

Perspectives on “Understanding” from Project Zero’s First 50 Years



PROJECT ZERO
FIFTY YEARS
HARVARD GRADUATE
SCHOOL OF EDUCATION



At the beginning, PZ’s research focused on investigating cognitive processing in the arts. This seminal work led researchers to expand to broader aspects of human potential including learning, critical thinking, creativity, and intelligence. In the recent decades, PZ research built on these rich traditions by exploring further fundamental questions of human potential as they relate to contemporary issues facing an array of educational settings—schools, families, museums, and businesses. To celebrate 50 years, PZers looked across the vast body of research and developed an organizing framework that includes nine research areas representative of many facets of the five decades of work. These nine areas include: The Arts, Assessment, Character and Ethics, Civic Agency, Creativity, Developing Understanding, Global Competencies, Intelligences, and Thinking. PZ created a brief overview of each of the 9 areas as stand-alone “booklets.” Each of the four-page booklets describes PZ’s research in the area along with a set of “PZ perspectives,” notes some big questions that are launching PZ into the future, lists key PZ projects, highlights important PZ quotes, offers a sample of notable PZ publications, and visualizes the main frameworks and ideas.

The artwork and graphic elements featured on these pages was created by our collaborators, dpict, a local graphic facilitation and design firm, along with Matt Riecken, PZ’s digital learning specialist.

UNDERSTANDING

Project Zero's research proposes a performance-based conception of "understanding," i.e. understanding is the capability to perform flexibly with knowledge in novel situations. It goes beyond having the correct mental models, and is actionable and generative in further learning and in real life. Understanding includes the capacity for transfer, as well as the ability to restructure concepts rather than just add information. It is an agentic process, an on-going quest carried by the learner.

BIG QUESTIONS

What is the nature of deep understanding and why does it matter?

What are the challenges to developing deep understanding?

What are the behaviors of learners who demonstrate adaptive expertise—knowing how to develop deep understanding?

In what ways can education support the development of deep understanding and adaptive expertise?

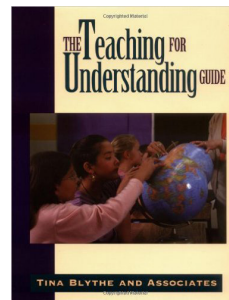
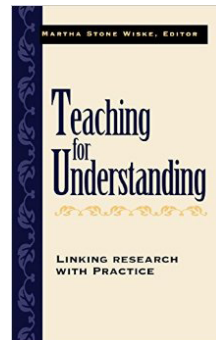
PZ PERSPECTIVES

Depth of understanding is more empowering than broad, superficial coverage.

Understanding is revealed through performances as opposed to what we know in our heads.

Deeper understanding involves restructuring schemas that we hold and developing a broader repertoire of schemas.

Learning how to learn new and challenging content—developing adaptive expertise—should be a central focus on education.



KEY PROJECTS

Practical Intelligence for School (1988 – 1995)

Teaching for Understanding (1990 – 1996)

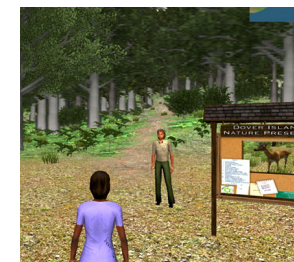
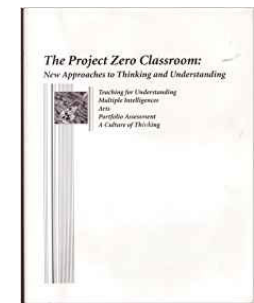
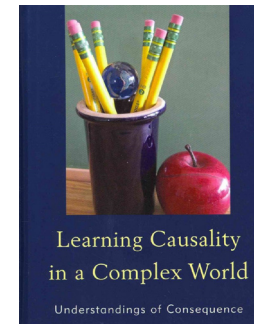
Understanding of Consequence (1998 – 2005)

EcoLearn Projects (2009 – current)

"People understand something when they can think and act flexibly with what they know about it in new situations, not just rehearse information and execute routine skills." - David Perkins

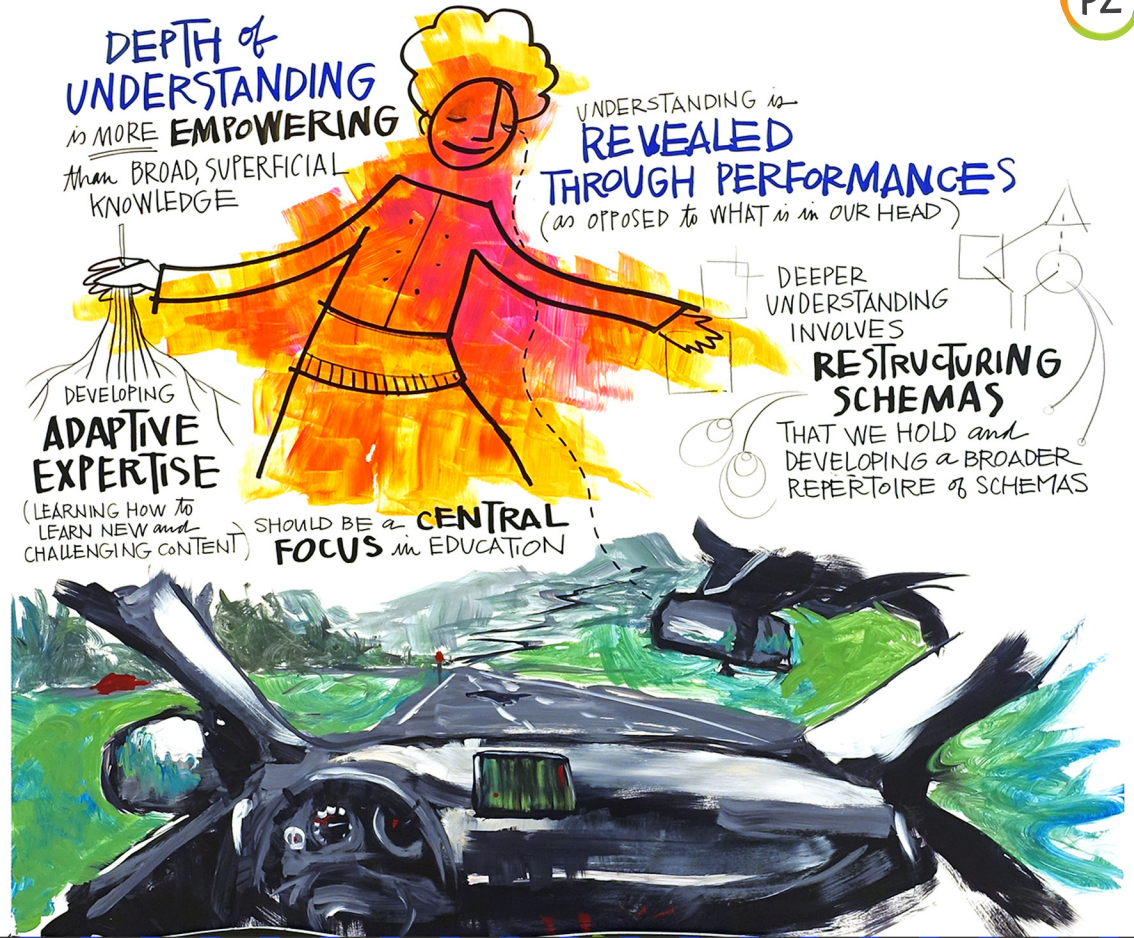
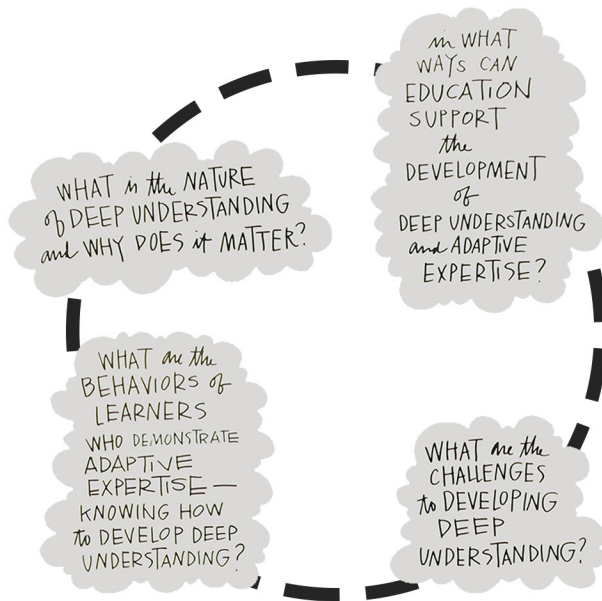
"Learning is like a geode. A topic can look plain and uninteresting on the surface but as you dive deeply into it, it reveals the hidden gems within." - Tina Grotzer

"Generative topics are readily linked to students' previous experiences (both in and out of school) and to important ideas within and across disciplines. They often have a bottomless quality; in that inquiry into the topic leads to deeper questions." - Martha Stone Wiske



EcoMuvE

UNDERSTANDING



BIG UNDERSTANDINGS ARE the BUILDING BLOCKS of LIFEWORTHY LEARNING. THEY ARE BIG in INSIGHT, BIG in ACTION, BIG in ETHICS, and BIG in OPPORTUNITY, and THEREFORE BIG in the LIVES LEARNERS ARE LIKELY to LIVE.

—David Perkins

NOTABLE PZ PROJECTS

TEACHING FOR UNDERSTANDING
UNDERSTANDINGS OF CONSEQUENCE
PRACTICAL INTELLIGENCE FOR SCHOOLS
THINKING DISPOSITIONS
ECOLEARN PROJECTS

KEY FRAMEWORKS

RECAST

REVEAL CAUSAL STRUCTURE
HELPING STUDENTS RECAST
their EXPLANATION by DRAWING,
their ATTENTION to DIFFERENT,
UNDERLYING CAUSAL
STRUCTURES



the TRIADIC NOTION of THINKING DISPOSITIONS



TEACHING for UNDERSTANDING



	#	UNDERSTANDING PERFORMANCES	ONGOING ASSESSMENTS
INTRODUCTORY →			
GUIDED INQUIRY →			
CULMINATING →			

- 1 WHAT DO WE MOST WANT LEARNERS to UNDERSTAND?
- 2 How WILL THEY DEVELOP that UNDERSTANDING?
- 3 How WILL WE (i.e. they) KNOW IF THEY ARE UNDERSTANDING?