

1 **Staff Development in Support of Systems Thinking and Dynamic Modeling Learning**

Presenters:

Nan Gill

Heidi Taylor

2 **Overview**

■ Lighting the Fire

■ Stoking the Fire

■ Creating Light

■ Learnings

■ Resources

3 **Lighting the Fire...**

introducing ideas and generating interest

“Telling ain’t teaching, and listening ain’t learning.”
Bob Barkley

■ Basic Concepts

■ Methodology

■ Examples of Applications

4 **Methodology**

■ Physical analogue

■ Debrief

■ Label with st/sd language

■ Generate other examples

■ Introduce tools to promote further understanding and applied learning

■ Generate possibilities for application

5

6 **Tools**

■ The Iceberg

■ Behavior Over Time Graphs

7 More Tools

- Causal Loop Diagrams

- Stock-Flow Mapping

8 Basic Concepts

1

- Behavior Over Time

- Feedback

- Interdependence

- Structure Generates Behavior

2

- Leverage

9 Benefits and Limitations

Benefits

Limitations

1

- Using physical, verbal, and visual experiences provides multiple opportunities for understanding
- Dividing content into multiple sessions increases teachers' comfort level and interest in learning more
- The methodology provides a framework for effective instruction in the classroom

2

- Time limitations constrain number of examples which can be shared. Many examples are needed.
- Depth of understanding is very limited without opportunity to put concepts into play in a lesson.
- For most people, it is unlikely that they will try to apply without further exposure/support.

10 Stoking the Fire...

Developing Deeper Understanding and Supporting experimentation

- The past
- The present
 - Generic Structure and Patterns of Behavior Focus
 - College Credit Courses


11 Creating Light...

Using data and reflective processes to deepen understanding to promote independent use

- Rubrics
- Videotaping
- Structured Observations
- Journaling
- Mentor Conversations
- Partner Debriefs

12 What we think we're learning...

- Slower is faster
- Snapshots overwhelm
- Scheduling

13  **More learnings...**

- Relevance
- Groupings
- Multiple modalities
- Value of working with running models