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# Integrating Science and Literacy: Achieving New Dimensions

Presented by

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# Integrating Science and Literacy: Achieving New Dimensions

Creating a Sustainable Professional Development Network for Teachers

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ISLAND Science Literacy Facilitator





**ISLAND**

*Integrating Science and Literacy: Achieving New Dimensions*

# Disclaimer

The instructional practices and assessments discussed or shown in this presentation are not intended to serve as an endorsement of the United States Department of Education.

# Participating Schools

## ISLAND (NW Indiana) Schools & Corporations

Aspire Charter Academy

Charter School of the Dunes

Crown Point Community School Corporation

Griffith Public Schools

Lake Central School Corporation

Lake Ridge School Corporation

River Forest Community Schools

School City of East Chicago

School City of Hammond

School City of Hobart

School Town of Highland



**ISLAND**

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# Partners

**Indiana Dunes Environmental Learning Center**

**Indiana—Science, Technology, Engineering, & Mathematics  
Resource Network**

**Indiana University Northwest**

**Northwest Indiana Education Service Center**

**Purdue University Calumet**

# Goals of this Project:

- 1) Establish a Professional Learning Community to provide an ongoing network of support to promote effective science teaching and learning,
- 2) Expand elementary teachers' science content knowledge and pedagogy to promote science content reading strategies, and
- 3) Enhance the teachers' ability to utilize reading strategies to significantly increase the science academic achievement of students in grades 3-6.



# ISLAND

*Integrating Science and Literacy: Achieving New Dimensions*

## Overview

- ISLAND, or *Integrating Science and Literacy: Achieving New Dimensions*, is a partnership between seven Northwest Indiana School Districts, local universities (content experts), and environmental centers
- Focusing on improving science and literacy skills for students in grades 3-6
- Funded through the US Department of Education's Math and Science Partnership Program
- Forty-five participating teachers among two cohort groups; teachers receive summer stipends, ongoing professional development, professional memberships, and access to instructional resources

## June 2008

2 week institute (June 17-27): **Cohort I**

Focus: Environmental Science and Astronomy

## September-December 2008

2 professional development days to be held at the NWIESC: **Cohort I**

1 on-site/building visitation for Cohort I & II teachers

## January-May 2009

2 professional development days to be held at the NWIESC: **Cohort I**

1 on-site/building visitation for Cohort I & II teachers

## June 2009

2 week institute (June 15-26): **Cohort I & II**

Focus: Geology and Solar Energy

## September-December 2009

2 professional development days to be held at the NWIESC: **Cohort I & II**

1 on-site/building visitation for Cohort I & II teachers

## January-May 2010

2 professional development days to be held at the NWIESC: **Cohort I & II**

**(Focus: Professional Learning Communities)**

1 on-site/building visitation for Cohort I & II teachers

## June 2010

1 week institute: **Cohort I & II**

# The ISLAND Program

- District Administrators provide release time for attend academic year workshops and support for teachers to implement integrated lessons in their classrooms
- Teachers attend summer institutes and fall workshops in content knowledge and methodologies
- Teachers also take the Survey of Enacted Curriculum (SEC) at least twice to compare their curriculum to the Indiana Academic Standards for science and language arts
- Facilitator performs observations and interviews with teachers in their classrooms
- Teachers develop action research plans and reports to gauge the improvement of their teaching effectiveness

# Professional Development

- Institutes and Workshops include:
  - Content knowledge in science and literacy
  - Scientific concepts and methods
  - Literacy and comprehension skills
  - Reading and writing skills
  - Best practices in for science instruction and cross-curricular lesson development
  - Technology integration
  - Networking opportunities with experts
- Materials available for loan, curricular materials, and videotaped on-site visitations are archived on the ISLAND website

# Academic Year Activities

- Teachers participate in ongoing blogging, videotaping of their teaching, use of technology for podcasting in their classroom, as well as a yearly action-research project driven by assessments in the classroom.

# Mentorship Cohorts

- Cohort model allows teachers to network and learn from one another
- First cohort group becomes experts from which the next cohort group can learn
- Builds a successful mentorship relationship where lessons, ideas, and materials are shared, and where professional learning communities are defined

# Materials and Technology

- Many resources made available for cohort members:
  - FOSS and Delta Kits, environmental tools
  - Apple MacBook laptops with science and instructional material creation software
  - Content area book sets, leveled readers
- The most popular materials are the books, with science and literature cross-curricular content

# Integration and Observation

- The facilitator meets with each teacher and observes the classroom twice during implementation of integrated lessons
- Teachers use lessons they have created based on their professional development experiences during ISLAND and are given feedback and opportunity to reflect on teaching and learning

# Assessment

- ISLAND employs a program evaluator who determines the effectiveness of the program based on different benchmarks
- Up until this point only data from the SEC has been surveyed; when the program is completed more data will be available and analyzed thoroughly

# Summary: Creating a Sustainable Program

- ISLAND uses focused professional development and a cohort model to keep teachers engaged throughout the project
- Teacher reflection on experiences: find the program to be helpful in improving their knowledge of science, literacy, technology, and multidisciplinary lesson development
- Easily accessible Web-based collection of resources and documents
- District commitment and support to implement changes
- Grant funding has helped the program to develop (\$409,524.00); without incentives for teachers and money for equipment and workshops, the program would not exist

## Resources and References

- The ISLAND website: <http://island.nwiesc.k12.in.us>
- Survey of Enacted Curriculum: <http://www.seconline.org>

