Rethinking the Role of Instructional Design Models in Developing Digital Courseware and Online Courses
Linear Model vs. Agile Model

Instructional Design Models
Linear Design Model

ADDIE Model

- Each of the five phases depends on the others.
- Phases are intended to be completed in a sequential order.
Challenges Associated with the Use of ADDIE Model

- Inefficient Procedures
- Unclear Expectations
- Low Faculty Engagement
- Management Problems
- The Lack of Authentic Evaluation
Revised Design Process

Applying Agile to Existing Design Process
Our New Design Process
To focus on fast delivery of a series of fully-functional components of the course.
Applications/examples
Pilot 1: Proof of Concept

- CS4All -
Initial Reflection (CS4All)

- Proof of Concept is a cost-effective approach.
- It helps maintain/enhance faculty engagement.
- It also helps onboard faculty members.
- The framework of this project can be applied to other domains, courses, or programs.
- The application can retain its flexibility for reuse or incorporated with other projects.
Pilot 2: Rapid Prototyping

Systems and Technologies:
- Python -

Each topic is accompanied by several practice problems. Download the Jupyter Notebook below and go through the problems.

**Practice Problems 1.2**

**NOTE:** If you forgot how to use Jupyter Notebook, please review the Jupyter Notebook section in Week 0.

After completing the problems in Jupyter Notebook, you will enter your answers on NeXus to complete the practice assignment.

Enter the value of nexus_checkpoint_answer_1 below:
Initial Reflection (Python)

- Revision of practice problems mid-way through the course due to a number of reasons, including ambiguity of questions / content.
- Inclusion of weekly “Temperature Reads” to engage students and enquire about student experience.
- Other uses of communication between students and faculty used to ensure that students were aware of changes as they occurred (e.g., Homework Change Log).
Conclusion

To close theory-practice gap
Conclusion

- Revisions that took place throughout the semester led to:
  - greater stakeholder involvement and
  - derivation in student / user experience (i.e., students who would complete work first with ambiguous/incorrect content vs. students who would complete work after errors had been corrected).

- This process tested the flexibility and tenacity of stakeholders.
- The process allowed for the correction of items in the moment, rather than postponing them until a later date, which could improve student experience.

- This new process also supports learning innovation by:
  - testing out new ideas around the course design without fear of adjusting the course when things go wrong and
  - conducting evaluation across multiple iterations to discover effective design methods/tools.
Thank You

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