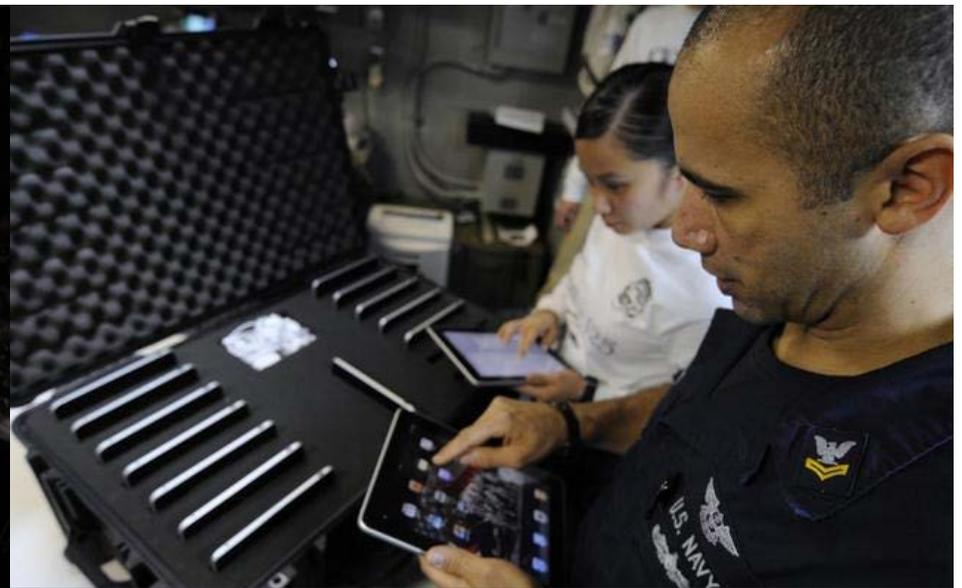




**The Power of Global Collaboration**  
Defense | Government | Industry | Academia

The Rosen Centre  
Orlando, FL  
31 July – 2 August



## Is ADDIE Appropriate for Mobile Learning?

Thursday, August 2<sup>nd</sup>, 2012



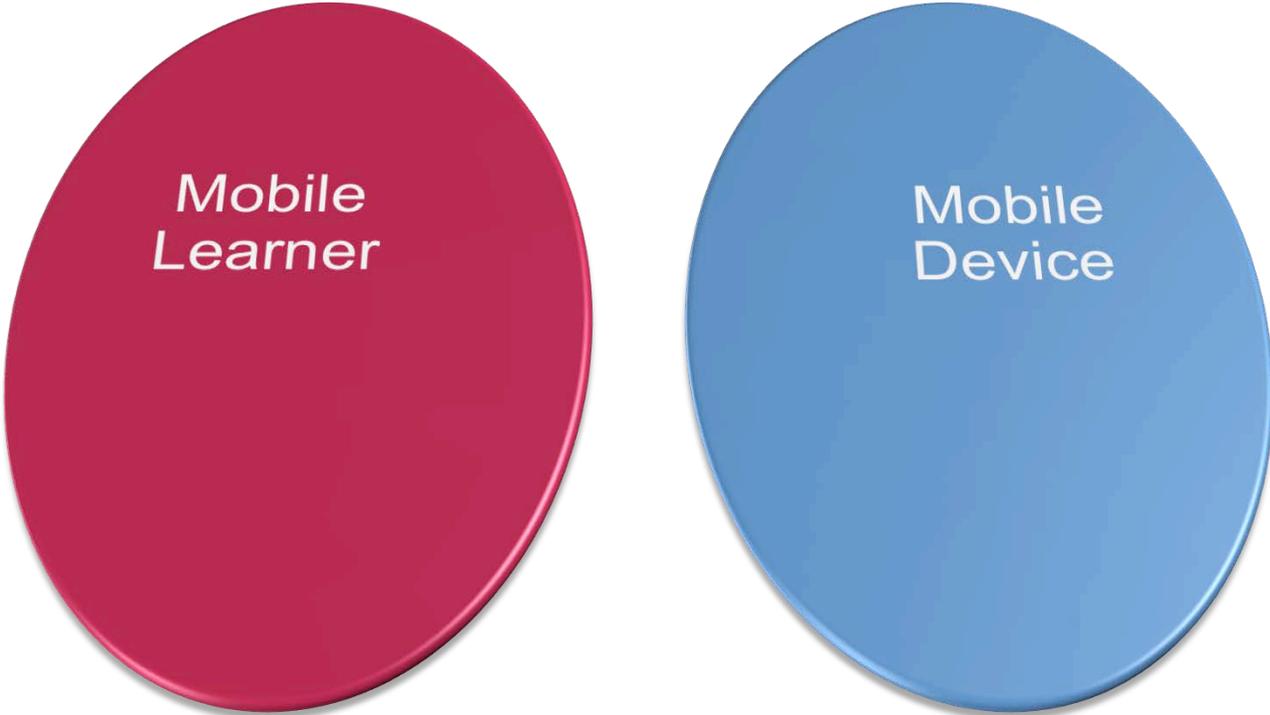
Jason Haag  
Research Analyst  
Mobile Learning Lead  
The Tolliver Group, Inc.

**“Never tell people how to do things. Tell them what to do, and they will surprise you with their ingenuity.”**



- General George S. Patton

## What defines Mobile Learning?



*Mobile  
Learner*

Mobile  
Device

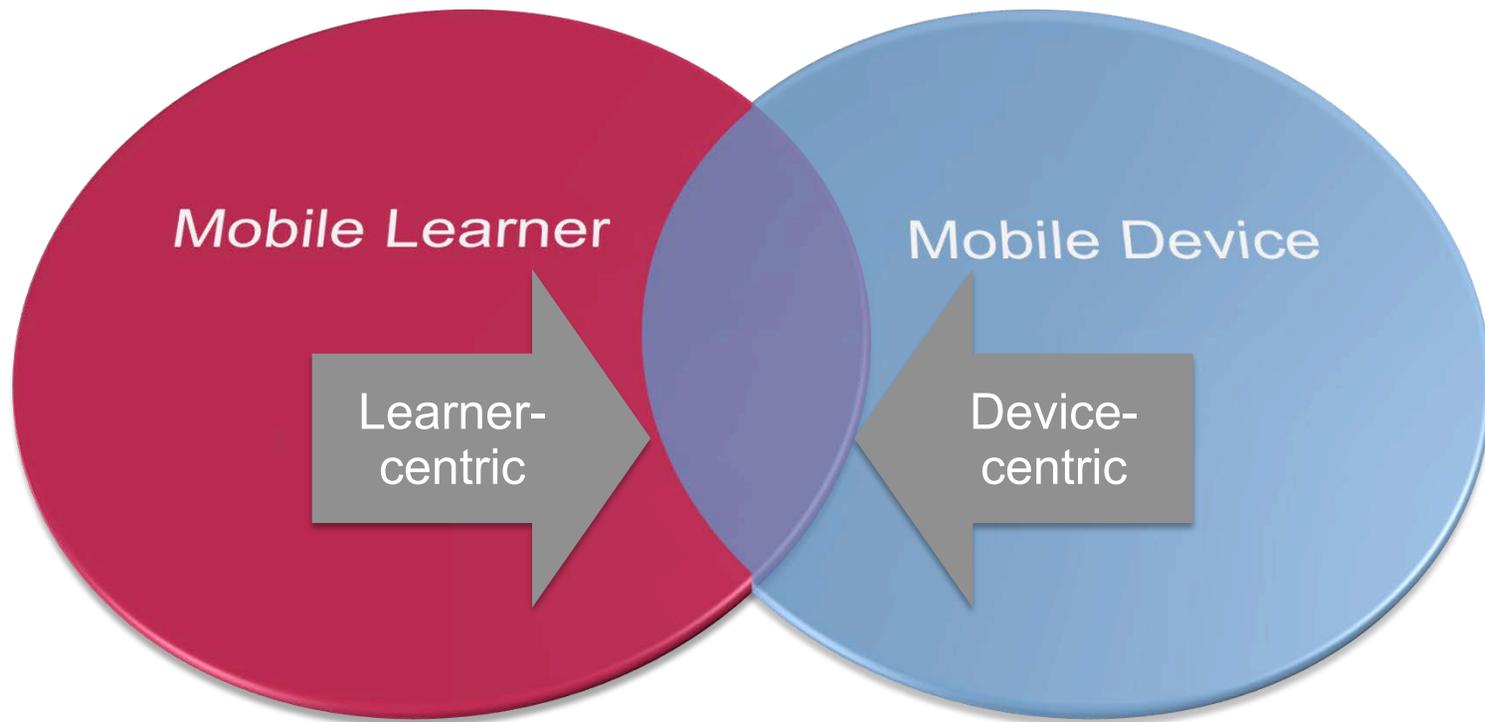
Learner-centric or Device-centric?

## ADL Describes, Not Defines

*“Leveraging ubiquitous mobile technology for the adoption or augmentation of knowledge, behaviors, or skills through education, training, or performance support while the mobility of the learner may be independent of time, location, and space.”*

ADL Mobile Learning Team

## Definitions



Learner-focus + Device-focus = Ubiquitous Learning

# The Effectiveness of Mobile Course Delivery

## **Key Research Findings from 2011 Research & I/ITSEC Paper**

- Converted DoD-wide eLearning course (Trafficking in Persons) to a mobile format
- Limited to mobile conversion only (no change to subject matter)
- Discovered SCORM doesn't work on mobile browsers
- Led to new research questions regarding ID models for mobile learning (e.g. will ADDIE and ID models work?)

Research Findings

# The Effectiveness of Mobile Course Delivery

## **Asynchronous (over 2 week period):**

- Wide range of DoD stakeholders in remote locations

## **Synchronous (over 2 hour period):**

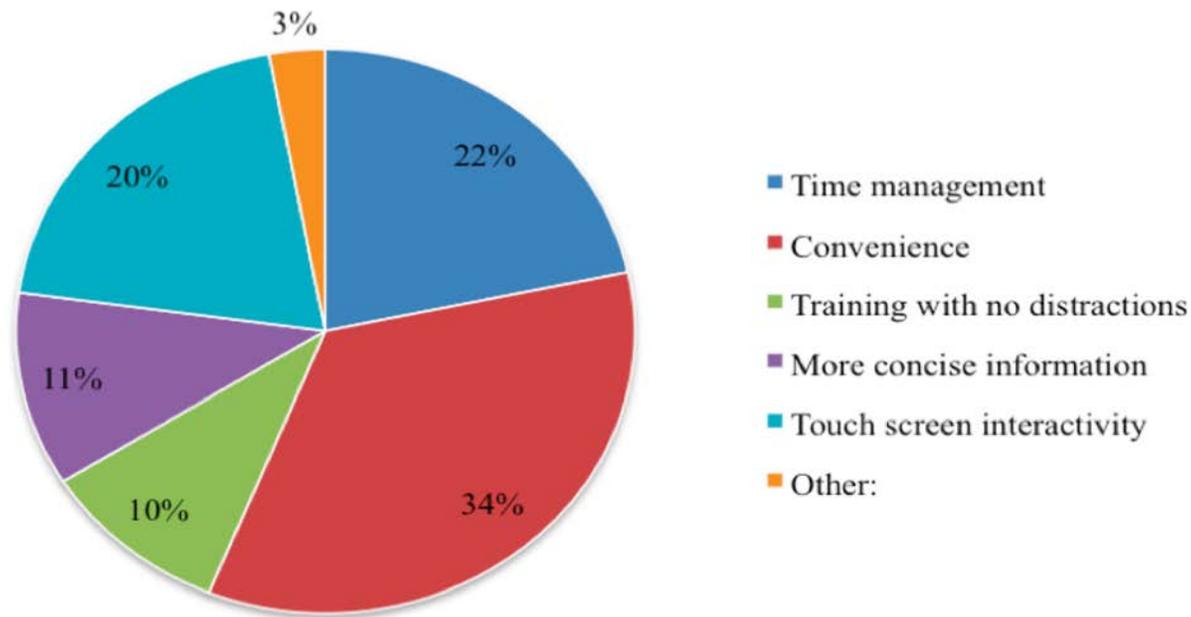
- 40 participants from Sheppard Air Force Base

## **71 total participants (Active duty & civilians)**

- Air Force (59%)
- Army (15%)
- Marine Corps (7%)
- Navy (4%)
- Other DoD Orgs (13%)

# The Effectiveness of Mobile Course Delivery

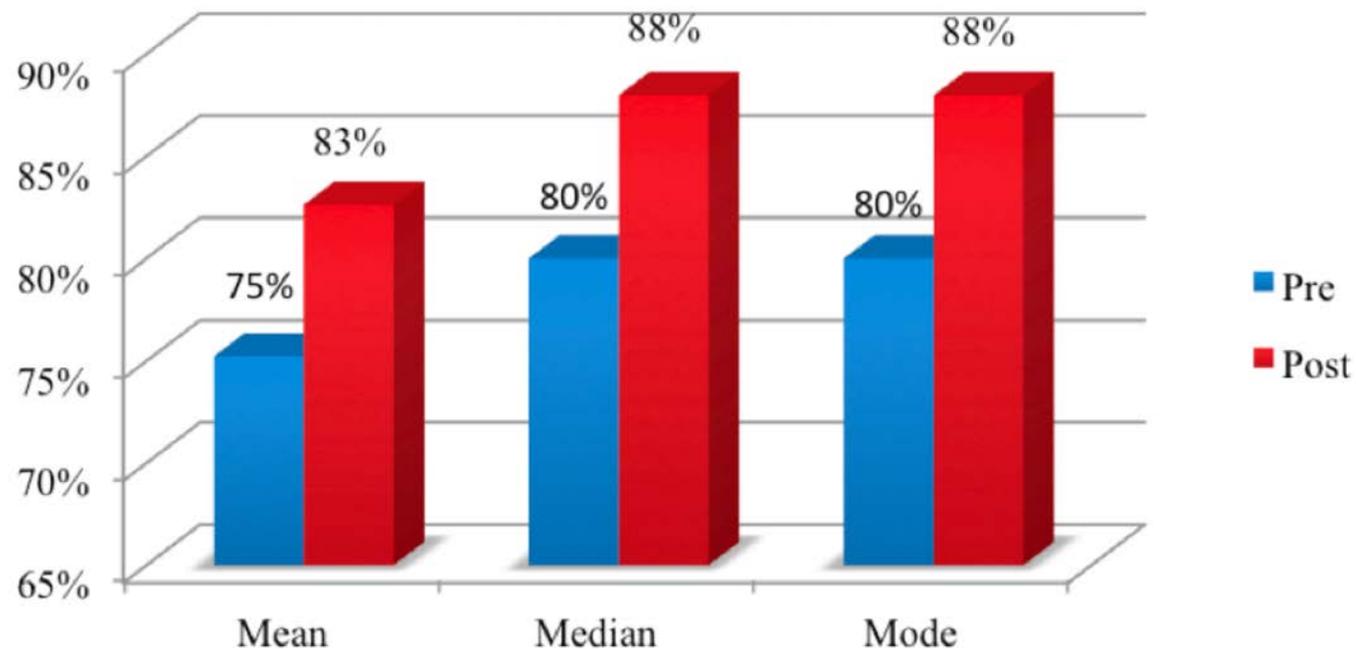
**Which of the following aspects of mobile course delivery did you find to be most beneficial?**



Research Findings

# The Effectiveness of Mobile Course Delivery

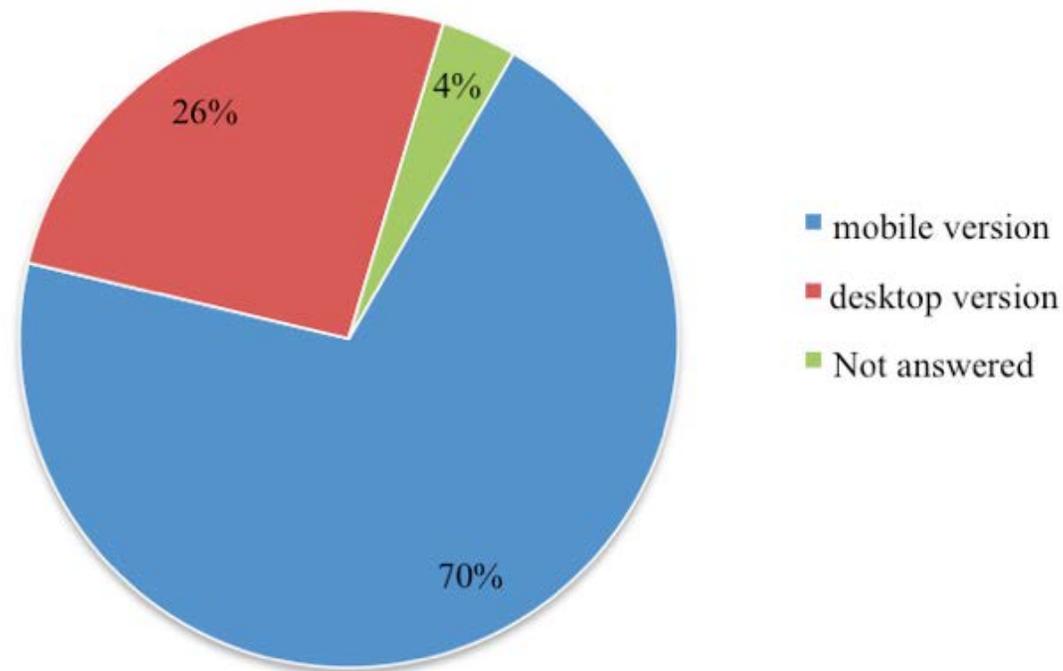
## Pre and Post Test Comparisons



Research Findings

## The Effectiveness of Mobile Course Delivery

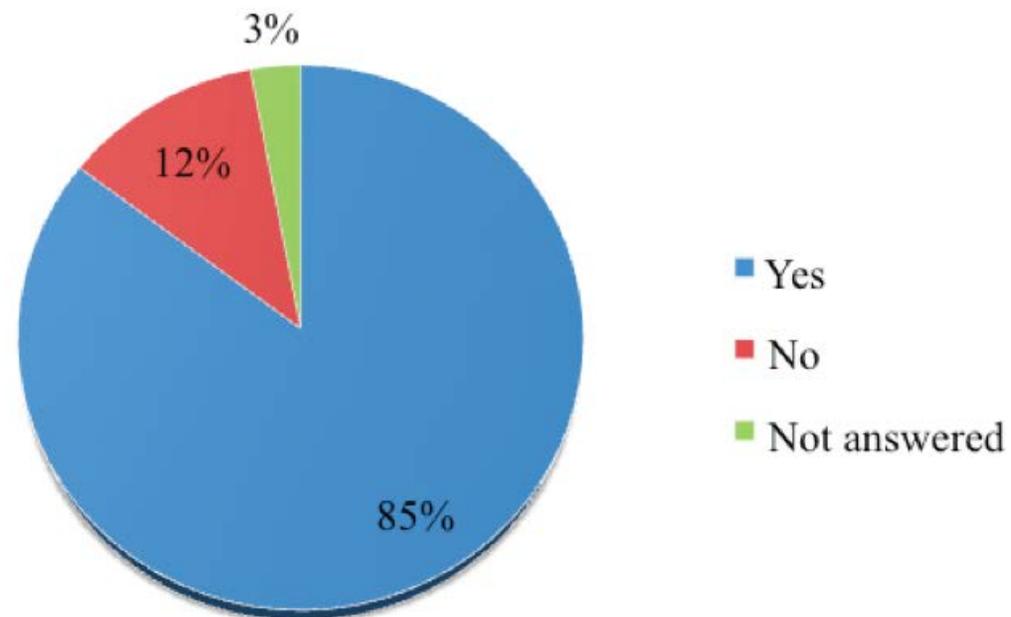
**After taking this course on a mobile device, do you prefer mobile or desktop version?**



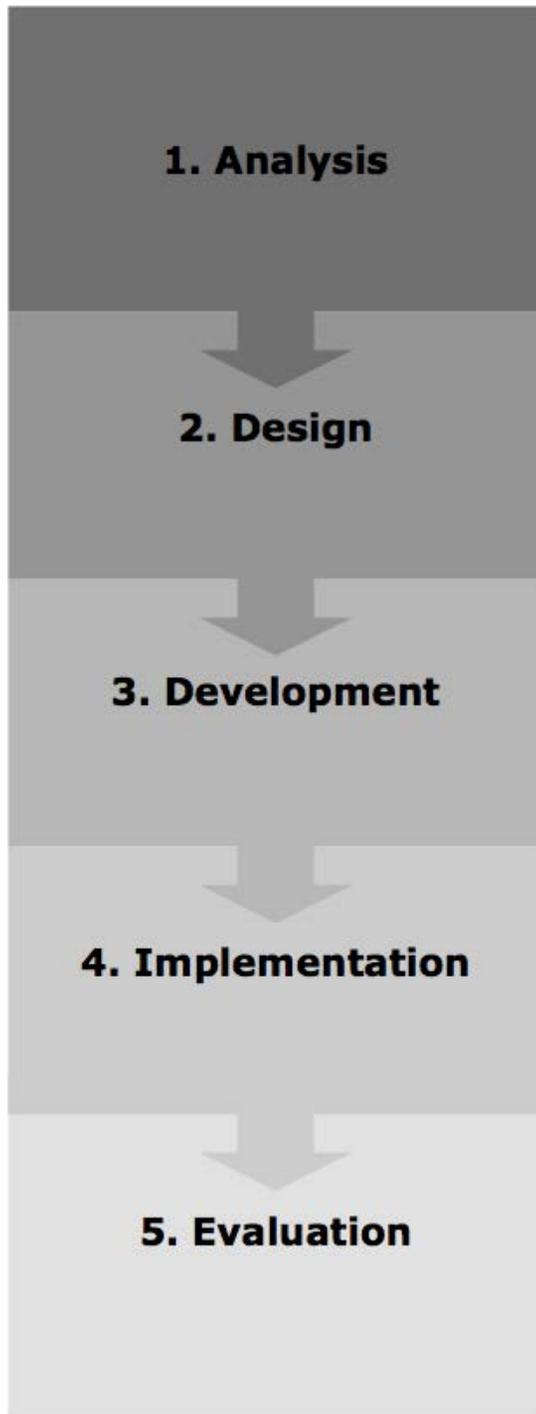
Research Findings

# The Effectiveness of Mobile Course Delivery

## Courses Available on Mobile



Research Findings



**ADDIE –**

*Generally known as SAT (System Approach to Training)  
or (Instructional System Design) ISD*



## ADDIE – Historical Timeline

### 1975

- FSU (Center for Educational Technology) created ADDIE model for U.S. Army

### 1981

- Steps within phases may change to fit an org's needs

### 1984

- ADDIE changed from waterfall / linear model to dynamic model
- Last phase (Eval & Control) is shortened to “Evaluation”

### 1995

- ADDIE is first used as an acronym

### 1997

- Other ID models can be used in conjunction with ADDIE (now considered a “plug & play” model)

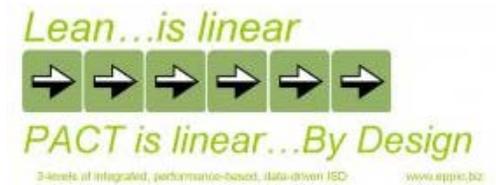
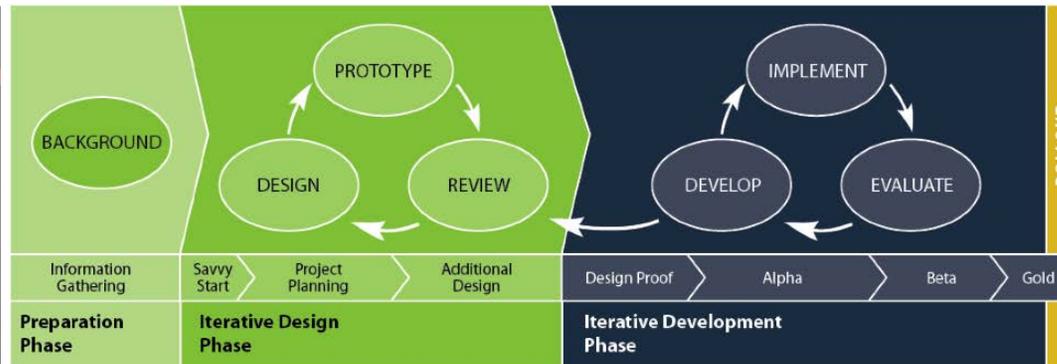
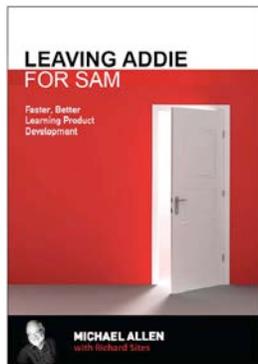
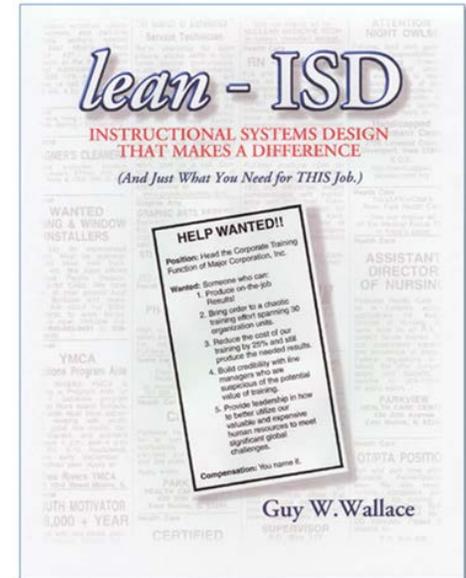
### 2000's

- Moves beyond a process model when used to gain insight to a problem
- Strives to identify on-the-job-performance, but works best with other performance models

# Alternatives

- Lean ISD
- Successive Approximation Model (SAM) – Michael Allen
- Non-traditionalists
- Most actually use a modified/ custom version of ADDIE
- Others?

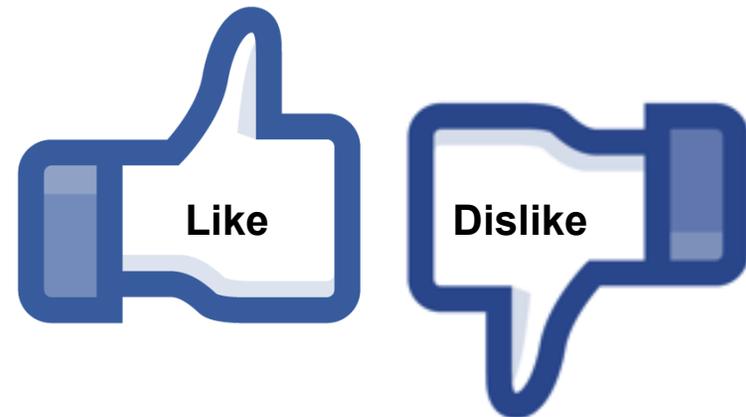
1999



Leaving ADDIE Behind? Not Really.

## ADDIE

- Too much analysis up front – “Analysis Paralysis”
- ADDIE causes reworks (iterations) and overruns, contention in team, and boring labored products
- Linear; Not agile
- Does not produce high-quality training or learning materials



Arguments & Debates?

## DoD ICW - Levels of Interactivity

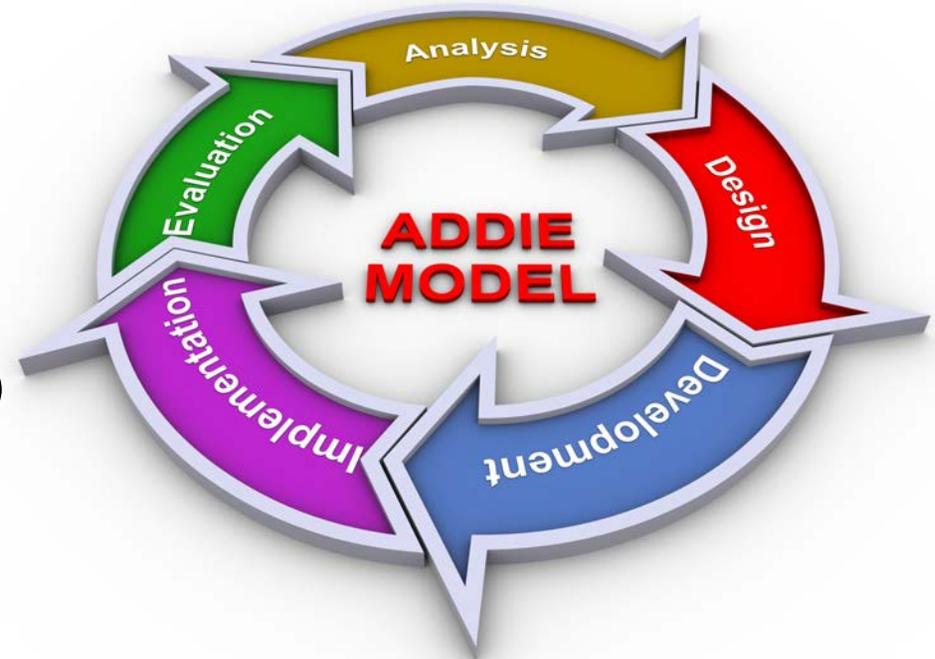
- **Level 1:** Passive (Linear page-turner; text & graphics)
- **Level 2:** Simple Responses (more control; linear basic branching; slight remediation; additional media)
- **Level 3:** Basic Interactivity (extensive conditional branching; maximum remediation; additional media)
- **Level 4:** Direct interactivity (real-time or virtual; allows for constructivism; remediation at end)

MOBILE LEARNING – Potential to stimulate multiple senses: hearing, sight, and **TOUCH**

Where Does Mobile Fit?

# ADDIE

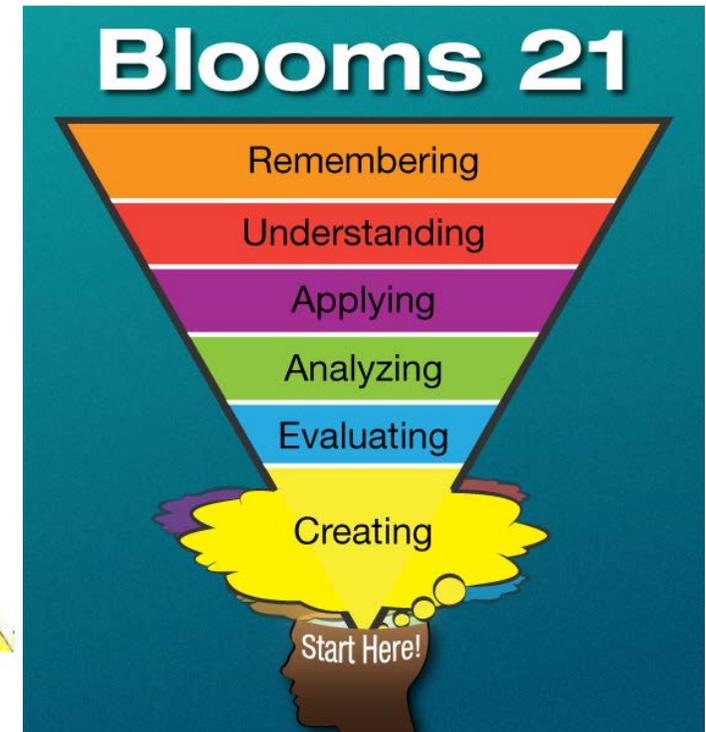
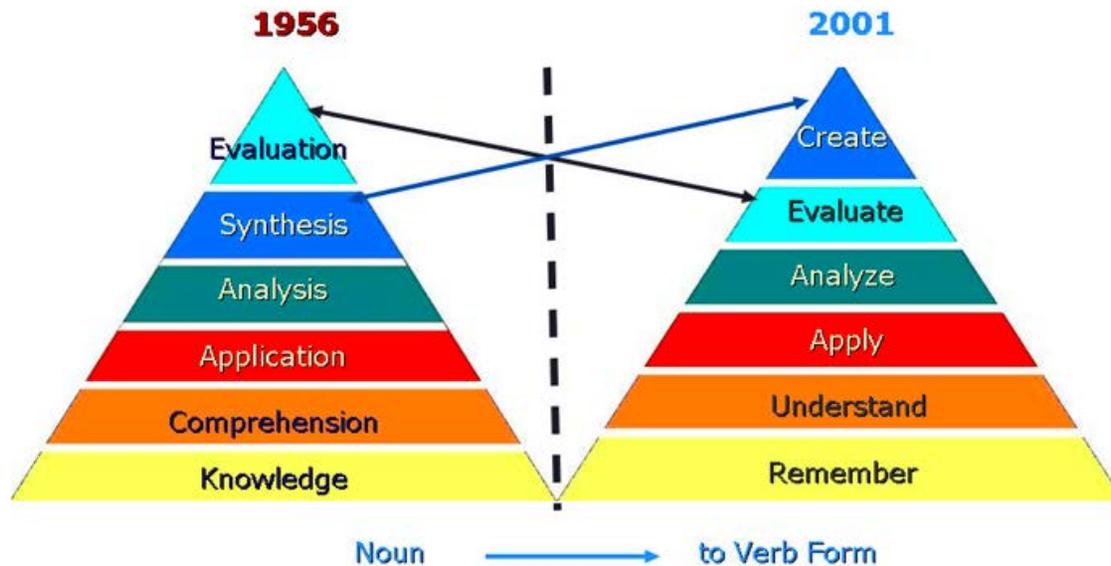
- ADDIE is not a complex concept
- All of the stages of ADDIE are logical; hard to ignore
- ADDIE is only as good as the creativity and thoughtfulness of the designers (some skip phases)
- Useful for planning; organizations won't tolerate non-predictive iterations
- Flexibility is key; does not have to be linear; can be agile
- New model + same people doesn't necessarily equal better results



Counter Arguments & Facts

# Bloom's Taxonomy

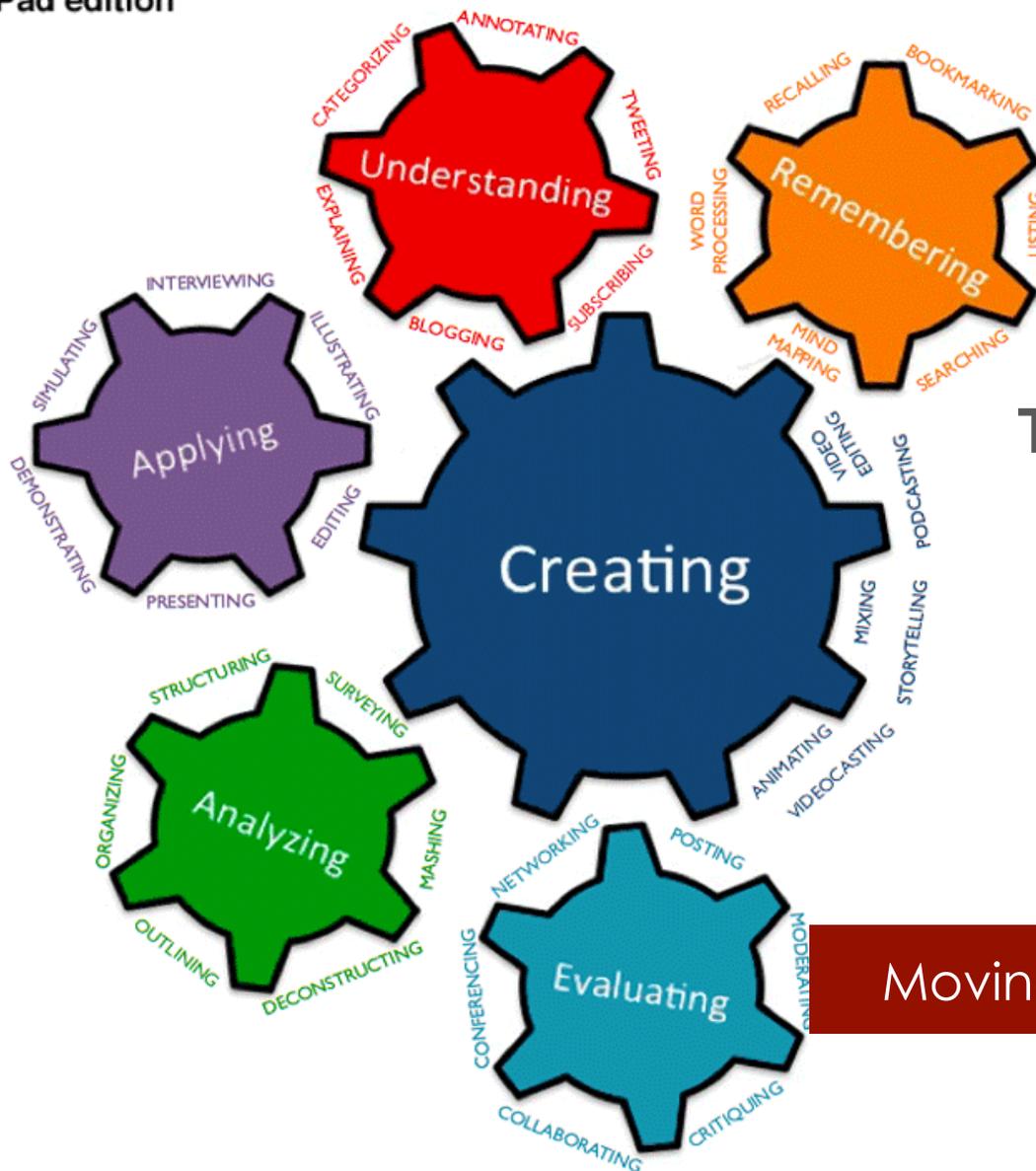
## Changes to Bloom's



Rethinking Blooms Direction

# Bloom's Revised Taxonomy (Kathy Shrock)

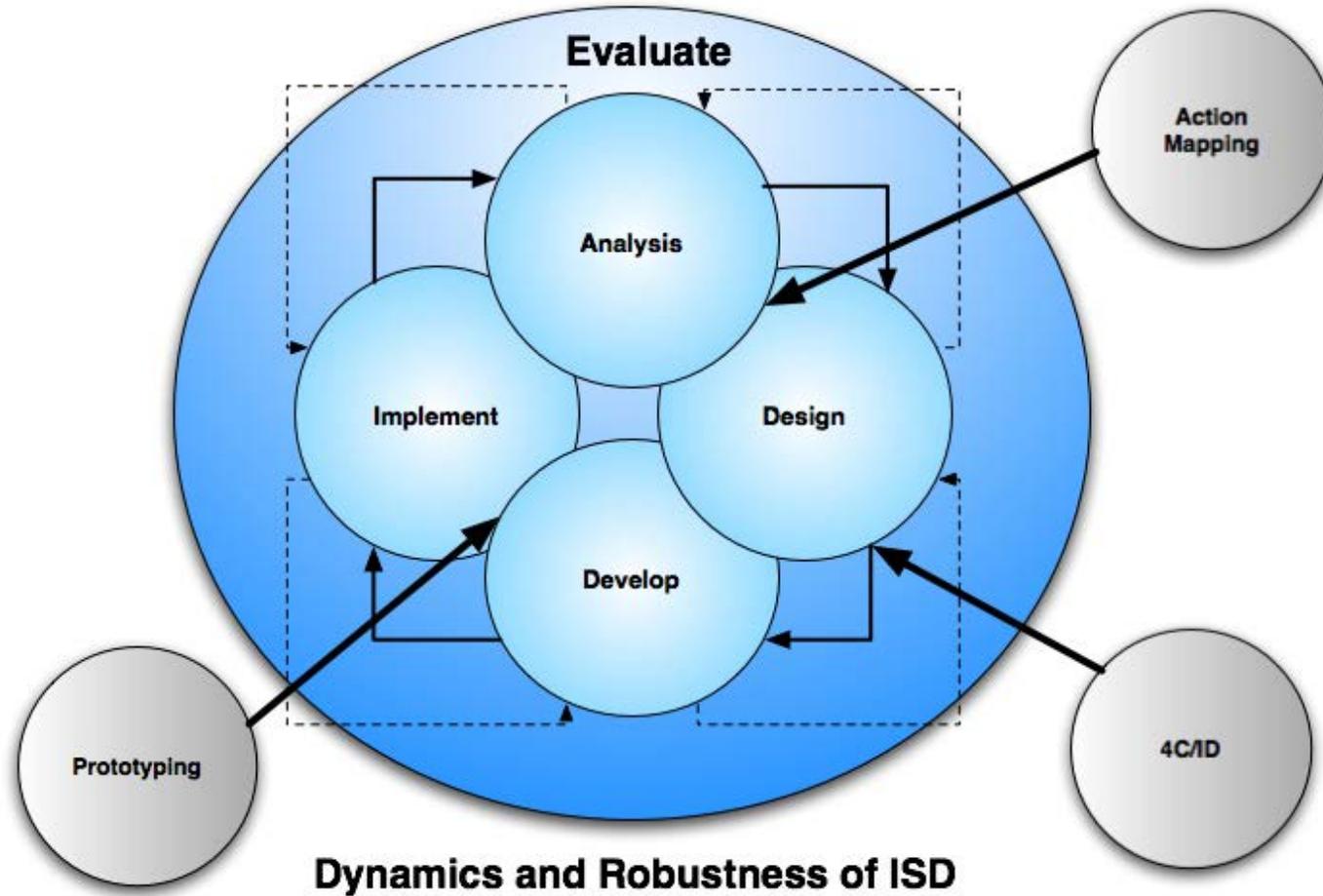
## Bloomin' Apps iPad edition



The interlocking of the  
cognitive process

Moving Away from Linear Thinking

# Extending ADDIE (Merriënboer, 1997)



Moving Away from Linear Thinking

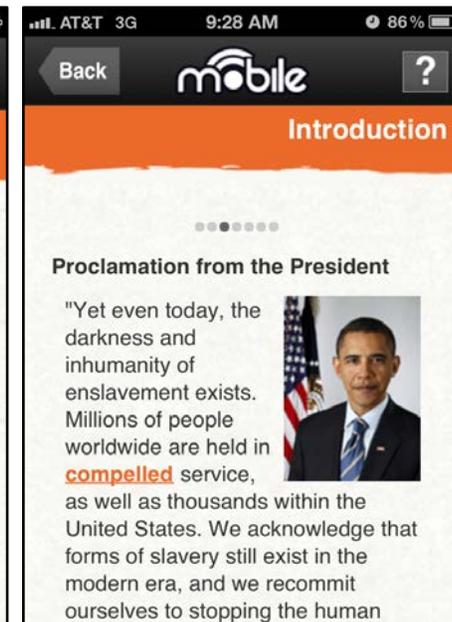
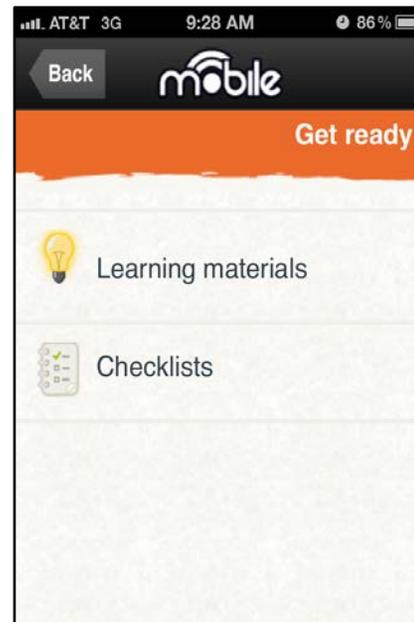
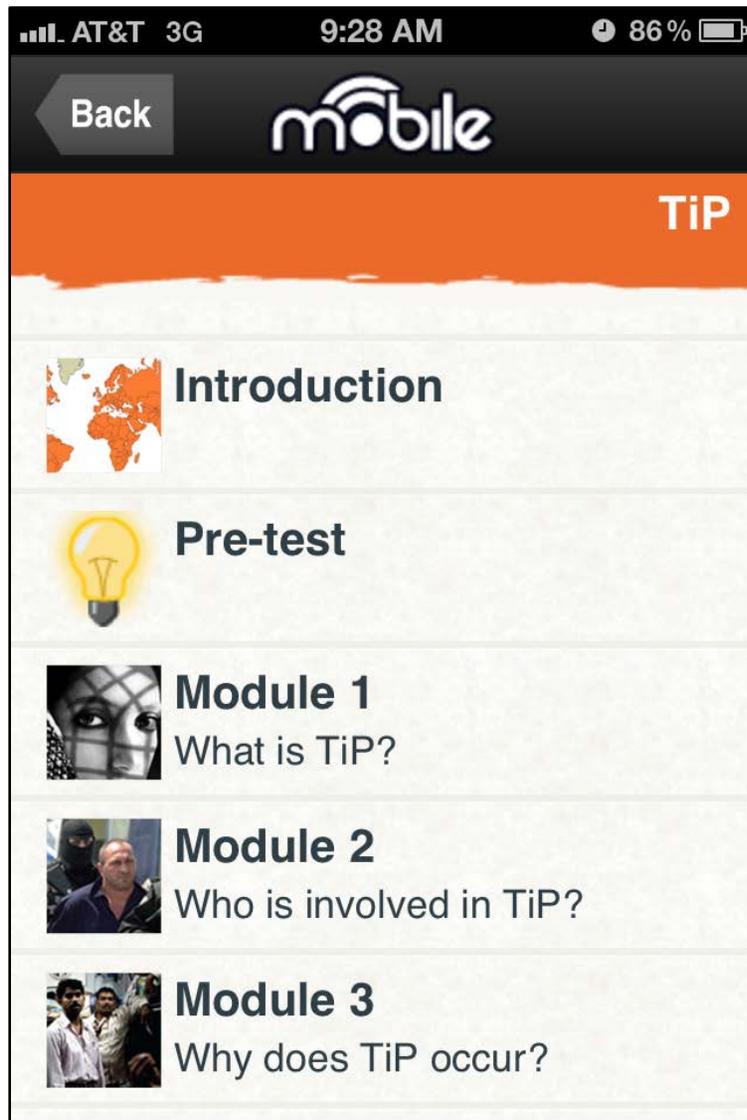
## ISD Model (ADDIE) + ID Models

- ISD models have a broad scope (**macro**)
- ID models are less broad in nature and mostly focus on analysis and design, thus they normally go into much more detail, especially in the design portion (**micro**)



The Difference

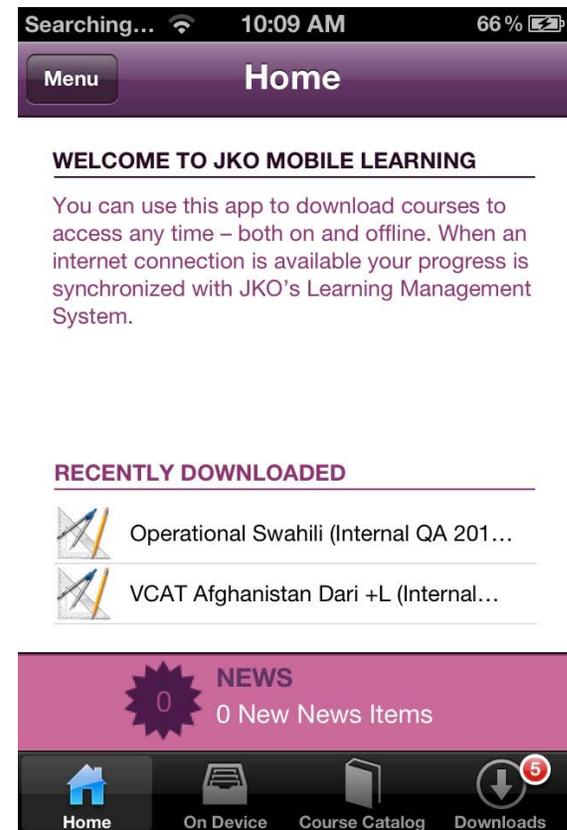
# ADDIE



A Need for Mobile Training Courses

## Future Research

- TIP was included in MoLE project
- MoLE App provides tools and resources to support humanitarian medical operations.
- JKO – Learning Content Management System (LCMS)
- Courses associated with PINs communicate to JKO Mobile app and LCMS student profile
- Students can take courses on the LCMS or via JKO mobile



JKO Mobile

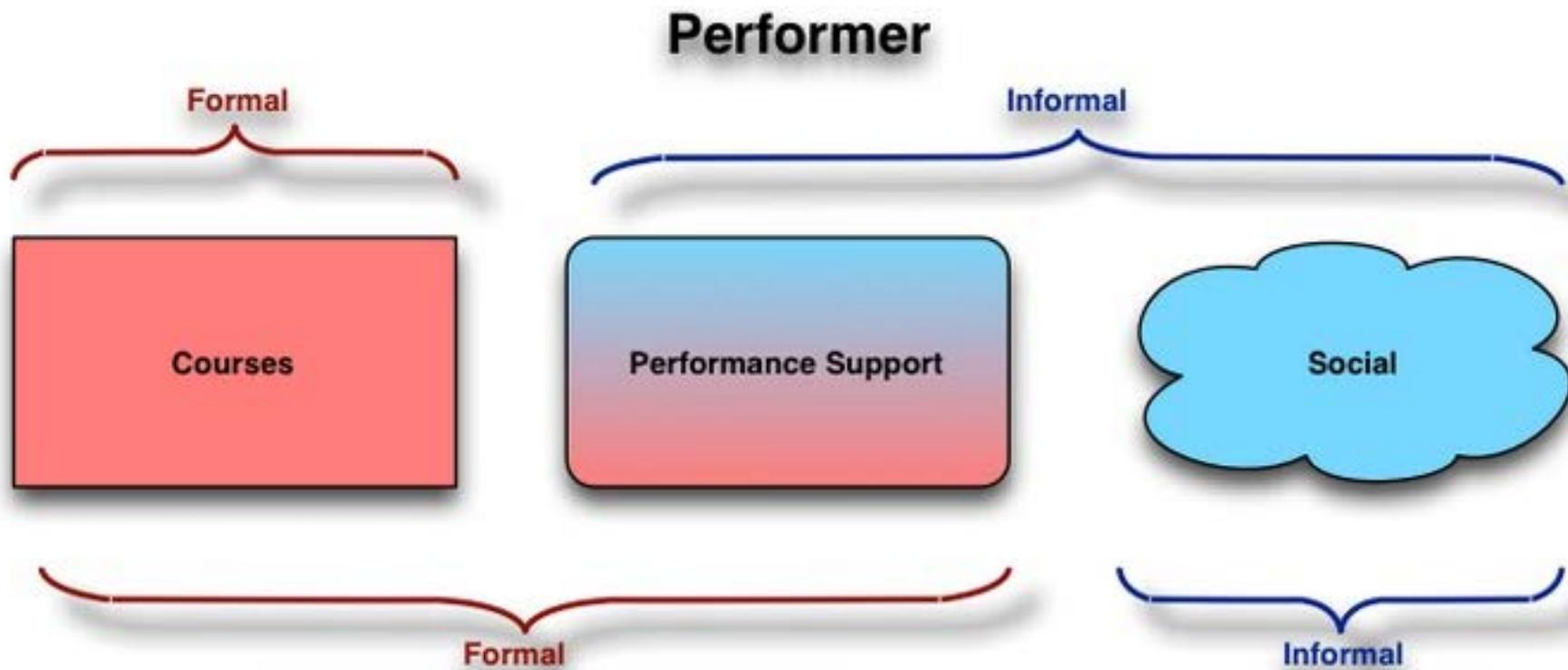
## 70: 20: 10 Learning Framework

- 70% from real life and on-the-job experiences, tasks and problem solving (day-to-day activities)
- 20% from feedback and from observing and working with role models
- 10% from formal learning or training



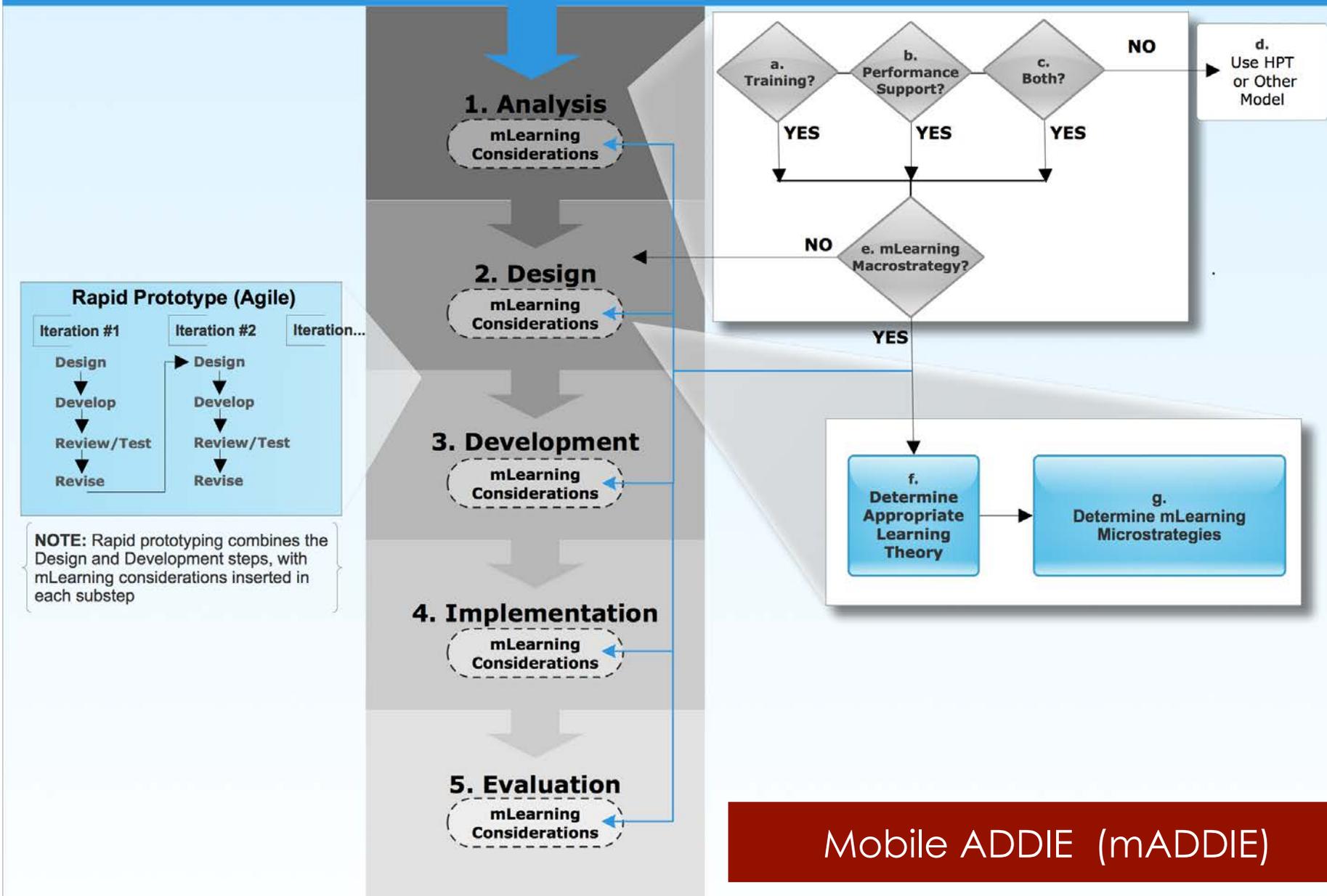
Morgan McCall, Robert W. Eichinger, and Michael M. Lombardo at the Center for Creative Leadership

## But What About...



Performance Support?

# ADL ISD Framework for Mobile Learning



Mobile ADDIE (mADDIE)

**“Never tell people how to do things. Tell them what to do, and they will surprise you with their ingenuity.”**



- General George S. Patton

## Open Discussion



The image shows a 'New Message' dialog box with a dark blue header containing the title 'New Message' and a 'Cancel' button. Below the header, the recipient is listed as 'To: Audience'. The main body of the dialog is a large, empty light blue rectangular area. At the bottom, there is a text input field with a camera icon on the left and a green 'Send' button on the right. The text 'Thoughts?' is entered into the input field.

Dialog From the Audience

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- <http://plpnetwork.com/2012/05/15/flipping-blooms-taxonomy/>
- <http://www.schrockguide.net/bloomin-apps.html>
- <http://techbabble.edublogs.org/2012/07/16/digital-challenge-week-3-say-it-with-infographics/>
- <http://k12onlineschools.org/production/Content/DesAndAssessPD/DesAndAssessPD.html>
- <http://www.dtic.mil/whs/directives/corres/pdf/132226p.pdf>
- <http://www.jaycross.com/wp/2012/05/bringing-informal-learning-up-to-date/>

Respect!

Thank You!



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SETA Support Contractor  
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**@ADLmobile**

Let's Connect!