State Education & Environment Roundtable

Syllabus

EIC Model™ Implementation Institute

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INTRODUCTION

SEER's EIC Model™ Implementation Institutes are designed to help teachers connect environmental learning and standards-based teaching into an instructional tapestry that SEER refers to as "Environment-Based Education" (EBE)[1]. Participating school teams learn how to use curriculum-mapping processes to connect content standards and adopted instructional materials to student investigations and projects related to their school-site and local community.

SEER designed its four-day, highly interactive EIC Model™ Implementation Institutes to help schools and their instructional teams develop the skills necessary to use the EIC Model™ to more effectively:

- identify community and natural settings that can be used as real-world contexts for EIC-based instruction to help students succeed with their standards as they increase their environmental knowledge;
- integrate instruction and learning across traditional disciplines, using SEER's curriculum-mapping process to simultaneously address content standards in multiple core subjects (English language arts, math, science, history/social studies and, to the extent feasible, art, music, and physical education);
- develop community-based investigations to serve as contexts for standards-based instruction and environmental learning;
- provide hands-on learning experiences through problem-solving and issue-based studies in their local areas;
- design and implement environmental service-learning activities that provide students the opportunity to apply their learning and increase their stewardship skills;
- develop learner-centered, constructivist approaches adapted to individual students and their unique skills and abilities; and,
- implement collaborative instructional practices that involve grade-level and discipline-based teaching teams, parents, community partners, and students.

INSTITUTE SUMMARY

The EIC Model™ Implementation Institutes are intended for grade-level or interdisciplinary teams of K-12 teachers. Participating middle and high schools are asked to send interdisciplinary teams that represent at least three disciplines and/or specialties. School teams are typically comprised of teachers, school administrators, coaches, and community partners. Institute facilitators model instructional practices that will help the teams fully understand how to use the EIC Model™ with their students.

[1] The EIC Model™ and EBE are discussed in depth in Dr. Lieberman's newest book, *Education and the Environment: Creating Standards-Based Programs for Schools and Districts.* Harvard Education Press

Participants discover how various subject areas can support and enhance the instructional success of a curriculum based on the EIC Model™. They learn how state and district standards can be simultaneously addressed through the EIC Model™ as they integrate learning across the disciplines. The teachers also learn how to help their students map their community and natural surroundings, investigate local natural and human social systems, and identify local issues that may lead to student projects and environmental service-learning activities.

SEER's institute facilitators model the processes that teachers will use with their students as they guide them through activities, small-group work, and outside explorations that help them fully understand and learn how to implement the EIC Model™. Institute participants are involved in small-group work, guided discussions, curriculum development sessions, group presentations, and strategic planning.

As the school teams conduct investigations in local natural and community settings, they discover learning and teaching opportunities that develop higher-level thinking skills and improve acquisition of content knowledge in a variety of traditional disciplines including English language arts, math, science, history/social studies and, in many cases, art, music, and physical education.

Teachers and administrators from over 700 schools and districts have participated in SEER's EIC Model™ Implementation Institutes.

INSTITUTE OBJECTIVES

Day One—Institute participants will:
- analyze the elements of the most effective instructional practices for addressing content standards and increasing student achievement;
- explore the components of the EIC Model™ and its uses in standards-based instruction and reinforcing adopted instructional materials;
- investigate school sites as learning settings and identify both standards-based and context-based learning opportunities in these settings;
- use systems-thinking strategies to investigate natural and social systems that constitute the local community;
- map the school and community within a given radius of the school including representative natural and social systems; and,
- examine SEER's evaluation framework and instruments.

Day Two—Institute participants will:
- identify specific science, English/language arts, history/social studies, math, and other standards to serve as the basis for developing EIC Model™ Units and lessons;
- generate sets of science, English/language arts, history/social studies, math, and other standards that can be simultaneously addressed in EIC Model™ Units;
- review adopted instructional materials;
- explore and analyze interactions between natural and social systems to examine how they may serve as the focus for community-based investigations;
- develop questioning skills and strategies related to community-based investigations;
- identify context-based knowledge and skills that can be addressed through community-based investigations; and,
- analyze the role of learner-centered, constructivist approaches in the EIC Model™.

Day Three—Institute participants will:
- link sets of clustered standards to organizing and supporting questions related to the identified community-based investigations;
- delineate standards- and context-based learning objectives for the EIC Model™ Units and lessons;
- identify potential connections between standards- and context-based learning objectives;
- design a planning matrix for an EIC Model™ Unit that outlines the sequence of instruction to achieve both standards- and context-based learning objectives;
- explore the role of collaborative instruction and analyze how this approach relates to other EIC Model™ instructional practices;
- review change adopter styles;
- explore standards-based student assessment strategies for the EIC Model™ Unit; and,
- identify appropriate environmental service-learning activities to reinforce the integrated-interdisciplinary instructional plans.

Day Four—Institute participants will:
- examine the key components of effective cooperative and independent learning approaches;
- create a vision statement for implementing the EIC Model™ in their school;
- develop an initial EIC Model™ Program Implementation Plan;
- outline roles, responsibilities, and timetable for implementation and evaluation;
- discuss possible ways to celebrate student/community successes;
- collaborate with team members to develop an action plan and timeline for implementing the EIC Model™ in their school;
- review EIC Model™ as a system; and,
- present team's EIC Model™ Unit and Program Implementation Plan to all Institute participants.

RESULTS OF INSTITUTE: TOOLS AND PROCESSES

Program Implementation and Evaluation Plan—a workplan and timetable for program implementation and evaluation. Elements of the program implementation and evaluation plan include:
- outline of roles and responsibilities;
- timetable for program implementation and evaluation;
- a network of key stakeholders and decision makers;
- potential environmental service-learning activities; and,
- plans to celebrate students' and community's successes.

Curriculum Alignment Maps—an instructional map that identifies sets of content standards that will be addressed in the EIC Model™ Unit. This map also delineates how those standards will be interconnected in the lesson planning process. Elements of the curriculum alignment map include:
- grade-specific content standards in science, English/language arts, history/social studies, and math; and,
- standards-based and context-based learning objectives that will provide the foundation for lesson planning, including community-based investigations and environmental service-learning projects.

EIC Model™ Unit Plan—a draft unit plan that describes the sequence of instruction to achieve standards-based learning objectives, potential links to existing instructional materials, and connections to key understandings related to community-based issues. Elements of the draft EIC Model™ Unit Plans include:
- community map and identification of representative natural and social systems in the local area;
- a draft "focus of investigation," as well as organizing and supporting questions that will be used to drive the community-based investigations;
- descriptions of potential subject-specific lesson plans;
- lesson plans through which students will participate in community-based investigations; and,
- potential environmental service-learning projects based on student-identified community needs.

Student Assessment Plan—plans for evaluating students' levels of mastery in core content areas, as well as their understanding of the natural and social systems that comprise their community. Elements of the student assessment plan include:
- standards-based student assessment of lesson plans delineated in the EIC Model™ Unit; and,
- context-based assessment to determine students' comprehensive understanding of how their community functions, including the interactions of natural and social systems identified in the EIC Model™ Unit.

FACILITATOR INFORMATION

Dr. Gerald A. Lieberman, SEER's director, is an internationally recognized authority on school improvement using natural and community surroundings as interdisciplinary contexts for education. He led the development of the innovative educational strategy called EIC Model™, using a school's local Environment as the Integrating Context for learning and, more recently, the development of the curriculum for the State of California's Education and the Environment Initiative. Dr. Lieberman's 2013 book, *Education and the Environment: Creating Standards-based Programs in Schools and Districts* (Harvard Education Press), offers key strategies for getting buy-in from school and district administrators, and teachers in connecting nature and the environment into their classroom studies. Over the past 34 years, Dr. Lieberman has created and conducted professional development programs for more than 9,000 educators and other professionals, working with formal education systems at local, state, national, and international levels. He has designed and coordinated curriculum development programs in the United States, Costa Rica, Honduras, Colombia, and Argentina. Dr. Lieberman received his Ph.D. and M.A. from Princeton University and his B.A. from U.C.L.A. He is a past Chair of the Commission on Education of IUCN, the International Union for Conservation of Nature.

Ms. Grace Lieberman is SEER's Professional Development Coordinator. Over the past 40 years, she has coordinated curriculum development and interdisciplinary projects for a variety of school districts and state departments of education, as well as in Costa Rica and Argentina. Ms. Lieberman has provided professional development and technical support for over 125 schools implementing the EIC Model™ in ten states. For four years she served as a lead instructional editor for California's Education and the Environment Initiative. Prior to that, Ms. Lieberman completed a highly successful, NSF-funded project to create interdisciplinary standards-based science curriculum at five middle schools in California's Poway Unified School District. In 1999, she was recognized by Graduate Women in Science as the San Diego County Science Teacher of the Year. Ms. Lieberman holds a California teaching credential (K-12) and has taught at elementary and middle school levels.

She received her M.S. from Pennsylvania State University, her teaching credential from California State University-Los Angeles and her B.A. from Manhattanville College.

The number of facilitators who conduct the institute is dependent on the number of participants. (Additional educational professionals are added to meet participant needs.)

SEER PROVIDED INSTRUCTIONAL MATERIALS AND SUPPORTING DOCUMENTS

Institute participants will receive a variety of educational resources and technical materials to support program implementation. The principal documents include:

- *Planning Guide for Implementing the EIC Model™ in Your School*—This Institute workbook leads the participants through exercises that help them develop an individualized EIC Model™ implementation program for their team. SEER's step-by-step curriculum mapping procedure is included in this planning guide.
- *Closing the Achievement Gap: Using the Environment as an Integrating Context for Learning*—SEER's report of its national study of 40 schools that use the environment as a context for instruction. The report provides participants with case studies and presents some of the evidence of the educational efficacy of these practices.
- *Program Evaluation Framework*—SEER's evaluation instruments are based on the Concerns-Based Adoption Model (CBAM) developed by the University of Texas at Austin and the Southwest Regional Educational Development Laboratory. During the Institute teams will complete a *Stages of Concern Questionnaire* and begin the process of completing a *Levels of Use Self-evaluation Instrument.*

MATERIALS AND SUPPORTING DOCUMENTS PARTICIPANTS SHOULD BRING

Each EIC Model™ team is asked to bring several supporting documents to the Institute including:

- state-, district-, or school-adopted, grade-level content standards for all of the grade-levels represented by teachers participating in the Institute;
- adopted instructional materials, including copies of textbooks for appropriate grades;
- scope and sequence documents for the participating district and school(s); and,
- district-specific content-standard assessments.

ONGOING TECHNICAL SUPPORT SERVICES

The success of a school's EIC Model™ Program is increased when on-going technical support is incorporated into the schools' implementation plans. Depending on specific arrangements, SEER staff may be available to provide technical support for implementing school sites and school districts. In these situations, SEER's staff support teachers and schools by reviewing draft instructional units, participating in site visits to advise teachers and administrators about continuous program improvement, and evaluation of EIC Model™ implementation.

Ideally, local partners are available to support and meet with the team to help them. These partners have an important role in supporting the community-based investigations, providing students and teachers with technical information, and engaging in thoughtful discussions about the implementation of the program. Community partners usually come from a variety of sectors including: parents, community organizations, local businesses, environmental organizations and agencies, universities, and other institutions.

EIC Model™
Implementation Institute
Draft Agenda[1]

Day 1

8:30 – 9:00	**Getting Started**
	• Welcome
	• Introduction to the Institute agenda, logistics, participating teams, and facilitators
	• Challenges and opportunities of a changing educational system
9:00 – 10:30	**Review of the EIC Model™ as a Framework for Addressing Standards-based Learning**
	• Identify and discuss instructional practices that effectively address standards-based learning
	• Identify and differentiate key characteristics of the EIC Model™
	• "Adopt-a-Pedagogy"
10:30 – 11:30	**The EIC Model™ as a System**
	• Explore the EIC Model™ as a "system" that can be used to implement standards-based instruction
	• Describe the role and structure of the EIC Model™ Unit Plan
	• Review the process of creating an EIC Model™ Unit Plan
11:30 – Noon	**Settings for Learning**
	• Discuss learning opportunities available in traditional and non-traditional settings
Noon – 12:30	**Lunch**
12:30 – 2:30	**School and Community Mapping**
	• Use a systems-thinking approach to investigate natural and social systems that constitute the local community
	• Map school and community including representative:
	o natural systems [e.g., streams, wetlands, wooded areas]
	o social systems [e.g., housing, agriculture, transportation, business, education]
	• Identify and web the components, processes and interactions within natural and social systems depicted on the School and Community Map
	• Identify and analyze an interaction between a natural and social system depicted on the School and Community Map
	• Discuss standards that can be addressed through that interaction of the natural and social systems identified on the School and Community Map
2:30 – 3:30	**Local Contexts for Learning**
	• Contexts for learning—more than just a place
	• Identify contexts in the local community that would provide standards-based learning opportunities for students
3:30 – 4:00	**Introduction to Evaluation Framework**
	• Learn how to use EIC Model™ rubrics – Implementing and Strengthening an EIC Program in Your School (A Self-evaluation Guide)
	• Complete the "Natural and Social Systems" rubric

Please Note:
1. Since the sessions are dependent on group interaction, and sequentially build one on the other, it is imperative that participants arrive on time, prepared to actively contribute throughout the Institute.
2. Since individuals and teams work at different speeds, we do not schedule specific times for refreshment or restroom breaks. Please feel free to get up and move around as necessary to meet your personal needs.

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[1] Typical agenda can be modified to meet specific needs of the school or school district.

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Day 2

8:30 – 10:00	**Integrated, Interdisciplinary Instruction** • Introduce the curriculum-mapping process • Identify English/language arts, math, science and history/social studies, etc. standards that will serve as the basis for lesson development • Use the curriculum-mapping process to organize standards into "connections sets" • Discuss adopted instructional materials related to standards identified in the "connections sets"
10:00 – 10:15	**Reflection** • Complete the "Integrated, Interdisciplinary Instruction" rubric
10:15 – Noon	**Community-based Investigations** • Review School and Community Map and identify interfaces between natural and social systems • Select and analyze (web) a specific interface between a natural and a social system to examine how it may serve as the focus for Community-based Investigations • Develop organizing and supporting questions that will guide the Community-based Investigations • Identify Context-based Learning Objectives for Community-based Investigations • Describe the Community-based Investigations
Noon – 12:30	**Lunch**
12:30 – 1:30	**Community-based Investigations—continued** • Continue planning for Community-based Investigations
1:30 – 1:45	**Reflection** • Complete the " Community-Based Investigation" rubric
1:45 – 2:45	**Learner-centered, Constructivist Approaches** • Define both learner-centered and constructivist approaches as related to student interest, learning styles, and multiple intelligences • Identify strategies for making the Community-Based Investigation learner-centered and constructivist
2:45 – 3:00	**Reflection** • Complete the "Learner-centered, Constructivist Approaches" rubric
3:00 – 4:00	**The Beast** • Teaming activity • Discussion of teaming strategies

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Day 3

8:30 – 9:00	**Collaborative Instruction** • Discuss the characteristics of collaborative instruction (including school teams and expanded instructional team) • Explore various change adopter styles
9:00 – 9:15	**Reflection** • Complete the "Collaborative Instruction" rubric
9:15 – 10:00	**Standards-based and Context-based Learning Objectives** • Refine a standards-based Connections Set to correspond to organizing and supporting questions formulated for Community-based Investigations • Review the types of lessons (subject-specific and Community-based Investigations) and their corresponding plan pages in the EIC Model™ Unit Plan template • Finalize standards-based and context-based learning objectives for the EIC Model™ Unit
10:00 – Noon	**EIC Model™ Unit** • Develop a discipline-based instructional plan to achieve the integrated standards-based and context-based learning objectives • Develop context-based lessons • Develop standards-based lessons
Noon – 12:30	**Lunch**
12:30 – 1:30	**EIC Model™ Unit—continued** • Continue work on the instructional plan in the EIC Model™ Unit
1:30 – 2:30	**Student Assessment Strategies** • Introduction to performance-based assessment • Discuss and design standards-based student assessment for the Unit and lesson plans
2:30 – 2:45	**Reflection** • Complete the "Authentic Assessment" rubric
2:45 – 3:45	**Environmental Service-learning Strategies** • Discuss the components of environmental service-learning • Identify environmental service-learning opportunities to address standards-based and context-based learning objectives
3:45 – 4:00	**Reflection** • Complete the "Environmental Service-Learning" rubric

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Day 4

8:30 – 9:30	**Cooperative and Independent Learning** • Examine the key components of effective cooperative and independent learning approaches • Discuss assessment strategies for team projects/activities
9:30 – 9:45	**Reflection** • Complete the "Cooperative and Independent" rubric
9:45 – 10:15	**Visioning** • Create a team vision statement for the EIC Model™ Program in your school/district
10:15– 11:15	**EIC Model™ Program Implementation Strategies** • Develop implementation strategies for the EIC Model™ Unit Plan • List strategies for developing school and community involvement, including identifying partners, to support students' achievement and benefit to the community • Discuss plans to celebrate students'/community successes • Outline roles and responsibilities, and timetable for implementation and evaluation of EIC Model™ Unit Plan • Plan for technical support visits from SEER
11:15 – 11:45	**Revisiting the EIC Model™ as a System** • Re-examine the interconnections among the EIC Model™ educational practices using the EIC Model™ Plan as the basis for review • Review EIC Model™ Unit Plan in relationship to the EIC Model™ system graphic
11:45 – Noon	**Reflection** • Complete the "Using the Local and Community Settings as Context for Learning" rubric
Noon – 12:30	**Lunch**
12:30 – 1:30	**Presentation Development** • Prepare a 10-minute presentation about the team's EIC Model™ Plan • Summarize the major components of the team's EIC Model™ Unit Plan and describe how it represents each of the pedagogies in the EIC Model™
1:30 – 2:30	**Presentations of EIC Model™ Plans**
2:30 – 2:45	**Reflection** • Complete and submit the "Stages of Concern" survey

2:45 – 3:15	**Wrap-up and Closing**
	• Follow-up assignments:
	   o Complete and submit draft EIC Model™ Unit Plan
	   o Complete and submit all assigned sections of Self-evaluation Guides
	• Timeline for next steps
	• Final reflection activity
	• Closing comments

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