

Aligning Evaluation of Instructional Technology Programs to the Innovation Cycle

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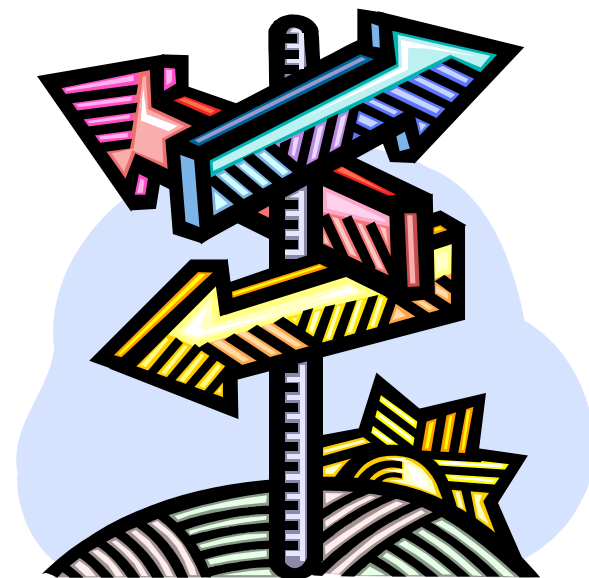
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Key challenges for IT in higher education

- ▶ Engaging the full range of stakeholders
- ▶ Promoting well-informed decision-making
- ▶ Helping technology initiatives move from pilot to full support



Presentation Overview

Contextual factors and background

Evolution of the Duke Digital Initiative

Evaluation Process and Findings

Linking evaluation to the innovation cycle

Program Context



Duke University

- ▶ Institutional characteristics
- ▶ Student characteristics
- ▶ Technology environment

Evaluator context

- ▶ Center for Instructional Technology
 - ▶ “Supports the academic mission of Duke University by helping instructors find innovative ways to use technology to achieve their teaching goals”
 - ▶ Part of Perkins Library

Evolution of the Duke Digital Initiative

Key Precursor events

2001 - Strategic plan *Building on Excellence*

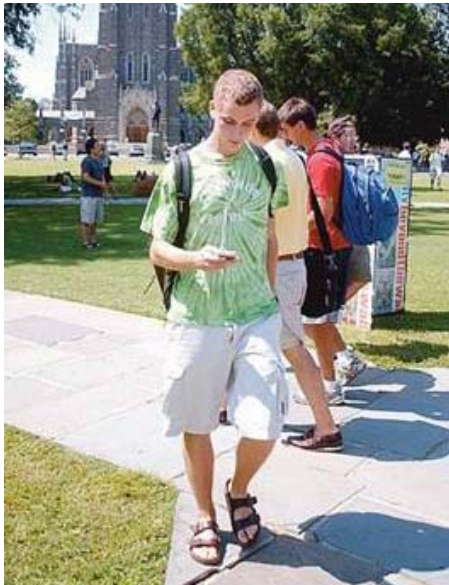
2002 - New CIO



2004-05: First Year iPod Experience

First Year iPod Program Evaluation goals

- ▶ Documenting innovative technology uses
- ▶ Detecting unanticipated outcomes
- ▶ Engaging stakeholders in program review



Contextual factors of iPod evaluation

- ▶ Intense media scrutiny and interest from other educational institutions
- ▶ Internal skepticism from faculty and students about program value
- ▶ Need for decision-making information for senior administrators about program continuation

Evaluation methodology

- Mixed method (primarily qualitative)
- Participatory

Key data sources

- ▶ Classroom observations
- ▶ Faculty project reports
- ▶ Survey of first year students and faculty
- ▶ Faculty and student focus groups

First Year iPod Program Evaluation Findings

For faculty...

- ▶ Spurred faculty to incorporate course content via digital media
- ▶ Engaged new groups of faculty
- ▶ Improved faculty responsiveness to individual needs
- ▶ Fostered flexible and efficient course delivery mechanisms (time saving)

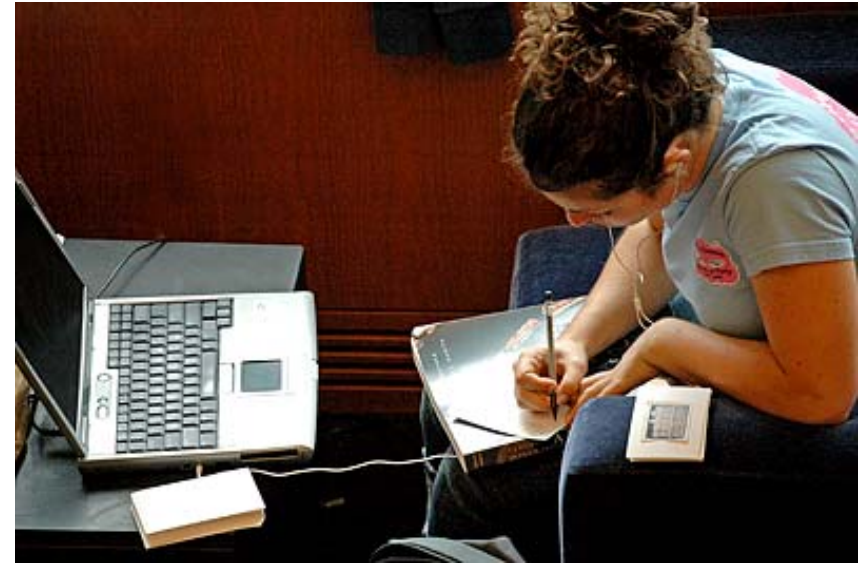


75% of first-year students used their iPod in a class or for independent support of their studies

First Year iPod Program Evaluation Findings

For students...

- ▶ Promoted the transition to interactive, project-based, & collaborative learning
- ▶ Increased student engagement in class activities
- ▶ Freedom from place-based resources



**Most popular feature of the iPod for academic use?
Recording digital audio**

First Year iPod Program Evaluation Findings

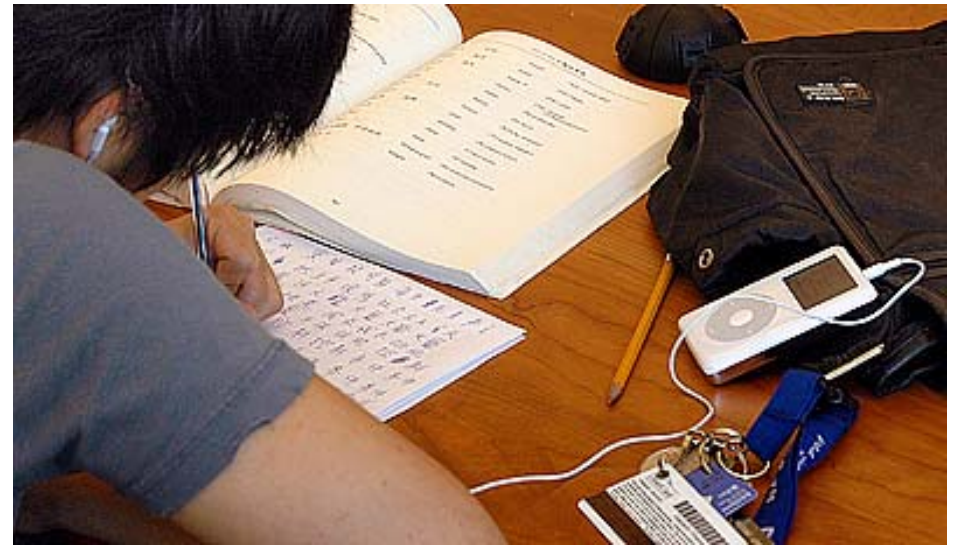
For the university...

- ▶ Supported research and writing in the undergraduate curriculum
- ▶ Heightened interest in digital audio recording, especially classroom audio capture
- ▶ Copyright and IP issues became exponentially more difficult
- ▶ “Stress testing” of technology infrastructure
- ▶ Program sparked many substantive collaborations with universities from around the world, government agencies and corporations
- ▶ Significant publicity

Transition to “Duke Digital Initiative”

Shift to more formal goals and academic focus

- ▶ Innovative and effective teaching
- ▶ Curriculum enhancement
- ▶ Infrastructure development
- ▶ Knowledge sharing within and outside Duke



Change in scope (new technologies)

Articulation of phased program model...

DDI phased program model

Experimentation Phase 1	Extension and Transition Phase 2	Standard Support and Integration Phase 3
Pilot projects and introduction of new technology	Development of infrastructure and support models for promising technologies	Service/Technology widely supported for valuable technologies

Aligning evaluation to DDI program model

Phase 1 Experimentation

Documenting innovative use
Detecting unanticipated outcomes
Measuring short-term impact
“Comprehensive scanning” (Chen, 2005)

Phase 2 Extension and Transition

Identifying and documenting stable use patterns
Defining use cases for institutional support
Assessing the impact of proposed changes on key stakeholders

Phase 3 Standard Support and Integration

- ▶ Confirming sustainability of support models
- ▶ Measuring long-term impact

How our evaluation strategies evolve with the innovation cycle

Goal seeking



Goal driven

Formative



Summative

Narrow project focus



Broad program perspective

Discovery oriented



Confirmatory

Implementation focused



Outcomes focused

Aligning evaluation strategies to project maturity: iPod program example

Data collection methods	Phase 1 AY2004-2005	Phase 2 AY2005-2006	Phase 3 AY2006-2007
<i>Project level</i>	<ul style="list-style-type: none"> •Focus groups •Observations •Interviews •Tailored surveys 	<ul style="list-style-type: none"> •More generic surveys •Student surveys •Faculty reports 	<ul style="list-style-type: none"> •Faculty reports
<i>Program level</i>	<ul style="list-style-type: none"> •Faculty feedback sessions •Student & faculty surveys •Cross-unit staff feedback sessions 	<ul style="list-style-type: none"> •Faculty feedback sessions •Student surveys 	<ul style="list-style-type: none"> •Faculty feedback sessions •Student surveys

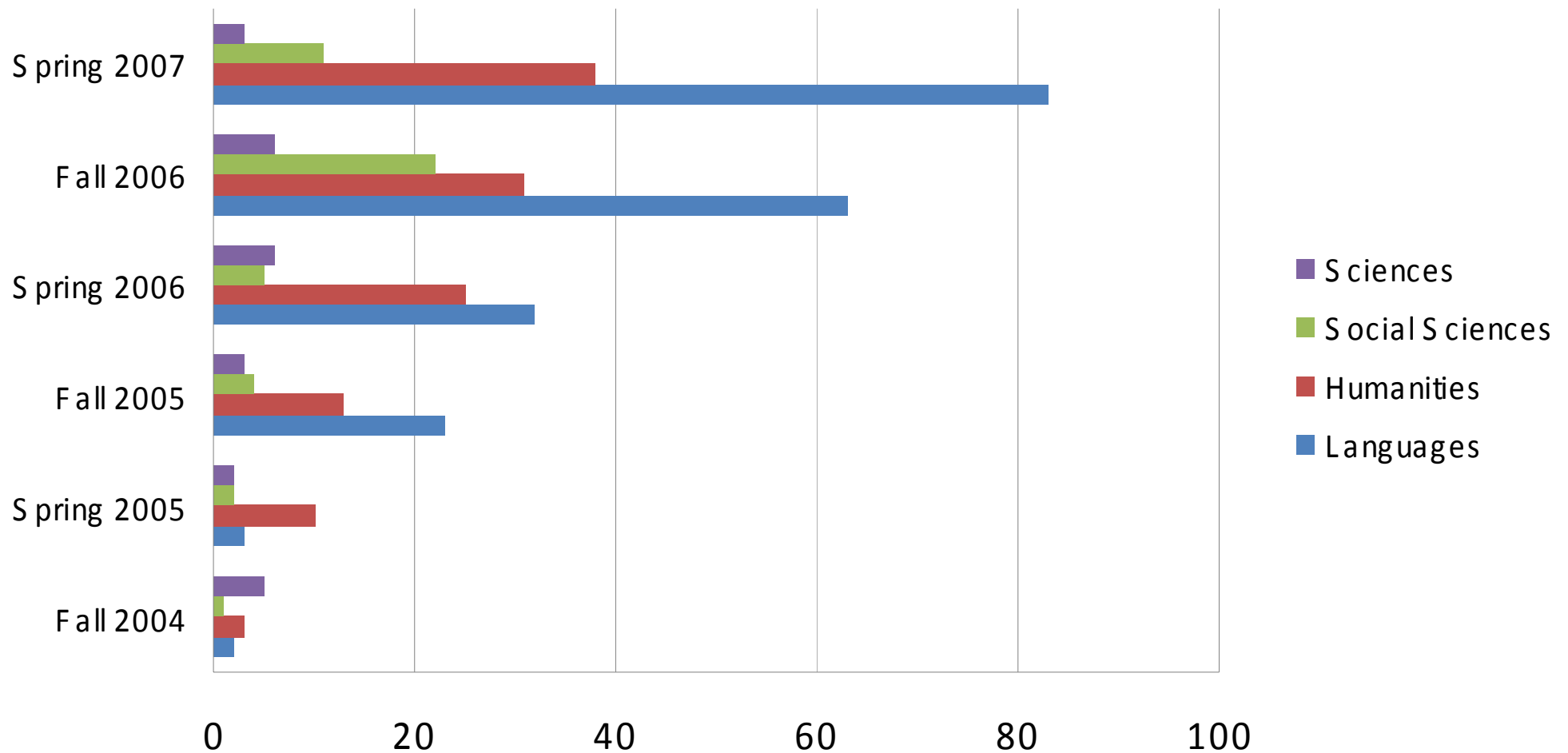
DDI: Where are we now?

- ▶ Increased use of multimedia and demand for multimedia support services
- ▶ Successful and increasing use of tablet PCs and iPods for enhanced classroom presentation and multimedia display
- ▶ Broader integration of student multimedia projects into coursework

Source: 2006-07 DDI Program Annual Report

Growth of iPod Use 2004-2007

**Number of iPod Course Sections (by Subject Area)
Fall 2004 - Spring 2007**



So what have we really learned?

- ▶ Evaluation has a key role to play in planning
- ▶ Developing systematic processes to evaluate and monitor that are sustainable, given our evaluation capacity
- ▶ Reporting about failures as well as successes enhances your credibility

Unresolved challenges

- ▶ Hand-offs from evaluation staff to program staff for ongoing monitoring
- ▶ Dealing with blurry edges of the program
- ▶ Finding resources to investigate long-term impacts
- ▶ Financial sustainability

Credits

The **Duke Digital Initiative** is a joint project of

Office of the Provost

Office of the Executive Vice President

Office of Information Technology

Division of Student Affairs

Center for Instructional Technology

Duke Libraries

Duke Computer Store

And many individuals, both internal and external to Duke

Photographs: Mark Zupan, Perkins Library

Related Websites

Duke Center for Instructional Technology:

<http://cit.duke.edu/>

Information about the Duke Digital Initiative:

<http://www.duke.edu/ddi/>

DDI Faculty Projects:

<http://cit.duke.edu/help/ddi/archive.html>

CIT Evaluation Reports (including DDI):

<http://cit.duke.edu/reports>