inventors.

pz.harvard.edu/projects/inspiring-agents-of-change

Funder(s): Lemelson Foundation, Portland Children's Museum

Investigating Impacts of Educational Experience (IIEE)

Exploring the effects of an international school network's learning model on students, alumni, and society.

pz.harvard.edu/projects/investigating-impacts-of-educational-experiences

Funder(s): United World Colleges

Leading Learning that Matters I & II (LLtM)

Exploring leadership practices to enhance 21st century lives.

pz.harvard.edu/projects/leading-learning-that-matters

Funder(s): Independent Schools Victoria, Australia

Learning Innovations Laboratory (LILA)

Bringing together the leaders of organizational learning to develop a greater understanding of the field's current challenges.

pz.harvard.edu/projects/learning-innovations-laboratory

Funder(s): Annual funding comes from participant fees from 20+ global organizations.

Learning to Think, Thinking To Learn (LTTL)

Helping schools create cultures of thinking and learning.

pz.harvard.edu/projects/learning-to-think-thinking-to-learn

Funder(s): Melville Hankins Family Foundation

Liberal Arts and Sciences in the 21st Century (LAS21)

Studying today's college landscape to inform tomorrow's higher education.

pz.harvard.edu/projects/higher-education-in-the-21st-century

Funder(s): Paula and Jim Crown, Thomas H. Lee, The Endeavor Foundation, Jackie and Mike Bezos, The Carnegie Corporation of New York, The Lumina Foundation, The Andrew W. Mellon Foundation, The Spencer Foundation, The Teagle Foundation, The Saul Zaentz Charitable Foundation

Making Across the Curriculum (MAC)

Applying the practices and pedagogies of maker-centered learning across content areas, a continuation of Agency *by* Design.

pz.harvard.edu/projects/making-across-the-curriculum-an-initiative-of-agency-by-design

Funder(s): E. E. Ford Foundation, Washington International School

Making Learning and Thinking Visible (MLTV)

Building cultures of thinking in Italian secondary schools using the MLV and VT frameworks.

pz.harvard.edu/projects/making-learning-and-thinking-visible-in-italian-secondary-schools

Funder(s): INDIRE (Istituto Nazionale Documentazione Innovazione Ricerca Educativa), Florence, Italy

Out of Eden Learn (OOEL)

Exploring our neighborhoods, exploring our world.

pz.harvard.edu/projects/out-of-eden-learn

Funder(s): The Abundance Foundation, Global Cities Inc., The National Geographic Society, Qatar Foundation International

Pedagogy of Play (PoP)

Cultivating school cultures that value and support learning through play in two sites—Billund, Denmark and Johannesburg, South Africa.

pz.harvard.edu/projects/pedagogy-of-play

Funder(s): The LEGO Foundation

Re-Imagining Migration

Seeks to ensure that young people grow up understanding migration as a shared condition of our past, present, and future in order to develop the knowledge, empathy, and mindsets that sustain inclusive and welcoming communities.

pz.harvard.edu/projects/re-imagining-migration

Funder(s): UCLA (under a sub-award from the Ford Foundation)

The World in Washington D.C.

Toward a new approach to locally-grounded global competence education.

pz.harvard.edu/projects/the-world-in-dc

Funder(s): District of Columbia Public Education Fund and D.C. Public Schools

RESEARCH PUBLICATIONS

In addition to various white papers, in FY19
Project Zero researchers published
78 books, chapters, articles, and blogs.

Allen, D. & Sneff, E. "Golden Letters: James Wilson, the Declaration of Independence, and the Sussex Declaration," Georgetown Law Review, Winter 2018/19.

Allen, D. & Sneff, E. "The Sussex Declaration: Dating the Parchment Manuscript of the Declaration of Independence Held at the West Sussex Record Office," Papers of the Bibliographic Society of America, 2018.

Allen, D. Democratic Knowledge Project and Cambridge Public Schools 8th Grade Social Studies Team, "Civic Engagement in Our Democracy," a year-long Grade-8 Civics curriculum, to be piloted in 2019-20.

Allen, D. (Every other week). Washington Post column: https://www.washingtonpost.com/people/danielle-allen/

Allen, D., & Blythe, T. (2018). Aesthetics of facilitation: Cultivating teacher leadership. International Journal of Teacher Leadership, 9(2), https://www.cpp.edu/~ceis/education/international-journal-teacher-leadership/documents/aesthetics-of-facilitation.pdf

Allen, D., Blythe, T., Dichter, A., & Lynch, T. (2018). Protocols in the classroom: Tools to help students read, write, think, and collaborate. New York: Teachers College.

Aquiline, C. and Krechevsky, M. (2019). "How Making Learning and Thinking Visible in Italian Secondary Schools Supports Transformative Learning in Teachers." Project Zero working paper.

Blair, S., & James, C. (2018, October). "New Dialogue Moves in Action: How Out of Eden Learn Students Use POV, Challenge, and Name Tools." Out of Eden Learn Blog. Retrieved from: https://walktolearn.outofedenwalk.com/2018/10/04/new-dialogue-moves-in-action-how-out-of-eden-learn-students-use-pov-challenge-and-name-tools/

Boix Mansilla et al. (in press). Re-imagining Migration as opportunity - a framework to educate for a world on the move. Internal working paper available at Project Zero.

Boix Mansilla, et al (2019). Nurturing Global Environmental Stewardship in the Early Childhood- from Love to Action. Project Zero website.

Boix Mansilla, et al. (2019). Re-imagining migration- from stories to actions that make us human -a Learning Arc. Internal working paper available at Project Zero.

Boix Mansilla, V. (2019). Signature Pedagogies in Global Education: Unveiling principles driving master practices. Project Zero website.

Boix Mansilla, V. & Wilson D. (2019). What is global competence and what might it look like in Chinese schools? Journal of Research in International Education. In print.

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Chua, F. S. G., Perkins, D. N., & Wilson, D. G. (2018). Finding our roots in the leaves: An ecology of change in leading learning that matters. In Andrews, J., Paterson, C., and Netolicky, D. M. (Eds.), Flip the System Australia: What Matters in Education. New York, NY: Routledge.

Clapp, E. P. (2019). Five lessons learned about creativity. Creative Teaching and Learning, 8(4), 66–72.

Clapp, E. P. (2019). Introducing new voices to the creativity studies conversation: W. E. B. Du Bois, double-consciousness, and The Souls of Black Folk. In V. P. Glăveanu (Ed.), The creativity reader. New York, NY: Oxford University Press.

Clapp, E. P. (in press). Don't call it collaboration!: Reframing creative success in teams from the perspective of participatory creativity. In R. Reiter-Palmon, A. McKay, & J. C. Kaufman, (Eds.), Creative success in teams. Series: Explorations in creativity research (J. C. Kaufman, series editor). Cambridge, MA: Academic Press. Clapp, E. P. (in press). Prologue. Proceedings from the 2018 Active Learning Conference. La Serena, Chile: INACAP.

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Clapp, E. P., Dawes Duraisingh, E., & Sachdeva, A. R. (2019). The Creating Communities of Innovation toolkit for inquiry-driven innovation. Cambridge, MA: Project Zero.

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Clapp, E. P., Solis, S. L., Ho, C., & Sachdeva, A. R. (in press). Complicating STEAM: A critical view of the arts in the STEAM agenda (encyclopedia entry). In M. A. Peters & R. Heraud (Eds.) Springer encyclopedia of educational innovation. Cham, Switzerland: Springer.

Cuzzolino, M.P., Grotzer, T.A. Tutwiler, M.S., & Torres, E.W. (2019). An agentive focus may limit learning about complex causality and systems dynamics: A study of seventh graders' explanations of ecosystems. Journal of Research in Science Teaching. Early View: March 28, 2019 https://doi.org/10.1002/tea.21549. ((SSCI, Impact Factor 3.210, ranked 11/238 in Education)

Dawes Duraisingh, E., Sheya, S. & Kane, E. (2018). When youth dialogue: A pedagogic framework for changing the conversation about migration. International Review of Education 5 (4), 211-235.

Dede, C., Grotzer, T., Kamarainen, A., Metcalf, S., Olney, A. M., Rus, V. & Wang, M. (2018). Graphical supports for collaboration: Constructing shared mental models. In R. A. Sottilare, A. C. Graesser, X. Hu, & A. M. Sinatra (Eds.), Design Recommendations for Intelligent Tutoring Systems: Teams (Vol. 6, pp. 33–43). Orlando, FL: U.S. Army Research Laboratory.

Dickes, A. C., Kamarainen, A., Metcalf, S., Gün-Yildiz, S., Brennan, K., Grotzer, T. & Dede, C. (2019). Scaffolding ecosystems science practice by blending immersive environments and computational modeling, British Journal of Educational Technology, available in early view.

Dickes, A., Metcalf, S., Kamarainen, A., Reilly, J., Brennan, K., Grotzer, T. & Dede, C. (2018). EcoMOD: Integrating computational thinking into ecosystems science education via modeling in immersive virtual worlds. Proceedings of the 49th ACM Technical Symposium on Computer Science Education, 1076-1076.

Drake, J. E., & Winner, E. (2018). Extreme drawing realism in childhood. Roeper Review, 44, 4, 222-233. Winner, E. (in press).

Drake, J. E., & Winner, E. (2018). Why deliberate practice is not enough: Evidence from drawing talent. In D. Z. Hambrick, G. Campitelli, & B. N. Macnamara (Eds.) (pp. 101-128), The Science of Expertise: Behavioral, Neural, and Genetic Approaches to Complex Skill. Routledge.

Fischman, W. & H. Gardner. (2018, August). "The method in our madness: Data collection and analysis for our study of higher education, Parts I, II, and III." Life-Long Learning: A Blog in Education. Retrieved from: https://howardgardner.com/2018/08/13/the-method-in-our-madness-data-collection-and-analysis-for-our-study-of-higher-education-part-i/; https://howardgardner.com/2018/08/20/the-method-in-our-madness-data-collection-and-analysis-for-our-study-of-higher-education-part-ii/;https://howardgardner.com/2018/08/27/the-method-in-our-madness-data-collection-and-analysis-for-our-study-of-higher-education-part-iii/

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OTHER ACTIVITIES

Project Zero and its researchers
engaged in a variety of learning opportunities
that contributed to the Center's mission.

HGSE Courses

During the past academic year PZ researchers offered 10 HGSE courses and 6 independent studies that enrolled a total of 260 students. Eight of the 14 Principal Investigators at PZ offered the following courses:

- EDU-H614: Understanding Truth, Beauty, and Goodness (Howard Gardner; Enrollment: 16 students, 2 auditors).

- EDU-HT113: Research Practicum for Microschools: Developing Innovative Schools Based on Neuroscience and Cognitive Science Principles (Tina Grotzer; Enrollment capped at 15).

- EDU-S300: The Arts in Education: Learning in and through the Arts (Steve Seidel; Enrollment: 37).

- EDU-S301: The Arts in Education: Research, Policy, Advocacy, Activism, and Practice (Steve Seidel; Enrollment: 37).

- EDU-S305: Slow Looking: Learning through Observation in Museums and Beyond (Shari Tishman; Enrollment: 20).

- EDU-S504: Introduction to Qualitative Research (Elizabeth Dawes Duraisingh; Enrollment: 20).

- EDU-S510F: Qualitative Research in Practice (Elizabeth Dawes Duraisingh; Enrollment: 20).

- EDU-S999: Independent Study (Ben Mardell sponsored one for one Masters student; Tina Grotzer sponsored five for seven Masters students; Enrollment: 8 total).

- EDU-T139: Investigating Learning and Teaching Through Collaborative Examination of Student and Teacher Work (Tina Blythe; Enrollment: 26).

- EDU-T402: Group Learning (Daniel Wilson; Enrollment: 24).

- EDU-T543: Applying Cognitive Science Research Principles to Learning and Teaching (Tina Grotzer; Enrollment capped at 35).

Engaging HGSE Students

Beyond engaging students in formal classes at HGSE, PZ creates a variety of ways in which HGSE students can be active participants in our research community.

PZ Session at "Discover GSE" Orientation: At the beginning of the Fall 2019 semester, PZ offered an overview of its research to students and the wider HGSE community. The 90-minute session offered opportunities for students to hear about PZ projects and the ways they could be involved in work-study and doctoral researcher roles. Approximately 190 participants attended this session.

Master's and Undergraduate Students: Each year a limited number of positions are available for HGSE master's students, many with work-study funds, to be involved in active PZ projects. Last year, PZ projects involved 13 master's and seven undergraduate students, giving them a variety of professional development opportunities at our research center.

Doctoral Students: Many PZ projects create roles for HGSE doctoral students to hone their intellectual and research skills via active participation in ongoing research projects. In FY19, a total of 11 students were engaged as doctoral researchers at PZ.
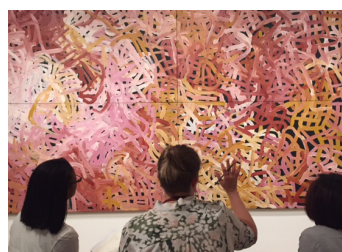
Hosting HGSE Community Events

Brown Bag Lunches: This past year, PZ advertised and hosted three community-wide talks that featured HGSE and Harvard faculty speaking on PZ-related topics and research. Approximately 75 participants attended these talks in total, ranging from HGSE students, researchers, faculty, and staff to the wider local community.

HGSE Civic and Moral Education Initiative: PZ Principal Investigator Carrie James joined Meira Levinson as Co-Convener of the HGSE Civic and Moral Education Initiative for the Academic Year 2018-19, at which several PZ researchers led discussions on current civic and moral issues affecting young people, democracy, and the field of education.

January-Term Lecture Series: PZ Principal Investigator Howard Gardner led a series of three lectures in Askwith Lecture Hall on the topic of PZ's "Higher Education in the 21st Century" project.

Annual PZC Institute

PPE and PZ hosted the 23rd installment of the Project Zero Classroom (July 2018), an annual five-day event, which enrolled 362 participants and a faculty of 94 educators from around the world.

Offsite Conferences

PZ convened two conferences in different parts of the world to highlight networks of educators using PZ's ideas and create more affordable access to PZ's research:

- Understanding for a Complex World in Pamplona, Spain (Oct 2018) enrolled 630 participants and a faculty of 65 educators.
- Artful Thinking & Learning in Atlanta, GA (Apr 2019) enrolled 392 participants and a faculty of 56 educators.

Local Workshops

PZ offered a series of affordable workshops in the Boston-area educators:

- Wonder of Learning, November 1, 2018, Boston University Wheelock College of Education and Human Development, Boston MA, 96 ppl (Ben Mardell, Mara Krechevsky, Megina Baker)
- EcoXPT, February 7, 2019, Harvard Ed Portal, Allston, MA, 8 ppl (Tina Grotzer)
- Slow Looking, April 24, 2019, Museum of Fine Arts, Boston, MA 25 ppl (Shari Tishman)

Online Courses

In collaboration with Programs in Professional Education, PZ's instructional team of 73 instructors and coaches facilitated five online courses twice during the year (once in September and once in February) for 2,822 participants with an 89% overall satisfaction rate. More than 96% of participants confirmed they will definitely use the ideas they learned in the courses in their educational contexts.

Digital Engagement

The PZ website, *Zero In* newsletter, and social media channels (primarily Twitter and Facebook) supported outreach to many new individuals and organizations in FY19:

- PZ's website visits increased 10% for a total of 418,861.
- Subscribers to PZ's bi-annual *Zero In* newsletter increased 61% to 10,286.
- Social media followers increased this year across Facebook (up 18% to 13,084) and Twitter (up 29% to 32,519).

Scholarships

A significant accomplishment in FY19 was the public launch in December 2018 of the Zaentz Professional Learning Scholarships. With generous support from the Saul Zaentz Charitable Foundation of $1,000,000 and many smaller, individual donations honoring Project Zero's 50th anniversary, Project Zero began offering professional learning scholarships to support a range of schools, districts, and organizations as well as a diverse group of educators for PZ professional development. These scholarships support educators working in under-resourced contexts and/or with historically marginalized students and cover between 50% – 80% of program tuition. Over the course of FY19, the PZ Reach team built scholarship application and decision-making systems, as well as developed outreach and communication materials and were able to award 326 scholarships for a total of $156,665.

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pzero.in/subscribe

Project Zero Online

February 2020

https://pzero.in/pzo2020feb

Five, 13 week long, coach-facilitated, asynchronous online courses.

Creating Cultures of Thinking · **Making Learning Visible** · **Teaching for Understanding**
Thinking & Learning in the Maker-Centered Classroom · **Visible Thinking**

Upcoming Events & Institutes

Education that Matters

May 2 - 3, 2020 | Melbourne, Australia

pzero.in/pzmel2020

Project Zero Classroom

July 20 - 24, 2020 | Cambridge, MA