Instructional Technology in the 21st Century: Tapping in to the iPod Generation

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Overview

- Blended Learning
  - What is it?
  - Why utilize it?
- Transforming Teaching with Technology
  - How is DAS involved?
- Curriculum Design
  - What does a blended e-learning course look like?
  - Benefits / Challenges
- Evaluation
  - How do we know it works?

Not Illinois
Global Campus
Initiative

e-Technology in Education

- Education does not drive technology
  - Instruction à la video games?
- e-teaching & e-learning vs. e-content
- Reconcile where and when learning takes place & via what resources

What is Blended Learning?

- A.k.a. hybrid learning
- Combination of multiple approaches to learning

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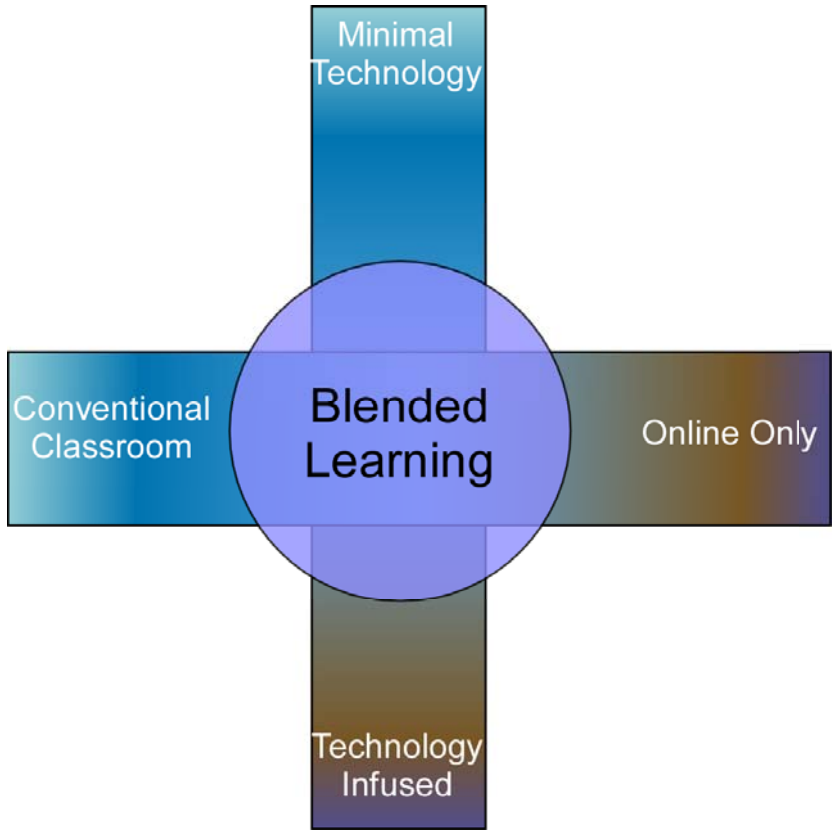
Blended e-Learning:

1. Integrates online with traditional face-to-face class activities in a planned, pedagogically valuable manner; and
2. A portion of face-to-face time is replaced by online activity

(Sloan-C, 2005)



Why Now?

- Leverage technology
- Reach out to students
- Institutional interest
- Why not?

Severe & Hazardous Weather (ATMS 120)

- General Education Course: *Physical Science*
- No Pre-reqs
- Large Enrollment; multi-section
- Emphasis on interplay between technological advances, evolution of meteorology as a science, and impacts of extreme weather
- Use Learning Management System (LMS) *Illinois Compass*

e-Technology in ATMS 120

- Traditional course format
  - *Lecture 2× week
  - Active Learning Exercises
  - *Homework / Challenge problems
  - Exams

** Utilize e-technology*

- Example

e-Technology in ATMS 120

- Blended e-Learning course format
  - *Lecture 1× week – *including active participation*
  - *Online “Low-Stakes” Activities
  - * Weekly Assignments
  - * Weekly Quizzes
  - * Collaborative Online Work
  - Final Exam

** Utilize e-technology*

Why Blended e-Learning?

- Student-centered (Hannafin & Land, 1997)
- Increased student/instructor interaction (Schwartzman & Tuttle, 2002)
- Improvement in students'
  - Time management (Riffell & Sibley, 2003)
  - Group work (Schweizer et al., 2003)
  - Motivation (Cameron, 2003)
- Reduce overhead costs (Twigg, 2003)

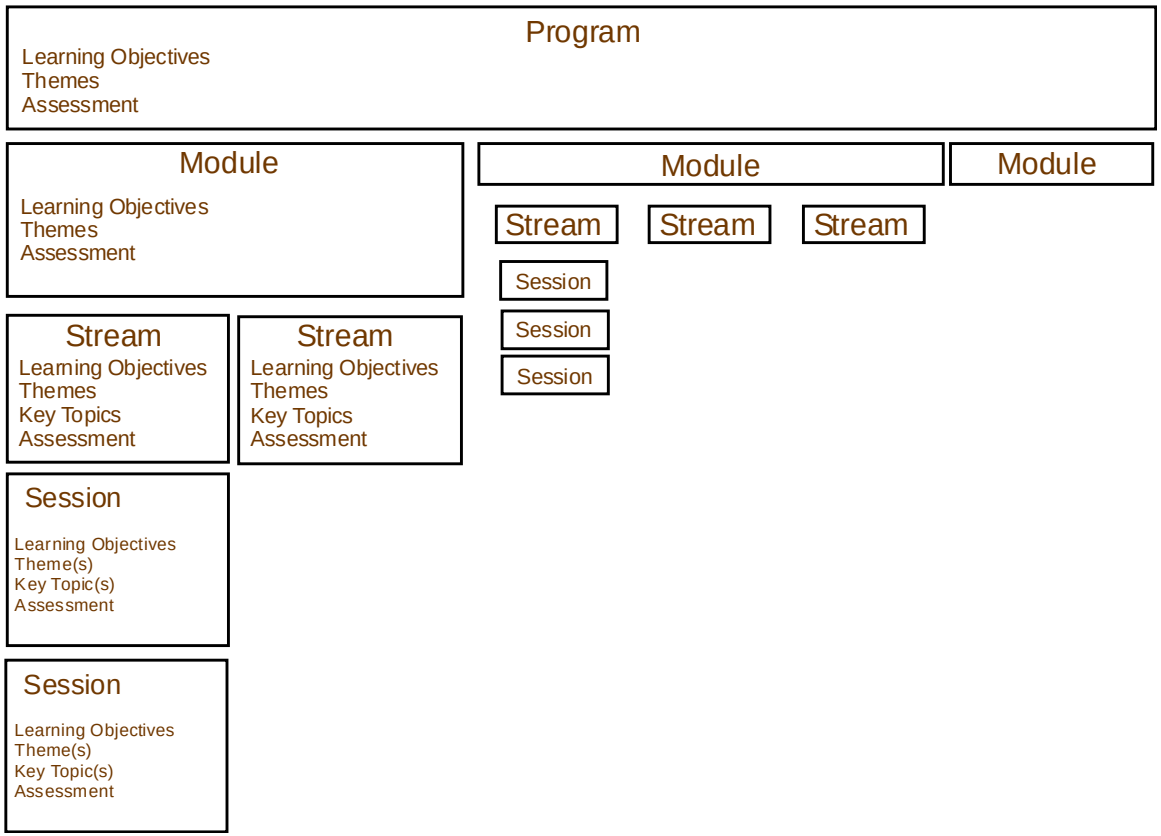
Curriculum Design

- Design & Structure matter (Stein, 2004; Lohr & Ku 2003)

Modified Waterfall Process (after Laster, 2003)

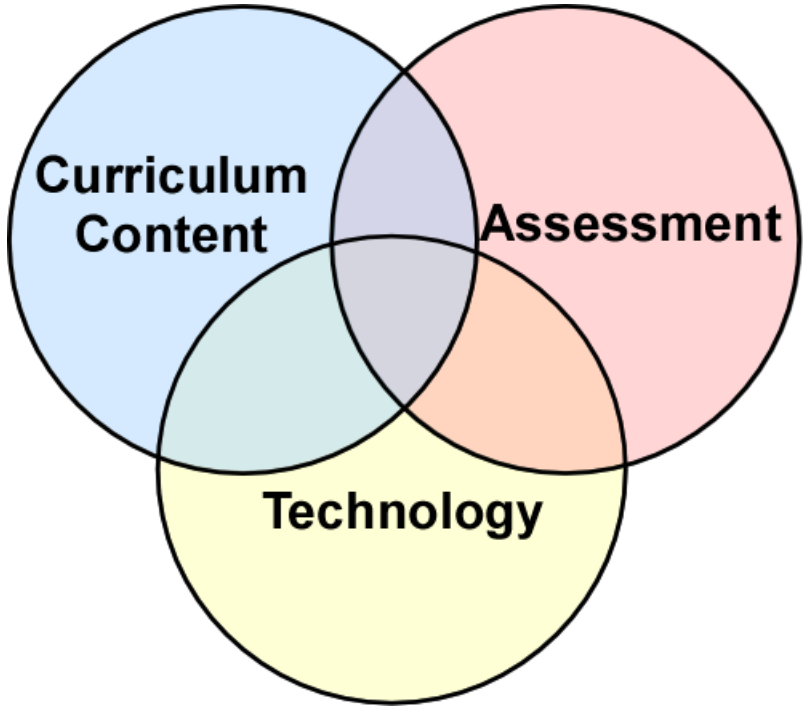
1. Develop curriculum concept
2. Develop high-level design
3. Establish detailed design of each unit
4. I.D./develop digital materials
5. Review each unit in context of entire curriculum
6. Implement (teach)
7. Assess effectiveness & modify design

Modified Waterfall Process
(after Laster, 2003)



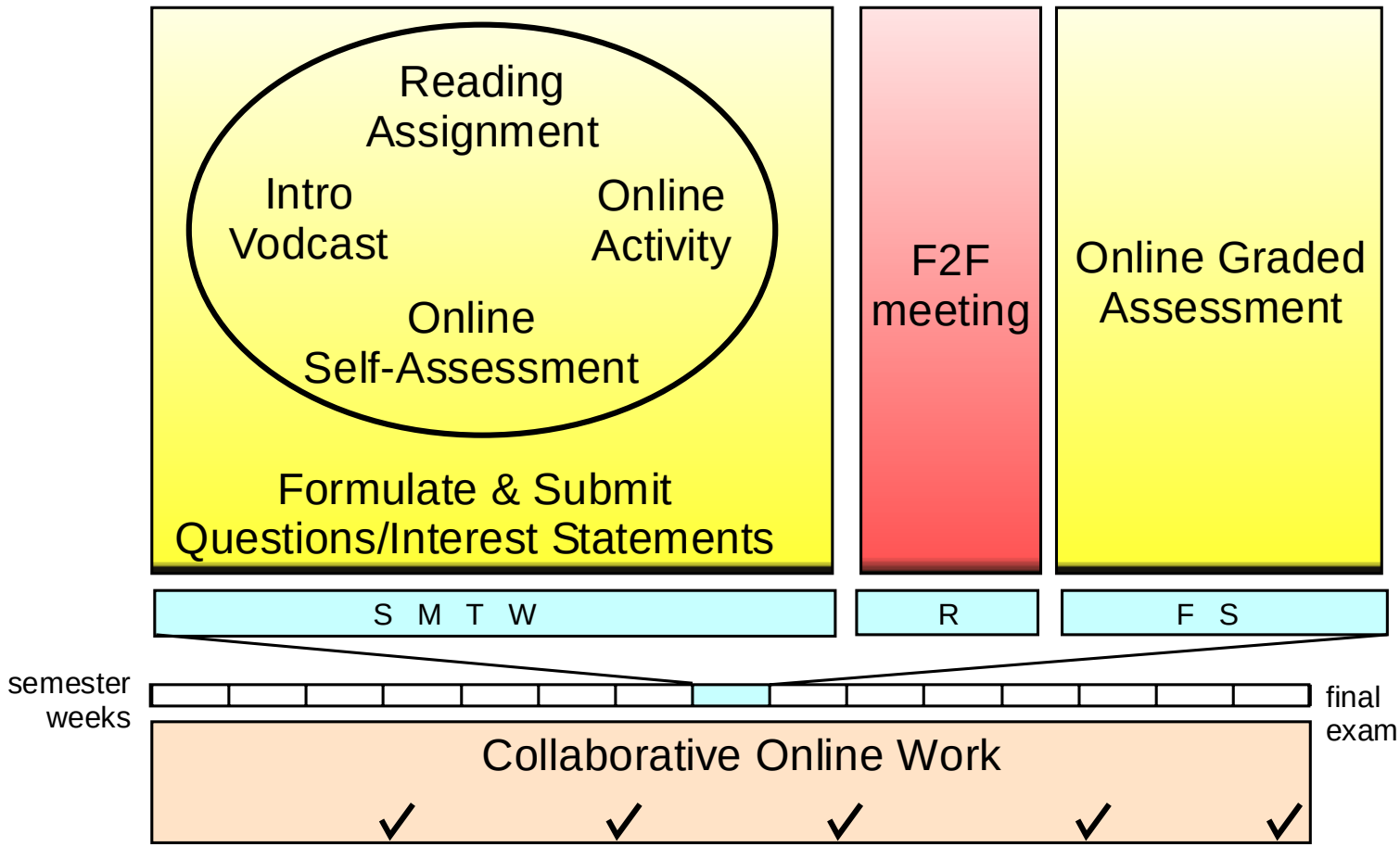
Curriculum Design:
ATMS 120 Blended e-Learning

- Technology
- Curriculum Content
- Assessment



- Weekly submissions 10%
- Participation 10%
- Quizzes 30%
- Group Project 25%
- Final Exam 25%

Curriculum Design: Semester Work Overview



Curriculum Design: Out-of-Class Time

- Weekly work
  - Readings
  - Vodcasts
  - Online Activities
  - Self-Assessment
  - Group Project
- Open meeting time
  Learning Commons
- Online discussion/chat
  - Instructor, TA, peers

Saltire Centre,
Glasgow Caledonian University

Curriculum Design: Face-to-Face Meetings

- Semi-structured, fluid
- Informed by Wednesday submissions from students
- May include: mini-lecture, group work, structured activity, video/DVD clips, review in context of current weather, …
- Students sit with large group members

Evaluation: Does it work?

- Participant Perception Indicator (PPI) Evaluation/Assessment Tool (U Michigan)
- Incorporate into online assessment
- Focus groups (CTE)
- End of semester course evals (ICES)
- Final exam scores / course grades

Successes & Challenges

- Scholarship-driven design
- Utilizing existing media
- Input from many tech/ed experts
- Well received
- Scaling up to large numbers
- Access
- Engagement
- Meeting “off-hour” demands
- Administrative issues

Implementing Blended e-Learning

- Does not require complete restructuring
- “Wraparound” between online / F2F critical
- Requires tech-knowledge by designer & instructors
- Requires extra time in early stages
- Start slowly

We’re on our way!

Atmospheric Sciences

Select	CRN	Subj	Crse	Sec	Cmp	Cred	Title	Days	Time	Cap	Act	Rem	WL Cap	WL Act	WL Rem	XL Cap	XL Act	XL Rem	Instructor
	39406	ATMS	120	C	100	3.000	Severe and Hazardous Weather	R	02:00 pm-03:20 pm	100	100	0	0	0	0	0	0	0	Eric R. Snodgrass (P)
									TBA										Eric R. Snodgrass (P)

- To be continued…

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