
Where is the connection between what we want learners to be able to do, and what we actually have them do?

The Play's the Thing

Games and Simulation Task Force

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Outline

- Why (Games and) Simulations?
- Why Engagement?
- How?
- Costs?
- Issues

Why (Games and) Simulations?

- Why do we feel strongly enough about games and simulations to create a whole task force on it?

Educational effectiveness!

- Educational effectiveness!
- Provide ‘situated’ practice
 - REAL skill development
- Used when real practice is
 - Too costly or dangerous
 - Can be used as intermediate step
- When implemented through IT,
can allow time and location independence

Games vs Simulations

- Games are the same, BUT....
 - Remove dull bits
 - Add challenge
- Aim for the ‘zone’
- NB: Only players can say it’s a game
 - (or not)
- Key: Engagement

Why Engagement?

- Why do we want to include engagement in our learning solutions?

Motivation!

- Lepper & Cordova (1982)
- Schank - Virtual Learning
- Prensky - Digital Game Based Learning
- Education + Engagement
 - Whole is greater than the sum of the parts

Mutually Reinforcing

Learning

Engagement

Managed Challenge

Choice of Action

**Relevant and Rapid
Feedback**

Situated

Motivating

Constructivist

**Coupling between Action &
Response**

Thematically Coherent

Novel Events

Exploratory

How?

- How *do* we meld engagement and education?

Creative Systematicity!

- Good education is hard
- Good engagement is hard
- Doubly hard to do both
 - (hence so few examples)
- The design process is creative but...
- systematicity helps design engagement

Engagement =

Embeddedness

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Interactivity

- Thematic coherence
 - Meaningful:
 - action to domain
 - problem to learner
 - Managed challenge
 - Novelty
 - Structure
- Action choice
 - Direct manipulation
 - Quick and clear feedback

Design =

Analysis

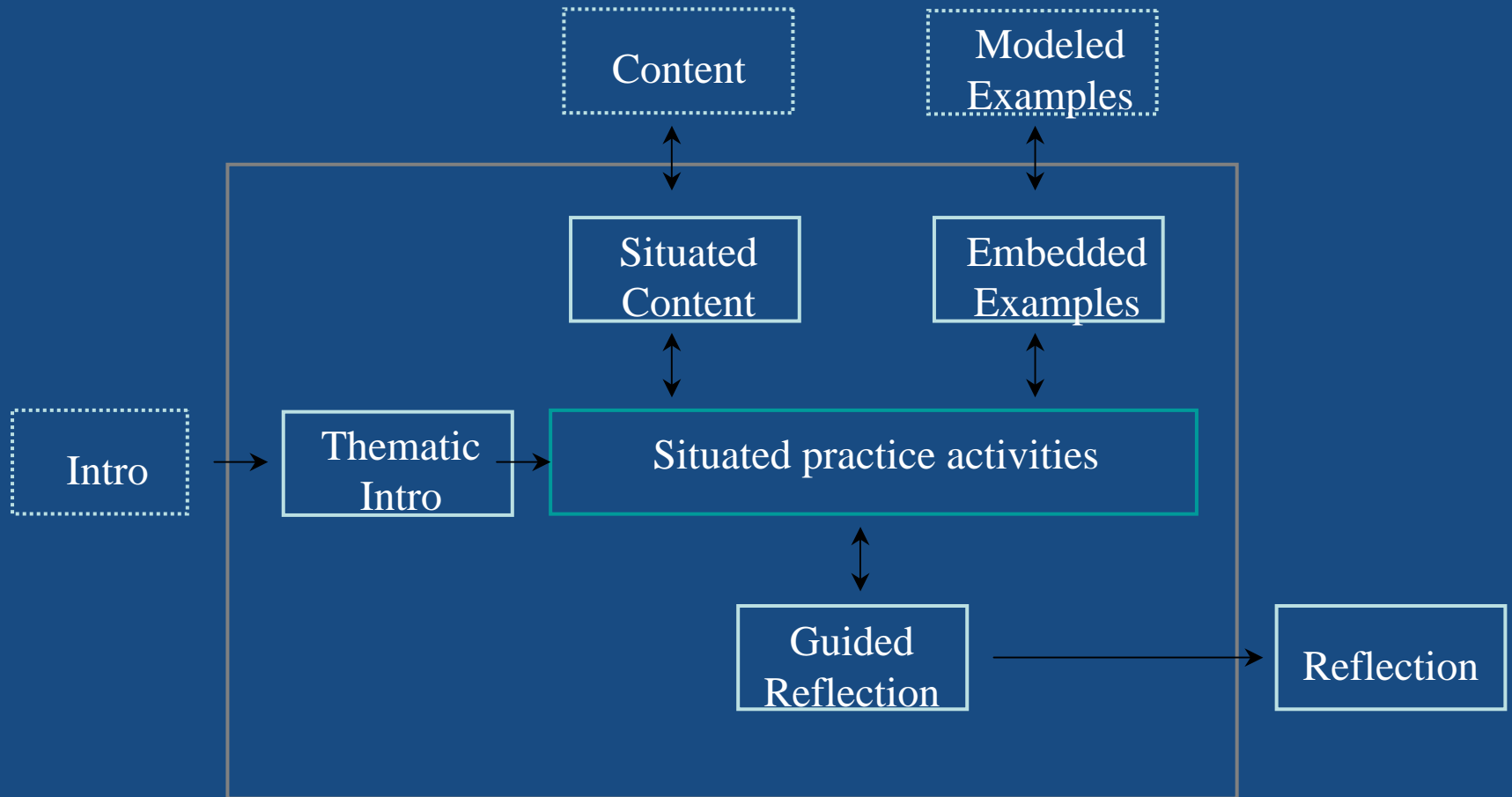
- ID Target Performance
- ID Learner Characteristics
- ID Learner *Interests*

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Specification

- ID Pedagogical Approach
- Situate in a World
- Elaborate Details
- Incorporate Support
- Map
 - Learning Activities to Interface Actions
 - Learning Concepts to Interface Objects

Thematic Design



Costs?

- How avoid commercial game production costs while creating high engagement?

Focus...

- On communication, not production
 - e.g. cartoons
- On benefits
 - (target high return areas, eg critical skills)
- On audience
 - (large numbers)
- On tools
- To outsource, or not to outsource

Issues

- Extrinsic
 - Intrinsic
- Transfer
 - Fantasy
- Reflection