

Creating Multi-Intelligent User Experiences through Digital Media

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Understanding Goals

By the end of the workshop, participants will understand:

- Theory of Multiple Intelligences
- Personal profile of multiple intelligences
- Methods to reach variety of people through activating multiple intelligences

Multi-Intelligent User Experiences

Enabling Technologies

Methodologies

Theory of
Multiple
Intelligences

Constructivist
Learning Theory

Adult
Learning
Theory

Theoretical Foundation
Cognitive and Educational Psychology

Agenda

- Theory of Multiple Intelligences
- Self-assessment – MI profiles
- Reflection and Discussion
- Methodologies
- Digital Media examples
- Storyboard development
- Presentation of storyboards

Theory of Multiple Intelligences

- Psychology, Biology, Anthropology Evidence
- Howard Gardner, Ph.D. – published 1983
- Each individual possesses eight (or more) different intelligences
- Intelligences both biological and learned
- Individual variation – which more developed

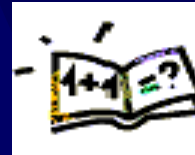
Linguistic & Logical-Mathematical

Linguistic



Sensitive to spoken and written language, meanings, and relationship of words. Interested in vocabulary, grammar, poetry, essays, and plays.

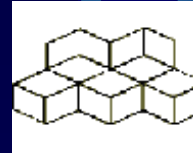
Logical-Mathematical



Abstract thought, counting, organization, logical structure. Interested in critical thinking activities, breaking words into smaller parts and reassembling them.

Spatial & Bodily-Kinesthetic

Spatial



Keen observation, visual thinking, metaphors. Interested in graphs, charts, color codes, guided imagery, pictures, posters, mind maps.

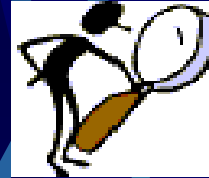
Bodily-Kinesthetic



Control of one's body and objects, good sense of timing. Interested in sports, hands-on learning, games, skits, plays.

Intrapersonal & Interpersonal

Intrapersonal



Strong sense of self, able to understand and access own feelings. Likes poetry, meditation, guided imagery, journal writing.

Interpersonal



Sensitive to others' moods, feelings, motivations; outgoing. Likes to talk with people, enjoys discussion groups, good at problem solving.

Musical & Naturalist

Musical



Sensitive to rhythm, pitch, intonation, music.
Likes poems, plays, jazz chants, rap music, songs,
musically guided imagery.

Naturalist



Sensitive to nature, environment; can distinguish
between types of rocks, flowers, birds. Loves to be
outdoors, tend plants and animals.

Constructivist Learning Theory

- Based on research of Piaget
- Learning - result of individual's mental construction
- Individuals learn by actively constructing their own understanding
- Incorporate new information into base of knowledge already constructed in their minds
- Discovery learning - "True learning is based on discovery guided by mentoring rather than transmission of knowledge" John Dewey

Adult Learning

- Learn throughout their lives
- Transitional stages – cause for learning
- Diverse learning approaches
- Problem-centered and relevant
- Immediacy of application
- Past experiences
- Self-concept
- Self-directed

Self-Assessment

- Rate yourself on each intelligence
 - Assign number - 1 (lowest) to 10 (highest)
 - Each intelligence a different number
 - Tie between two intelligences okay
- Learning Strengths Inventory
 - Check statements that describe you
 - Ignore statements that don't fit for you
- Learning Issues Inventory

Methodologies

- Entry Point Framework
- Multiple Representations
- Analogies and Metaphors
- Teaching for Understanding Framework

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

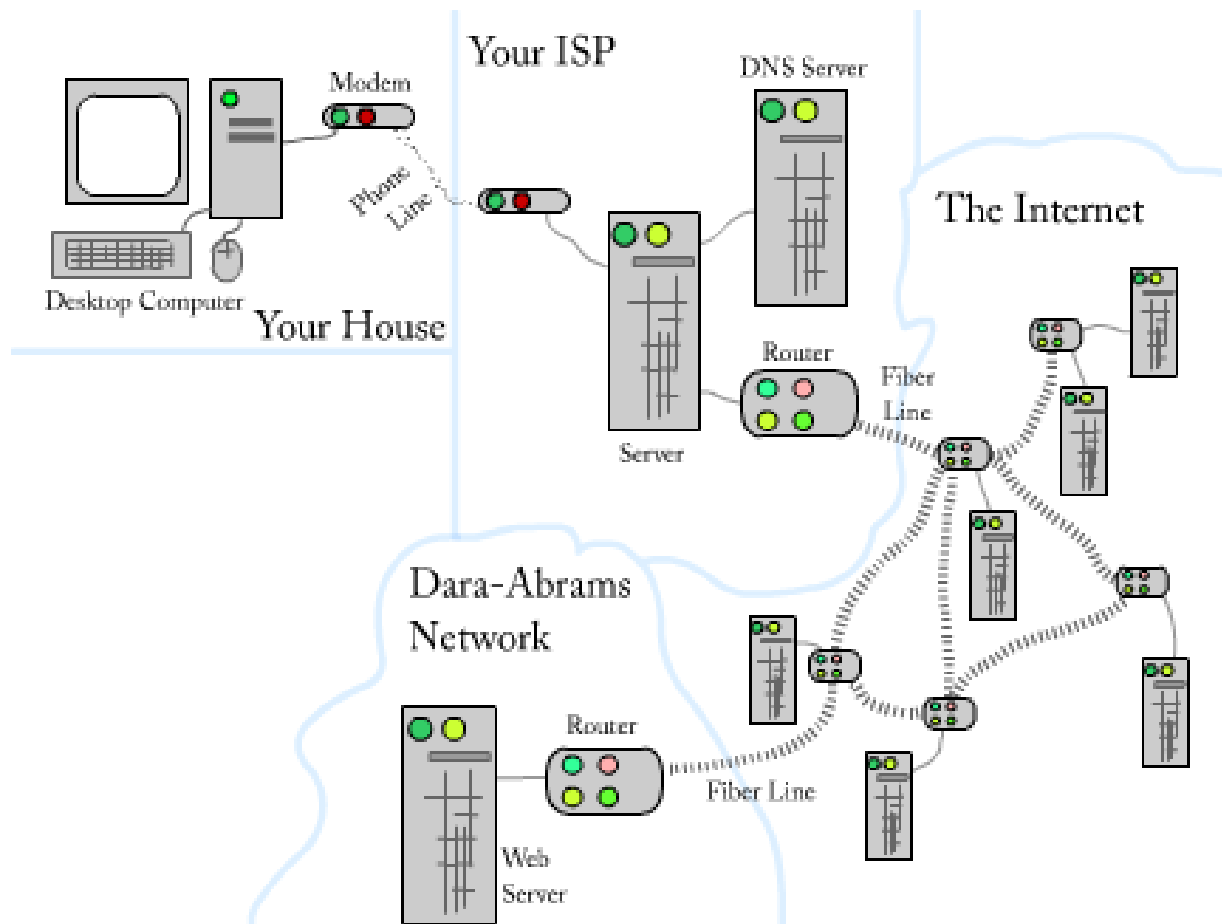
- Family of representations
- Activate different intelligences
- Present new concepts in multiple ways
- Content presentation activates more than one intelligence

Explanation Variants

Intelligence	Explanation Variant	Technology
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.](#)

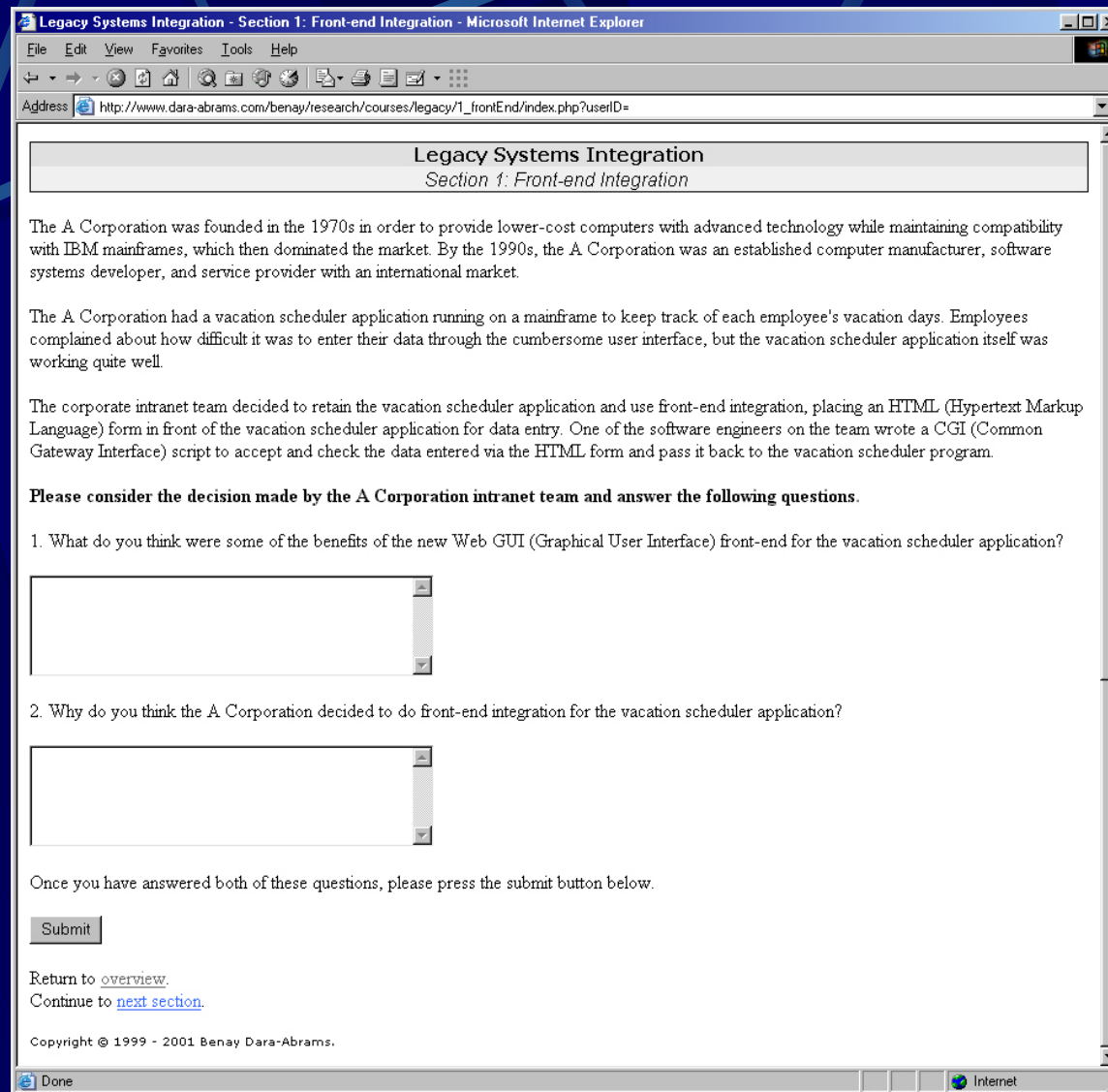
Legacy Systems Integration - 1) Front-end Integration

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Topics	Author	Date
Case study of time card application new	Benay Dara-Abrams	08-24-2001 15:33
RE: Case study of time card application new	Susan Hardin	08-24-2001 15:44
RE: Case study of time card application new	Benay Dara-Abrams	08-24-2001 15:46
RE: Case study of time card application new	Paul Krugman	08-24-2001 17:52
RE: Case study of time card application new	Benay Dara-Abrams	08-24-2001 17:58
RE: Case study of time card application new	Usha Sekar	09-03-2001 20:14
RE: Case study of time card application new	Benay Dara-Abrams	09-03-2001 21:06
RE: Case study of time card application new	Ramesh	09-10-2001 15:57
RE: Case study of time card application new	Van Shackelford	08-30-2001 10:09
RE: Case study of time card application new	Benay Dara-Abrams	08-30-2001 10:16
RE: Case study of time card application new	Chris Culp	08-31-2001 08:45
RE: Case study of time card application new	Benay Dara-Abrams	08-31-2001 08:52
RE: Case study of time card application new	Van	08-31-2001 16:11
RE: Case study of time card application new	Abdul Aleem	09-02-2001 08:41
RE: Case study of time card application new	Benay Dara-Abrams	09-02-2001 08:59
RE: Case study of time card application new	Andrew Wall	09-04-2001 09:23
Web front-end for legacy application new	Benay Dara-Abrams	08-24-2001 15:33
RE: Web front-end for legacy application new	Jim Letter	08-24-2001 15:40
RE: Web front-end for legacy application 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 page content includes a header with the title "Legacy Systems Integration" and subtitle "Section 1: Front-end Integration". The main text describes the A Corporation's history and a vacation scheduler application. It asks the user to consider the decision made by the A Corporation intranet team and answer two questions. The first question is "What do you think were some of the benefits of the new Web GUI (Graphical User Interface) front-end for the vacation scheduler application?" and the second is "Why do you think the A Corporation decided to do front-end integration for the vacation scheduler application?". Below the questions are two empty text input fields. At the bottom, there is a "Submit" button, a "Return to overview." link, a "Continue to next section." link, and a copyright notice "Copyright © 1999 - 2001 Benay Dara-Abrams." The browser status bar at the bottom shows "Done" and "Internet".

Legacy Systems Integration
Section 1: Front-end Integration

The A Corporation was founded in the 1970s in order to provide lower-cost computers with advanced technology while maintaining compatibility with IBM mainframes, which then dominated the market. By the 1990s, the A Corporation was an established computer manufacturer, software systems developer, and service provider with an international market.

The A Corporation had a vacation scheduler application running on a mainframe to keep track of each employee's vacation days. Employees complained about how difficult it was to enter their data through the cumbersome user interface, but the vacation scheduler application itself was working quite well.

The corporate intranet team decided to retain the vacation scheduler application and use front-end integration, placing an HTML (Hypertext Markup Language) form in front of the vacation scheduler application for data entry. One of the software engineers on the team wrote a CGI (Common Gateway Interface) script to accept and check the data entered via the HTML form and pass it back to the vacation scheduler program.

Please consider the decision made by the A Corporation intranet team and answer the following questions.

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.

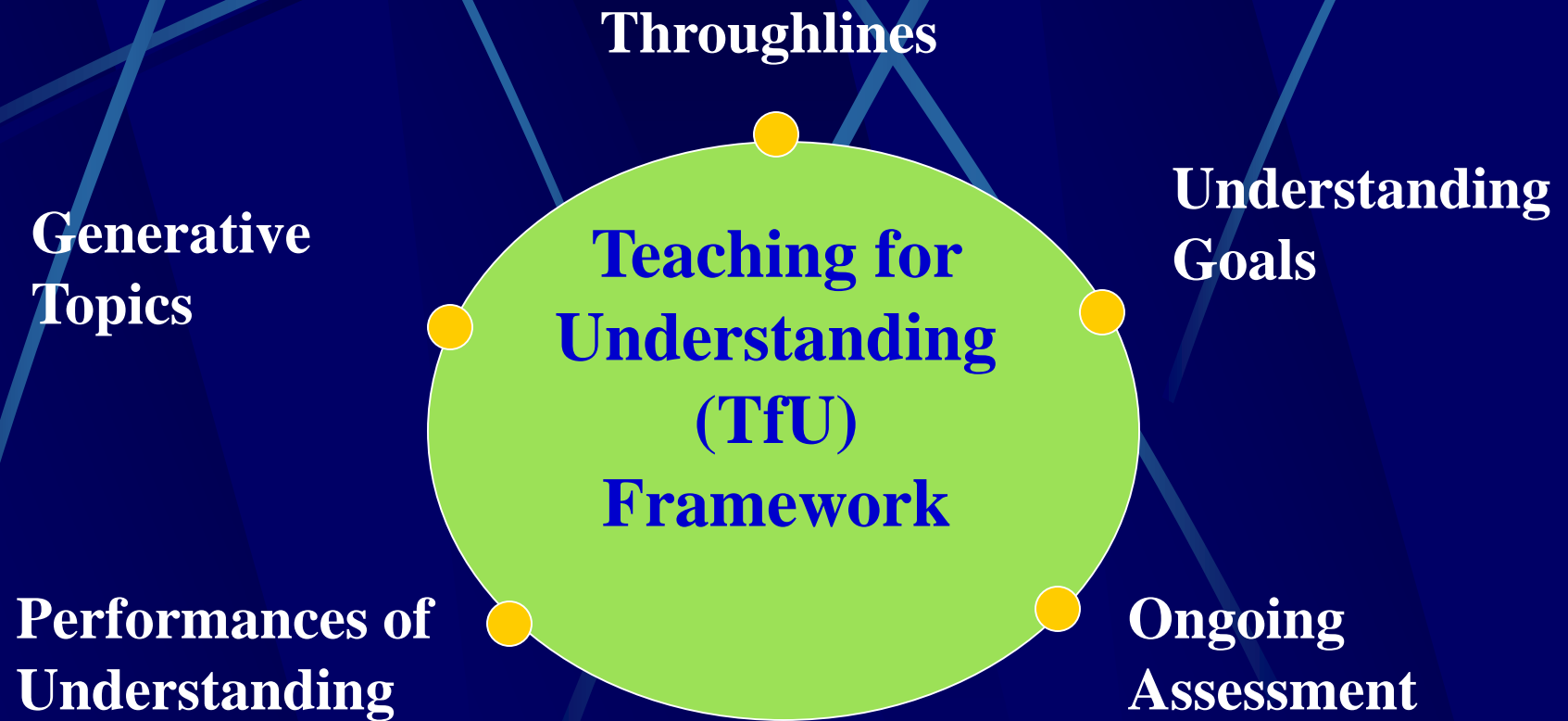
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Analogies and Metaphors

- Start from people's experiences
- Identify known concepts
- Determine familiar features
- Connect new concepts to known
- Move from familiar features to new ones

Teaching for Understanding



http://learnweb.harvard.edu/ent/workshop/ccdt_framework.cfm

Storyboard Ideas

- Instructions for setting up and using new features on cell phones
- Collaborative learning course for university students
- Online service to help people make decisions about their retirement – financial, health, residence