



Session #216: Want Reliable Metrics for Your Organization? Use Prototyping

Desired Knowledge or Experience: Limited knowledge of and experience with basic e-learning concepts

Objectives: By the end of this session, you'll know how to:

- Discuss the industry-wide problem of determining budgets for e-learning.
- Describe five proven strategies for creating representative prototypes that establish your own metrics: collaborative analysis and design, rapid prototyping, usability testing, SWAT teams, and timeboxing.
- Use the Project Metric Spreadsheet to compare estimated to actual to projected metrics.

Your Instructors: Since 1982, Deborah has been the President and CEO of DLS Group, Inc. She has received over 20 professional awards, including Microsoft's Award of Excellence for outstanding PSS and several ISPI awards. A certified Human Performance Technologist, she has delivered over 75 presentations and three Masters' Series. Deborah co-wrote the chapter on EPSS appearing in the second edition of the *Handbook of Human Performance Technology*. She completed her undergraduate work at Brown University and her graduate work in Instructional Technology at San Francisco State University. A member of ASTD and ISPI, she currently sits on the ICE05 Program Advisory Board.


Steve is Chief Learning Officer for DLS Group, his job to ensure performance improvement by leveraging cutting-edge technologies based on proven research, theory, and best practices. Areas of specialization include project management, cognitive research, assessment, and web-based evaluation. He co-authored the chapter on EPSS appearing in the second edition of the *Handbook of Human Performance Technology*, has written numerous publications on e-learning, and is a frequent conference presenter. A two-time winner of ISPI's Outstanding Systematic Approach award, he completed his doctorate in educational technology at the University of Northern Colorado. He is a member of ISPI, ASTD, AERA, and AEA.

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Want Reliable Metrics for Your Organization?

Use Prototyping!




Deborah L. Stone, CEO
Steven W. Villachica, Ph.D.,
Chief Learning Officer


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www.dls.com

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Pressures We All Feel



- Complex problems
- Unhappy end users
- Use of call centers
- Revision costs



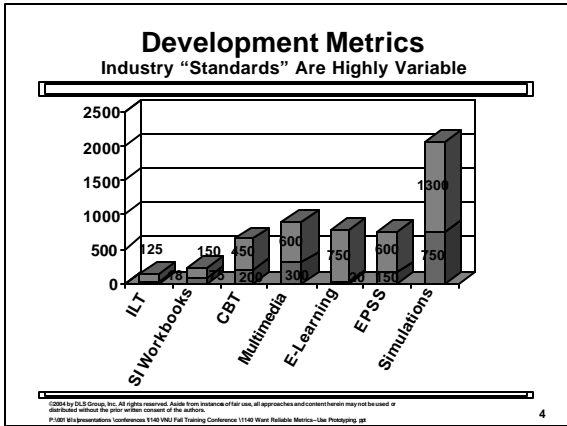
- Tolerance for failure
- Product to market time
- Product life cycle

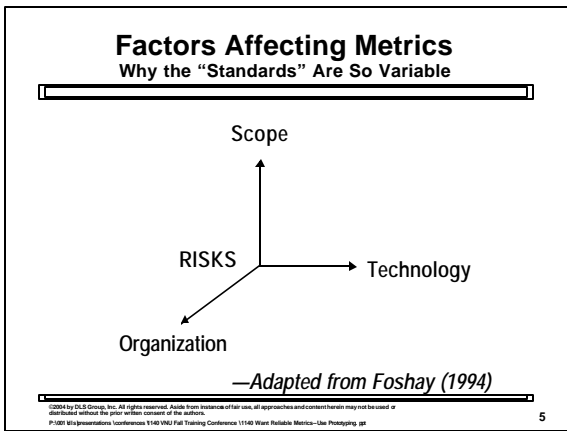
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Agenda

- ✓ Discuss the industry-wide problem of determining budgets for e-learning.
- Describe five proven strategies for creating representative prototypes: collaborative analysis and design, rapid prototyping, usability testing, SWAT teams and timeboxing
- Use the Project Metric Spreadsheet to compare estimated to actual metrics

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- ### Given This Variability...
- #### ...You Need to Establish Your Own Metrics
- Turn to similar past projects
 - Scope of work
 - Costs
 - Schedule
 - Reusable objects
 - Extrapolate into the future based on rapid prototyping
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Rapid Application Development (RAD)

A software development methodology designed to decrease development time while improving quality

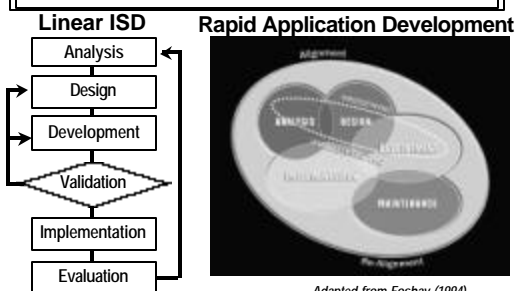
- James Martin (1991)

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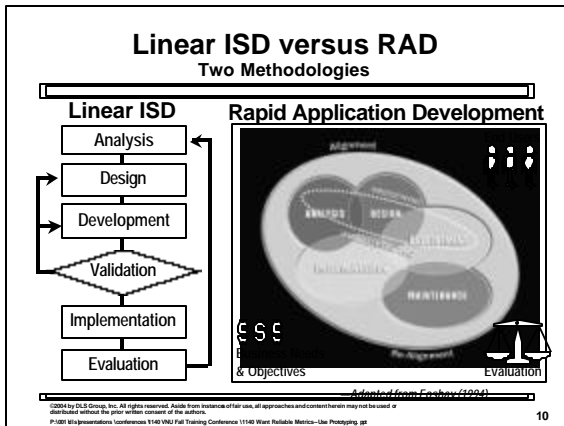
Linear ISD versus RAD

Two Methodologies



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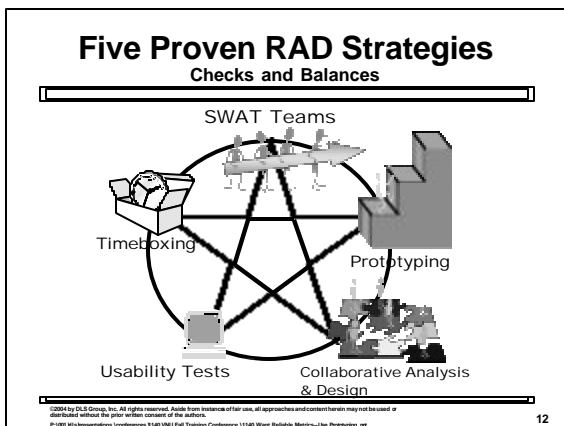
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Linear ISD vs. RAD

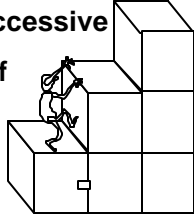
Linear ISD	RAD
■ Low amount of risk	■ High amount of risk
■ Known requirements	■ Fuzzy requirements
■ Known designs	■ Unknown designs
■ Known development processes	■ Fuzzy detailed development activities
■ Trustworthy development metrics	■ Unknown development metrics
■ Tight span of control	■ Loose span of control

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Prototyping

An iterative design approach that produces successive approximations of the end product



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Why Prototype?

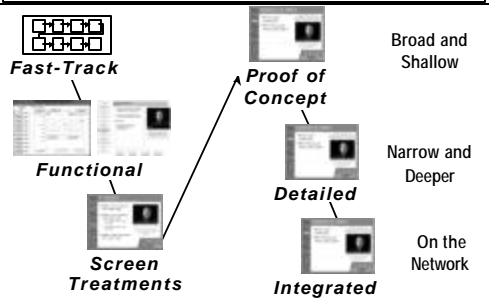
- Test the accuracy and completeness of performance requirements.
- Ensure the design of the intervention meets the performance requirements.
- Facilitate end-user “buy-in”
- Create an “assembly line” for the development effort.

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Prototyping Process

A Step-by-Step Method



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Prototyping Process

1. Fast-Track Scenario
2. Functional Prototype
3. Screen Treatments
4. Proof of Concept
5. Detailed Prototype
6. Integrated Prototype

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Post Mortem Guidelines

- Monitor time on a weekly basis during prototype creation
- Identify time-sucking, black holes
 - Where?
 - Why?
- Identify steps that can be combined or eliminated
- Non-standard inputs, incorrect assumptions, or misunderstood agreements
- Overdeveloped outputs versus changing or inaccurate requirements

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Project Metric Spreadsheet Process

1. Specify process flow (page 19 of supplemental materials.)
2. Provide a description of each activity, as well as corresponding inputs, process, decisions, responsibility, and output.
3. Build the deliverable(s) and track actual completion times and variances
4. Conduct a post mortem
5. Modify and revise the project metric spreadsheet
6. Complete steps 1-5 for the next prototype or the development effort

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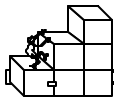
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Project Metric Spreadsheet Rules of Thumb

- Prototype what's representative and difficult
- Specify all processes
- Be sure to include a fudge factor in estimated times
- Allow team members to estimate and track their own completion times
- Specify quality standards for each output
- Use logbooks to track prototype completion, included expected and unexpected activities
- Reinforce cycle time shrinkage

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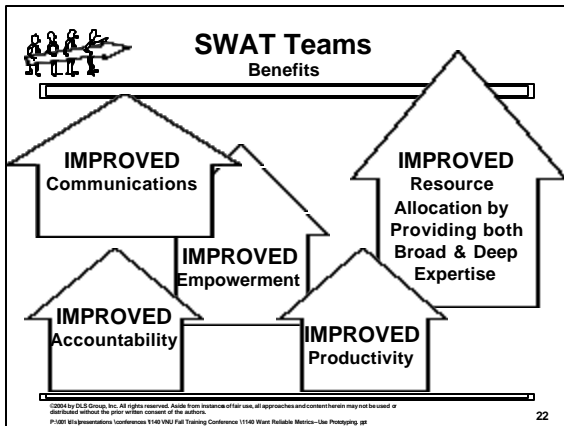


Prototyping Benefits

- Provides accurate metrics
- Sets up a finely tuned assembly line for the development process
- Tests the accuracy and completeness of performance requirements
- Generates buy-in using user-accepted designs
- Minimizes changes later in the project when they are more expensive
- Delivers results quickly and inexpensively

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Usability Tests Benefits

- Minimizes the number of substantive changes from later pilot tests
- Improves overall quality
- Ensures that you deliver what end users want, and what they can use
- Can be low cost, as dictated by the intervention, end users and stakeholders

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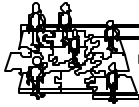
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Usability Tests Benefits (continued)

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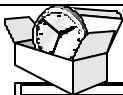
Collaborative Analysis & Design Benefits



- Ensures the project meets user requirements
- More easily resolves subject matter expert disputes
- Generates buy-in and a smoother implementation
- Helps avoid end user surprises
- Aligned with principles of performance-based consulting

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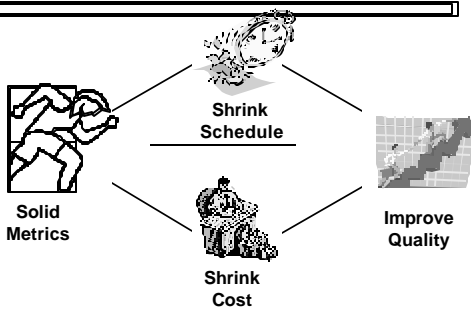
Timeboxing Benefits

- Quickly produces completed materials
- Facilitates rapid revision to completed materials
- Controls scope and schedule creep sometimes associated with prototyping and collaborative analysis and design
- Adds to the project on subsequent revisions—if the business and performance needs still exists

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Prototyping and RAD Strategies



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