

Professional Development for Inquiry

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Institute for Inquiry

Professional Development

National center supporting k-8 science education

Strategy

- Develop leadership capacity

- Focus on professional development design

Impact

Professional Development

Complex and multi-layered

Intellectually engaging/cognitively challenging

Respect for learner

Transparency of process

Building collegial networks

Essential Elements for Professional Development in Inquiry

Transformative experiences (vision & motivation)

Translatable experiences (practical application)

Transformative Experiences

Immersion (personal experience of inquiry)

Investigate one science topic in depth

(light, shadow, sound, force and motion, balance)

A Picture of Inquiry— Light and Shadow

Exploring phenomena—piquing curiosity

Focused investigation-pursuing questions

Why are some shadows darker than others?

What causes some shadows to be fuzzy and others sharp?

Sharing findings

Arriving at the big ideas of scientific understanding

Light travels in straight lines (path of light)

Shadows are where light is blocked

Mathematical size and distance relationships

Learning about The Inquiry Process

Joy of discovery

Relationship between content and process

Perseverance (disequilibrium)

Social nature of science & learning

Multiple pathways to arrive at same understanding

Structure of inquiry

Translatable Experiences

Deconstruction of the inquiry experience

Strategies for changing practice incrementally (“building block” experiences)

Images of inquiry in the classroom

Continuous follow-up support

Lessons Learned

Climate of improvement

Patience and perseverance

Science museums as professional development centers