Implementation of a Three Phase Rapid Prototyping Instructional Development Model

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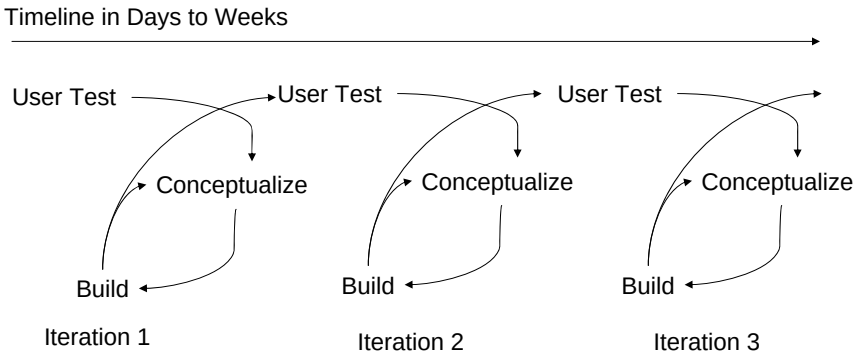


Dorsey, Goodrum, & Schwen Rapid Prototyping Development Model (1997)

Non-expert developer that collaborates with user.
Low fidelity prototype which leads to better final product

- The key is having a effective prototype
  - Effective prototype = Effective feedback

Goals of RP

- Reduce overall project timeline by developing a viable prototype.
- Feedback on prototype drives final product
  - It is cheaper/easier to change a prototype than it is to change the final product.
- Instruction may be the same quality.

3 Phase RPID

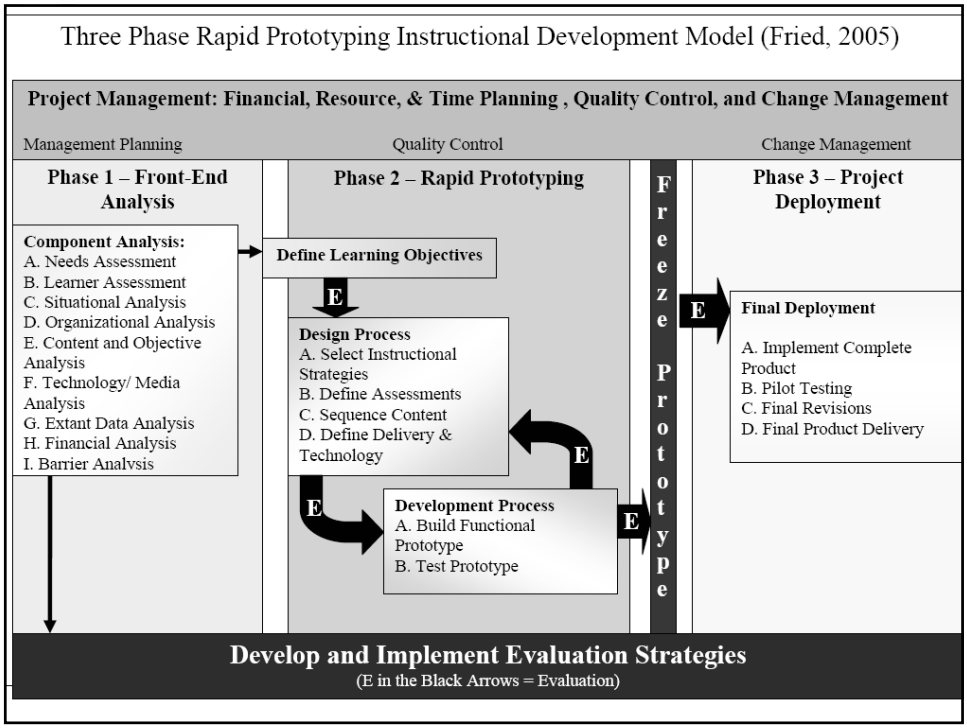
- Based on RP principles (Jones & Richey, 2000) & backwards design principles:

Determine Objectives → Determine Outcomes (plan assessment) → Plan Instruction

Wiggans and McTighe, 2001 (Very similar to Dick and Carey)

3 Phase RPID

- Goal use a modular FEA to drive initial prototype.
- Use iterative & evaluative process to drive the changes in the prototype.
- When the returns diminish per iteration → lock down prototype.



Creation of BIOLAB website

- Example:

http://web.cortland.edu/biolab

This situation created a two pronged problem:

1. Develop instruction for students
2. Develop a process for faculty to ensure sustainability.

Phase 1 – Component Analysis

- Used:
  - Learner assessment to identify characteristics of the student population
  - ***Situational analysis to look at how students were using the current website***
  - Content analysis to determine what problem areas

Phase 2 - RP

- A functioning website was already in use
  - Used it as a prototype to develop and refine what could be offered.

What did we learn?

- Student use improved dramatically.
- Student satisfaction improved & satisfaction was related to how much their instructor used the website.
- Satisfaction was independent of grade: everyone though the instruction helped regardless of their final grade.

What did we learn?

- Because they were involved in the prototyping process: the final process was suited to the faculty intended to use the site.
- Perhaps the rapid prototyping changed the nature of the innovation…

Rogers - Diffusion

- Characteristics of innovations:
  - Relative advantage
  - Compatibility
  - Complexity
  - Trailability
  - Observability

  - Prior studies show these cover 49-87 percent of variance in adoption of innovations

- Dorsey, L., Goodrum, D., Schwen, T. (1997). Rapid collaborative prototyping as an instructional development paradigm. In C. Dills & A. Romiszowski (Eds.), *Instructional Development Paradigms* (pp.445-465). Englewood Cliffs, NJ: Educational Technology Publications. (EJ496612)
- Gustafson, K.L., Branch, R.M. (2002). *Survey of Instructional Development Models.* ERIC Clearinghouse on Information & Technology: Syracuse, NY.
- Jones, T.S., Richey, R.C. (2000). Rapid prototyping methodology in action: a developmental study. ETR&D, 48(2), 63-80.
- Wiggans, G., McTighe, J. (2001). *Understanding by Design*. Merrill/Prentice Hall: Upper Saddle River, NJ.