

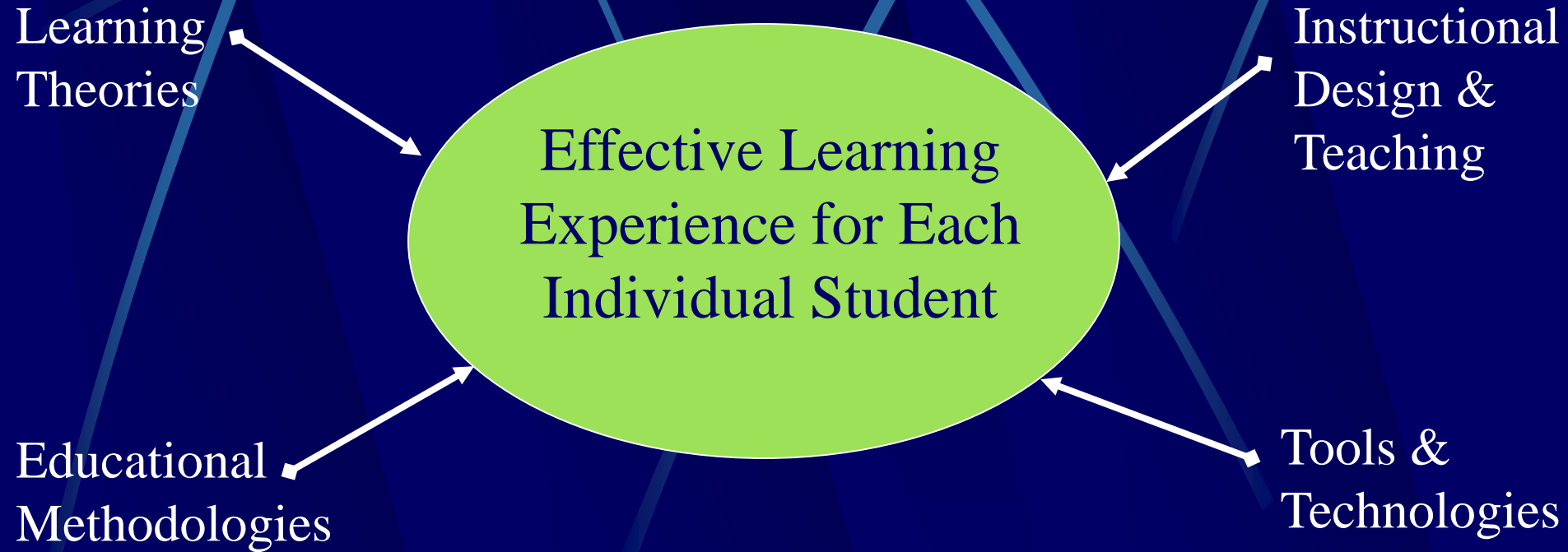
# **Designing Multi-Intelligent Technology-Enabled Instruction**

**Benay Dara-Abrams, Ph.D.**

**Lilly Conference**

**March 19, 2004**

# Focus on Learning



# Agenda

- Theory of Multiple Intelligences
  - Inventories
  - Reflections and small group discussion
- Educational Methodologies
  - Teaching for Understanding Framework
  - Entry Point Framework
  - Multiple Representations
- Enabling Technologies
- Plan module using Curriculum Design Tool
  - Reflections
  - Small group discussion

# Multi-Intelligent Technology-Enabled Instruction

## Educational Methodologies

Theory of  
Multiple  
Intelligences

Constructivist  
Learning  
Theory

Adult  
Learning  
Theory

Theoretical Foundation  
Educational Psychology

Adaptive  
Hypermedia

Web and  
Multimedia  
Technologies

Technology Foundation  
Computer Science

# Theory of Multiple Intelligences

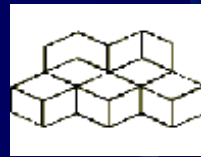
- Linguistic



- Logical-Mathematical



- Spatial



- Bodily-Kinesthetic



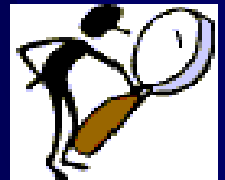
- Musical



- Interpersonal



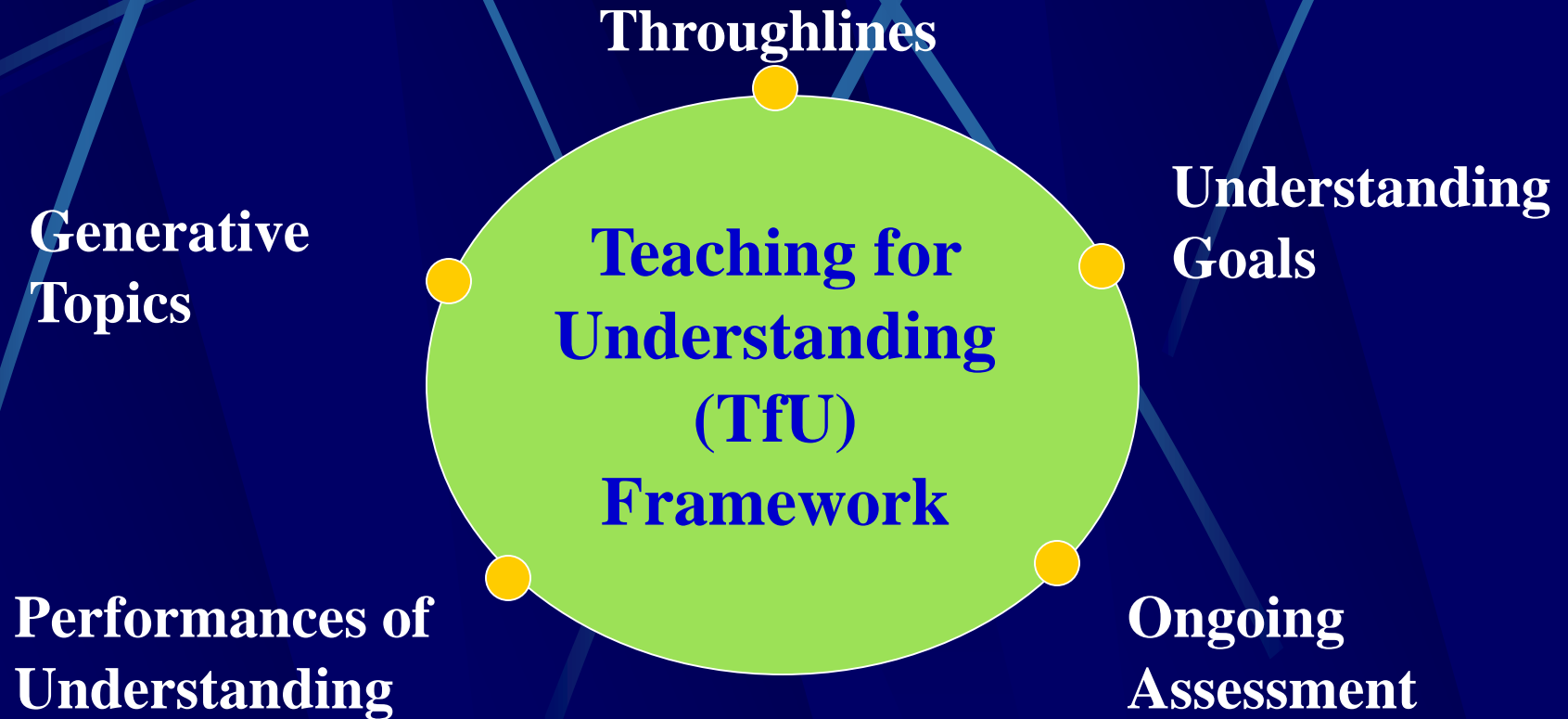
- Intrapersonal



- Naturalist



# Teaching for Understanding



# Entry Point Framework

- Narrative – introduce through story-telling
- Numerical – engage through computation
- Logical – deduction to learn new concepts
- Existential/Foundational – ask questions
- Aesthetic – engage senses through artworks
- Hands-On – experiential, manipulation
- Interpersonal – cooperative learning

# Multiple Representations

- Family of representations
- Activate different intelligences
- Present new concepts in multiple ways
- Content presentation activates more than one intelligence



# Enabling Technologies

## Educational Adaptive Hypermedia

## Web-Based Learning

User-  
Adaptive  
Systems

Hypermedia

Intelligent  
Tutoring  
Systems

Computer-  
Mediated  
Communication

Multimedia  
Technologies

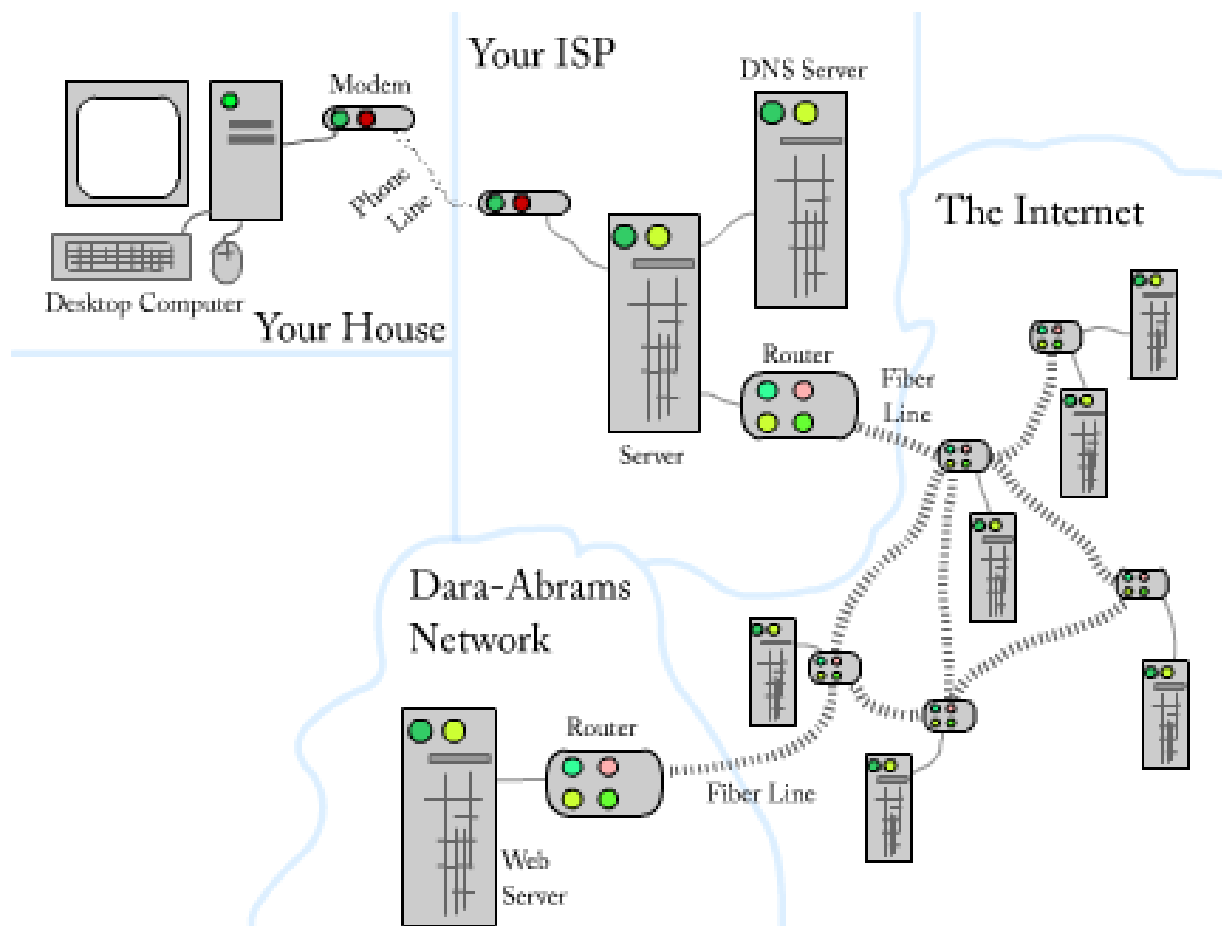
Technology Foundation  
Computer Science

# Explanation Variants

<b>Intelligence</b>	<b>Explanation Variant</b>	<b>Technology</b>
Linguistic	Prose, Textual Explanation	HTML, Word
Logic-Math	Bulleted List	HTML list
Spatial	Diagrams, Graphics, Movies	Flash, iMovie, PowerPoint
Musical	Sound Effects, Sound Track	Flash, Audio
Intrapersonal	Self-Guided Problem Analysis, Journals	HTML forms with script
Interpersonal	Discussions – problems, cases, questions	Threaded discussion
Naturalist	Categories and Metaphors	HTML lists, Flash
Bodily-Kinesthetic	Hands-on Exercises Simulations	Scripts Virtual Environments

# Spatial and Musical

Viewing a Web Page Animation - Microsoft Internet Explorer



A computer can only talk to another computer on the Internet if it knows the IP (Internet Protocol) address of the other computer. An IP address looks like this 153.57.34.231. In order to get the page that you just requested, your computer must first turn the Web address you typed in into an IP address.



# Interpersonal

Legacy Systems Integration  
Section 1: Front-end Integration

Please read the messages in the topic entitled Web front-end for legacy application before the messages in the topic entitled Case study of time card application, and please participate in the discussion while you are here.

[Return to the beginning of the section.](#) | [Return to overview.](#) | [Continue to next section.](#)

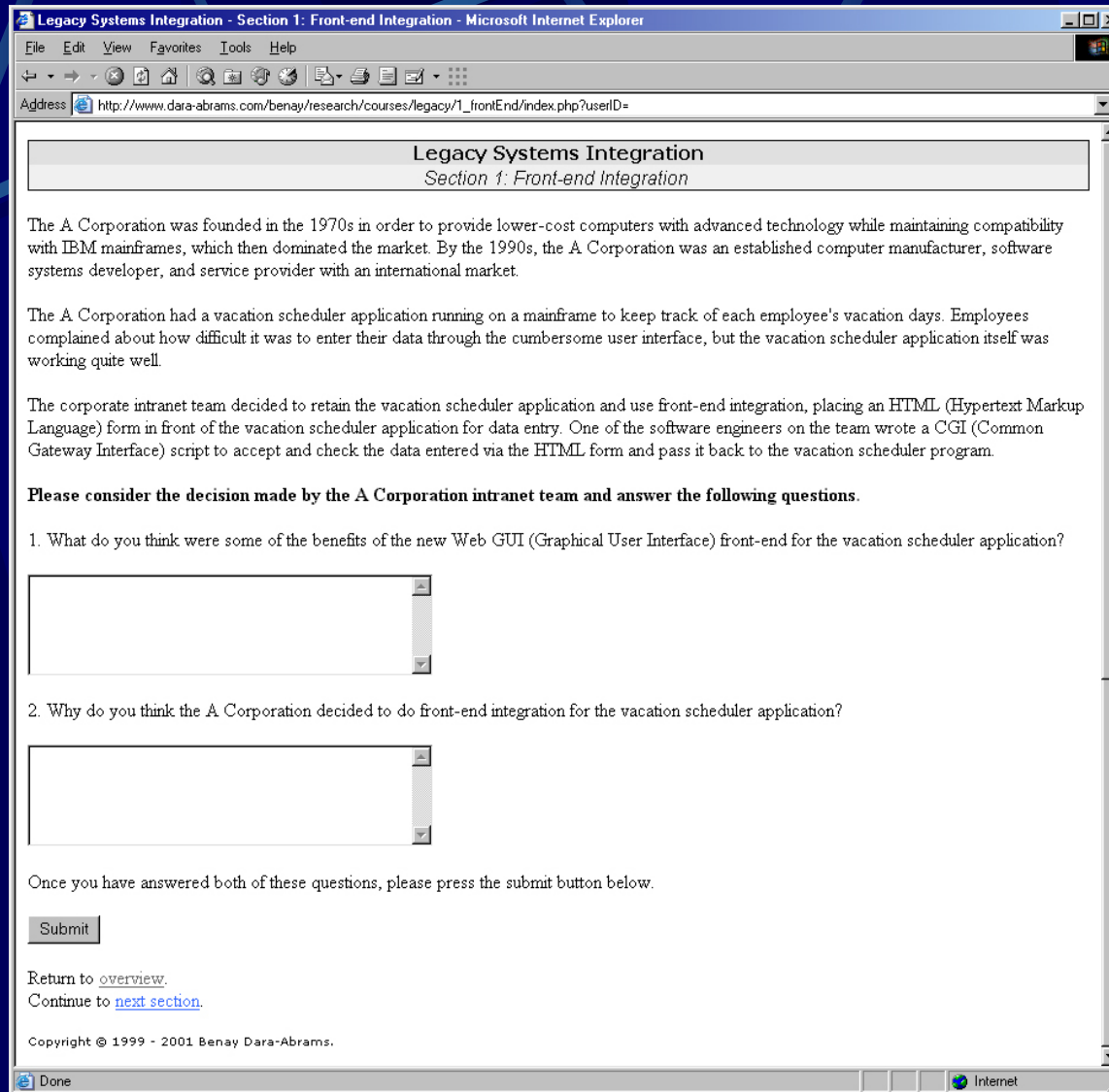
### Legacy Systems Integration - 1) Front-end Integration

[Forum List](#) | [Go to Top](#) | [New Topic](#) | [Collapse Threads](#) | [Search](#)

Topics	Author	Date
<a href="#">Case study of time card application</a> new	Benay Dara-Abrams	08-24-2001 15:33
<a href="#">RE: Case study of time card application</a> new	Susan Hardin	08-24-2001 15:44
<a href="#">RE: Case study of time card application</a> new	Benay Dara-Abrams	08-24-2001 15:46
<a href="#">RE: Case study of time card application</a> new	Paul Krugman	08-24-2001 17:52
<a href="#">RE: Case study of time card application</a> new	Benay Dara-Abrams	08-24-2001 17:58
<a href="#">RE: Case study of time card application</a> new	Usha Sekar	09-03-2001 20:14
<a href="#">RE: Case study of time card application</a> new	Benay Dara-Abrams	09-03-2001 21:06
<a href="#">RE: Case study of time card application</a> new	Ramesh	09-10-2001 15:57
<a href="#">RE: Case study of time card application</a> new	Van Shackelford	08-30-2001 10:09
<a href="#">RE: Case study of time card application</a> new	Benay Dara-Abrams	08-30-2001 10:16
<a href="#">RE: Case study of time card application</a> new	Chris Culp	08-31-2001 08:46
<a href="#">RE: Case study of time card application</a> new	Benay Dara-Abrams	08-31-2001 08:52
<a href="#">RE: Case study of time card application</a> new	Van	08-31-2001 16:11
<a href="#">RE: Case study of time card application</a> new	Abdul Aleem	09-02-2001 08:41
<a href="#">RE: Case study of time card application</a> new	Benay Dara-Abrams	09-02-2001 08:59
<a href="#">RE: Case study of time card application</a> new	Andrew Wall	09-04-2001 09:23
<a href="#">Web front-end for legacy application</a> new	Benay Dara-Abrams	08-24-2001 15:33
<a href="#">RE: Web front-end for legacy application</a> new	Jim Letter	08-24-2001 15:40
<a href="#">RE: Web front-end for legacy application</a> new	Benay Dara-Abrams	08-24-2001 15:50

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# Intrapersonal



The screenshot shows a Microsoft Internet Explorer browser window. The title bar reads "Legacy Systems Integration - Section 1: Front-end Integration - Microsoft Internet Explorer". The address bar shows the URL "http://www.dara-abrams.com/benay/research/courses/legacy/1\_frontEnd/index.php?userID=".

The main content area of the page is titled "Legacy Systems Integration" with the subtitle "Section 1: Front-end Integration".

The text on the page describes the A Corporation's history and its decision to implement front-end integration for a vacation scheduler application. It includes two questions for the user to answer, each followed by a text input field.

1. What do you think were some of the benefits of the new Web GUI (Graphical User Interface) front-end for the vacation scheduler application?

2. Why do you think the A Corporation decided to do front-end integration for the vacation scheduler application?

Once you have answered both of these questions, please press the submit button below.

Submit

Return to [overview](#).  
Continue to [next section](#).

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# Effective Technology-Enabled Learning

- Effective Learning Experience
- Each Individual Student
- Multiple Entry and Exit Points
- Multiple Representations
- Reach Anyone, Anyhow
- Integrate theory, educational methodologies, and enabling technologies

# Thank You

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