

INQUIRY-BASED LEARNING FOR EDUCATORS



*Professional Development Opportunities
from Alloway*



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Your Resource for Defensible Data



ABOUT ALLOWAY'S INQUIRY-BASED LEARNING WORKSHOPS

Alloway is a full-service environmental testing laboratory located in Lima, Marion, and Mansfield, Ohio. Alloway provides analytical and field services to municipalities, industries, consultants, and other commercial laboratories. In addition, Alloway offers software, seminars, laboratory development, and training.

Alloway has recently expanded its seminars to include "Inquiry-Based Learning for Educators." Based on the principles of inquiry-based learning, this workshop is a chance for teachers to get out of the classroom and delve into inquiry. This workshop has practical value for teachers of all grade levels and subjects. Our workshops are inspired by "Earth Expeditions" – a joint project through Project *Dragonfly* at Miami University and the Cincinnati Zoo and Botanical Garden. Earth Expeditions invites people from all professional arenas to explore their personal boundaries and knowledge. Participants travel to another country and observe local conservation efforts. Along the way, they participate in a variety of inquiry-based activities and push the limits of their comfort levels. Upon returning home, participants reflect on their trips with follow-up projects.

Recent revisions to state and national education standards have highlighted the importance of inquiry-based learning for students. Teachers face the challenge of incorporating inquiry into already tight schedules and budgets. Without formal training, inquiry can seem daunting. Alloway believes that inquiry does not have to replace traditional classroom lectures or activities. Instead, inquiry can compliment and enrich classroom learning. Alloway's approach to teaching inquiry is to start with teachers' own creative and learning processes. Before teachers can help students use inquiry, they must first understand how they respond to inquiry-driven activities. The "Inquiry-Based Learning for Educators" workshop consists of several segments that break down the components of inquiry. The workshop culminates with teachers participating in a full-scale inquiry of their own. After the inquiry is completed, teachers reconvene to discuss what they learned and how to apply it to their students. The workshop is interactive and depends on teamwork and discussion. Teachers with all levels of inquiry experience will find this workshop beneficial.

This booklet includes agendas, sample activities, and teacher feedback from our June 2010 workshop for Lima City Schools elementary teachers. By working with curriculum coordinators, we were able to offer continuing education credits to participating teachers.

INTRODUCTION TO INQUIRY-BASED LEARNING

Inquiry-based learning is experiential education at its finest. Rather than listening to a lecture or being told to perform a designated experiment, students are free to explore topics that interest them. Using their natural curiosity, they make observations, ask comparative questions, formulate predictions, and then design a way to test their predictions. Along the way, they use critical-thinking skills to refine their questions and decide what is feasible to test. The ultimate goal is to come away with some new knowledge, or at least be more interested in the topic than before. Inquiry-based learning hinges on the idea that people are more likely to be actively engaged in an activity if they are interested in it, they have some say in how it is conducted, and they feel the task is worthwhile.

As an educator, inquiry-based learning is a great technique for helping students use their creativity for educational means. Teachers can illuminate topics in a whole new way and help their students become dynamic learners – a valuable skill for the classroom and beyond. Conducting an inquiry-based activity requires that teachers be familiar with the technique and understand how to facilitate an inquiry. Teachers must be able to help students choose the right questions and actively engage them in their own learning. If conducted properly, inquiries can be wonderful learning experiences. Without a good facilitator, however, students may not understand what they are supposed to do or try to perform unrealistic experiments. That's where Alloway can help. Participants in Alloway's Inquiry-Based Learning workshops come away with an understanding of how inquiry-based learning works and how to facilitate an inquiry in their classroom.

Programs like Alloway's can help teachers nurture inquiry attitudes that are essential for students' development. By giving teachers the know-how to perform inquiry-based activities in the classroom, we can position students for success.

“INQUIRY-BASED LEARNING FOR EDUCATORS”

AGENDA

8:00 a.m.	Registration (breakfast provided)
8:30 a.m.	Introduction
9:00 a.m.	“Not All Hands-On Learning is Inquiry-Based Learning”
10:00 a.m.	Break
10:15 a.m.	“Processing the Process Skills of Science”
11:00	“So Many Questions”
Noon	Lunch (provided)
12:30 p.m.	“The Inquiry Experience”
2:15 p.m.	Break
2:30 p.m.	“Taking IBL from Concept to Classroom”
3:30 p.m.	Adjourn

TOPICS COVERED

- Inquiry-Based Learning
- Science, Technology, Engineering and Math (STEM) Skills
- Formative Assessment
- Education Standards (Ohio and National)

WORKSHOP THEMES

- Inquiry-Based Learning can be another tool in the teaching arsenal.
- Teachers can still prepare students for standardized tests while using inquiry.
- Inquiry can be gradually incorporated into a classroom.
- Inquiry does not mean relinquishing control of the classroom. Rather, it means sharing the responsibility for learning, giving students ownership of their ideas, and incorporating creativity.

LEARNING OBJECTIVES

- Provide teachers with a complete overview of inquiry-based learning.
- Make teachers more aware of their learning and teaching processes.
- Suggest ways for teachers to realistically apply these topics to their curriculum.
- Give teachers the knowledge and confidence they need to begin using IBL.

TEACHER FEEDBACK

LIMA CITY SCHOOLS - JUNE 2010

(7 Respondents)

1. Please indicate your satisfaction with the following:

	Very Dissatisfied	Dissatisfied	Somewhat Satisfied	Satisfied	Very Satisfied
Materials				1	6
Instructors					7
Presentations					7

2. From a professional standpoint, how worthwhile was this workshop to you?

Very Unworthwhile	Unworthwhile	Somewhat Worthwhile	Worthwhile	Very Worthwhile
		1	1	5

3. Did today's workshop increase your knowledge/understanding of inquiry-based learning?

Not at all	Very Little	Somewhat	Increased	Significantly Increased
			2	5

4. How comfortable are you with the inquiry-based learning process?

Very Uncomfortable	Uncomfortable	Somewhat Comfortable	Comfortable	Very Comfortable
		2	4	1

5. Do you plan to use inquiry-based learning in your professional life?

Definitely Not	Probably Not	Maybe	Probably	Definitely
			1	6

6. Do you think your students would be receptive to inquiry-based activities?

Definitely Not	Probably Not	Maybe	Probably	Definitely
			2	5

TEACHER FEEDBACK - CONTINUED

7. What did you like about this workshop?

"I liked coming up with a question and then finding out the answer." – Shelley Drury

"Everything! I loved the checklist of strategies the teachers can use!" – Kim Kirkendall

"Doing the open question part. The binder is very explicit and very helpful." – Julie Rummell

"I loved going through the process myself." – Jan Cobb

"Inquiry sequences." – Christine Cisco

"Instructors. Activities presented."

"Communication between instructors and participants was excellent." – Val Conrad

8. What could Alloway do to improve this workshop?

"Offer it more often."

"Nothing. Everything was so organized and well presented."

"Maybe allow teachers to work in grade-level teams to create an inquiry lesson based on Ohio content standards."

9. Would you recommend this workshop to co-workers or friends in this field?

Definitely Not	Probably Not	Maybe	Probably	Definitely
				7

10. What other types of professional development workshops would you like to attend?

"Anything with kids."

"Come to school if you could." – Julie Rummel

"Conservation in classroom."

"Offer it more often."

11. Additional Comments:

"Very well presented – organized – great job!" – Jan Cobb

ALLOWAY CONTACT INFORMATION

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