Campus Learning Spaces: Two Innovation Design Approaches

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Learning Spaces Innovation at Cal Poly, SLO

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Learning Commons Co-Design

- ◆ "Learn by doing"
  - ◆ students designed related spaces and systems
- ◆ CTL-LIB-ITS
  - ◆ learning methods, access to technology, information systems
- ◆ Student-centered culture
  - ◆ information gathering by students from students
- ◆ "Zone of innovation"
  - ◆ space for experimental approaches to teaching and learning
- ◆ Co-location
  - ◆ help with knowledge, learning, and technology
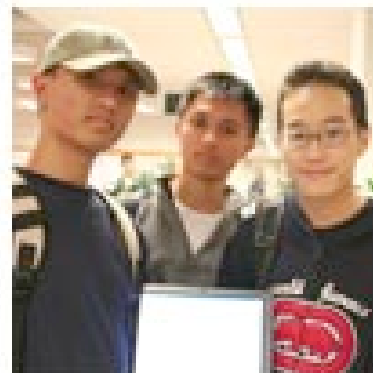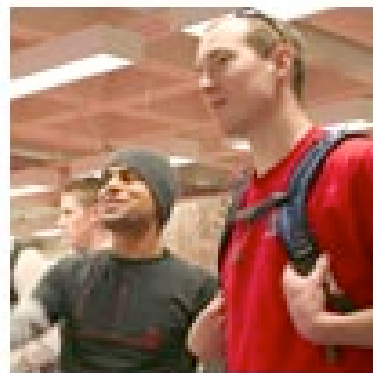
Campus Collaboration Framework

Evaluation Metrics

Outcomes based performance measures

How we know it worked

Process Factors

Collaborative activities, behaviors, factors, resources, skills

How we will do it

Core Foundation

Common purpose, vision, mission, principles, values

What we want to do

Adapted from: *Patricia Iannuzzi, 2005 POD Network Annual Conference*

Learning Commons Goals

- Enable faculty innovation and curriculum revitalization
  - provide technological infrastructure, pedagogy and technology expertise, and information resources and consultation
- Encourage application of constructivist principles
  - advance students' information, communication, and technology proficiencies for life long learning

Learning Commons Model

◆ Sound pedagogy (CTL)

◆ Information resourced (LIB)

◆ Technology enabled (ITS)

◆ Course-based student assessment

◆ Service model user evaluation

Student Learning Commons Requirements

◆ Provide flexible, multi-use space and services

◆ Promote cross-disciplinary inquiry and discourse

◆ Create a sense of community

◆ students, faculty, researchers, staff and community both contribute to and take from a knowledge creation and dissemination process

These requirements were developed by the W05 students after an initial description of the Cal Poly plan, a tour of the space to be converted, and some class discussions.

Student Involvement

◆ Three classes examined learning space issues during the planning and implementation stages of the Learning Commons

  ◆ CPE/CSC 484 User-Centered Design and Development, Winter 2005, Winter 2006

  ◆ CPE/CSC 486 Human-Computer Interaction, Spring 2006

◆ Related projects in other classes

  ◆ Software Engineering

  ◆ Artificial Intelligence

◆ Related senior projects

  ◆ senior project marketplace

  ◆ senior project repository

  ◆ knowledge repository

Student Activities

◆ evaluation of tools for user-centered design

  ◆ 3D-modeling for learning spaces

◆ usability evaluations of learning spaces and tools

  ◆ e-whiteboard, collaboration tools and facilities

◆ elicitation of user requirements

  ◆ surveys, focus groups, usability experiments

◆ design and implementation of learning spaces and tools

  ◆ remote collaboration room, café, senior project marketplace, knowledge repository

Sample Student Projects

◆ Winter 2005
- ◆ Cal Poly Knowledge Base
- ◆ On-Demand Learning
- ◆ Senior Project Center
- ◆ Multimedia Café
- ◆ WikiPoly
- ◆ Brainstorming Software
- ◆ Course Planning Tool
- ◆ Online Course Reserves

◆ Winter 2006
- ◆ TravelNav
- ◆ Group Collaboration Room
- ◆ Classroom Presenter 3.0
- ◆ ClubHub
- ◆ Senior Project Portal
- ◆ Senior Project Repository
- ◆ Media Learning Commons

◆ Spring 2006
- ◆ Bookworms: Electronic Bookwork
- ◆ continuation of some W06 projects: Media Learning Commons, Collaborative Learning Room, Club Hub, Senior Project Portal, Senior Project Repository

Multimedia Café

Work Tables
Food
Books
Computers
Caffeine
+_Couches__
STUDENT HAVEN!

◆ **Café Requirements**
- ◆ Access to food and drinks
- ◆ Study and eat/drink concurrently
- ◆ Study individually
- ◆ Study in groups
- ◆ Relax/leisure time

◆ **Initial Design: Café Functionalities**
- ◆ Group Tables w/ computer terminals – group work
- ◆ Internet Bar & Work Tables – individual work
- ◆ Coffee & Snack Counter – food/drinks
- ◆ Coffee Tables & Couches – relaxation/leisure

◆ **Data Gathering**
- ◆ Usability evaluations of Starbucks, Borders, Barnes & Noble, library
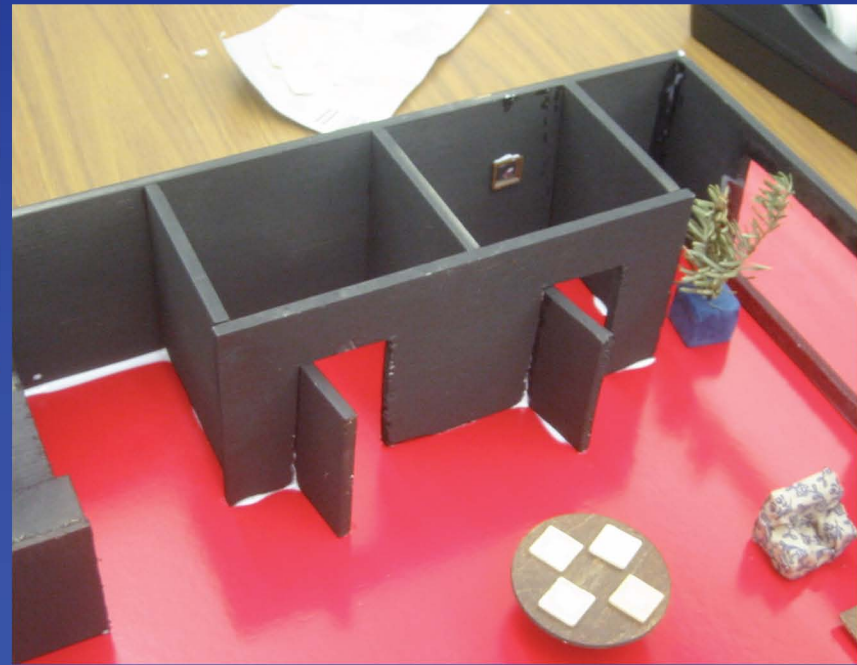- ◆ Surveys and focus groups

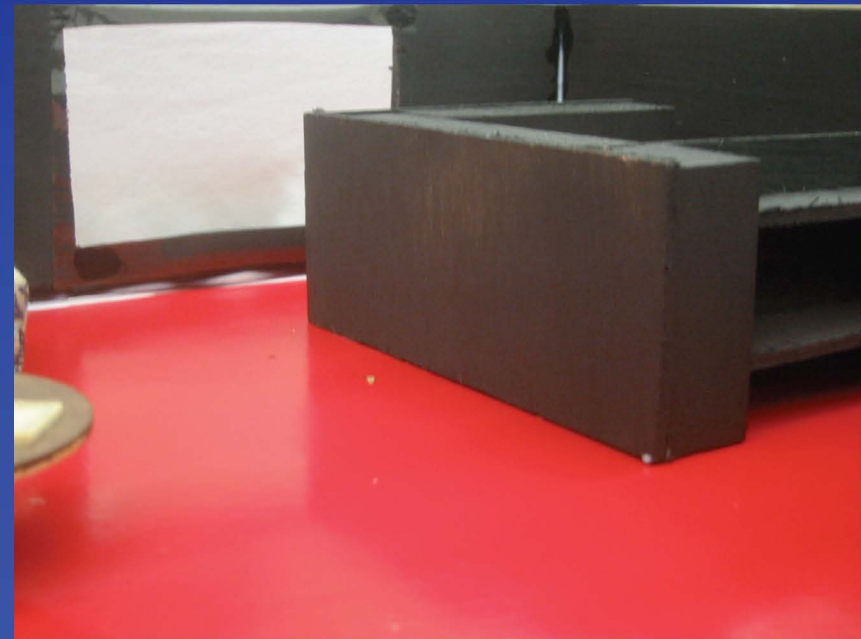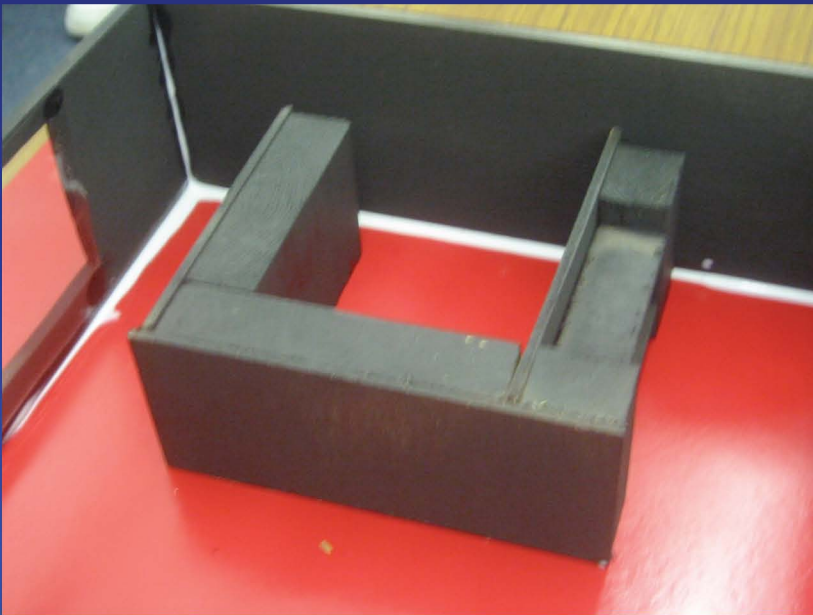# Prototype – Layout & Group Tables

Prototype – Lounge & Internet Bar

Prototype – Individual Workstations & Bathrooms

Prototype – Café Bar

Collaborative Learning Room Requirements

◆ Student Written Survey

　◆ Question Topics

　　❖ Group size and common obstacles

　　❖ Common collaborative materials utilized

　◆ Results

　　❖ Most Common Obstacle: Room Availability

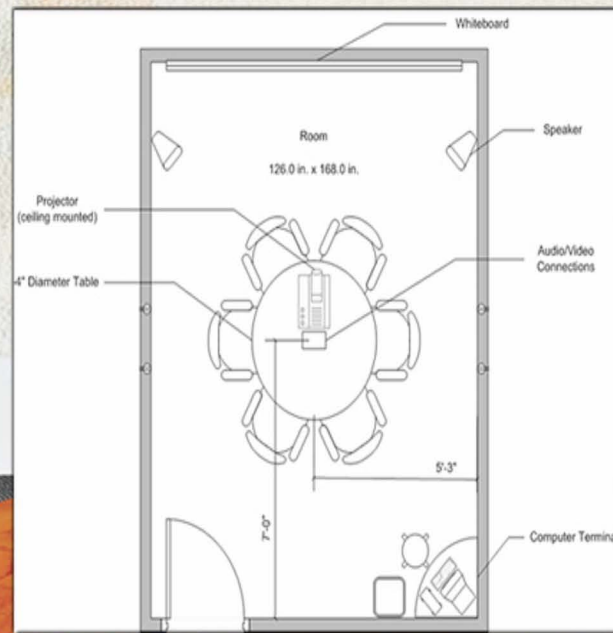　　❖ Most Common Resources: Computer/Whiteboard/Pen & Paper

◆ Student Collaborative Scenario

　◆ Plan of Action

　　❖ Group of ~5 students

　　❖ Mock "End of the World" Scenario

　　❖ Coordinate information dissemination and collaboration

Collaborative Learning Room Vision
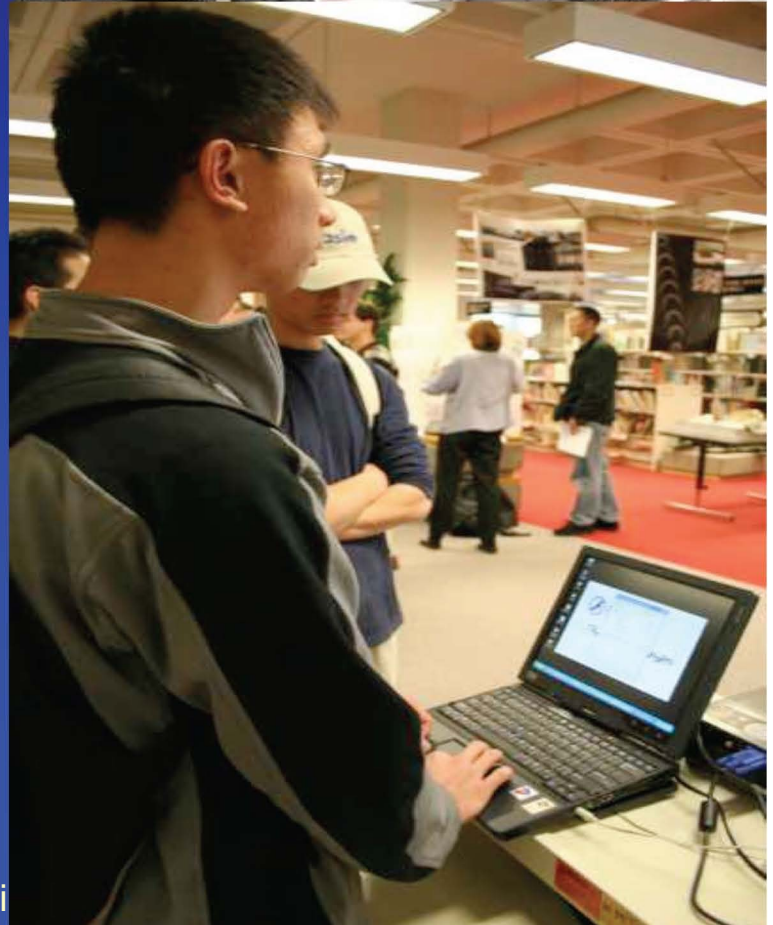
Senior Project Marketplace

◆ Purpose:
  - ◆ To create a usable comprehensive development and viewing tool for the Senior Project process

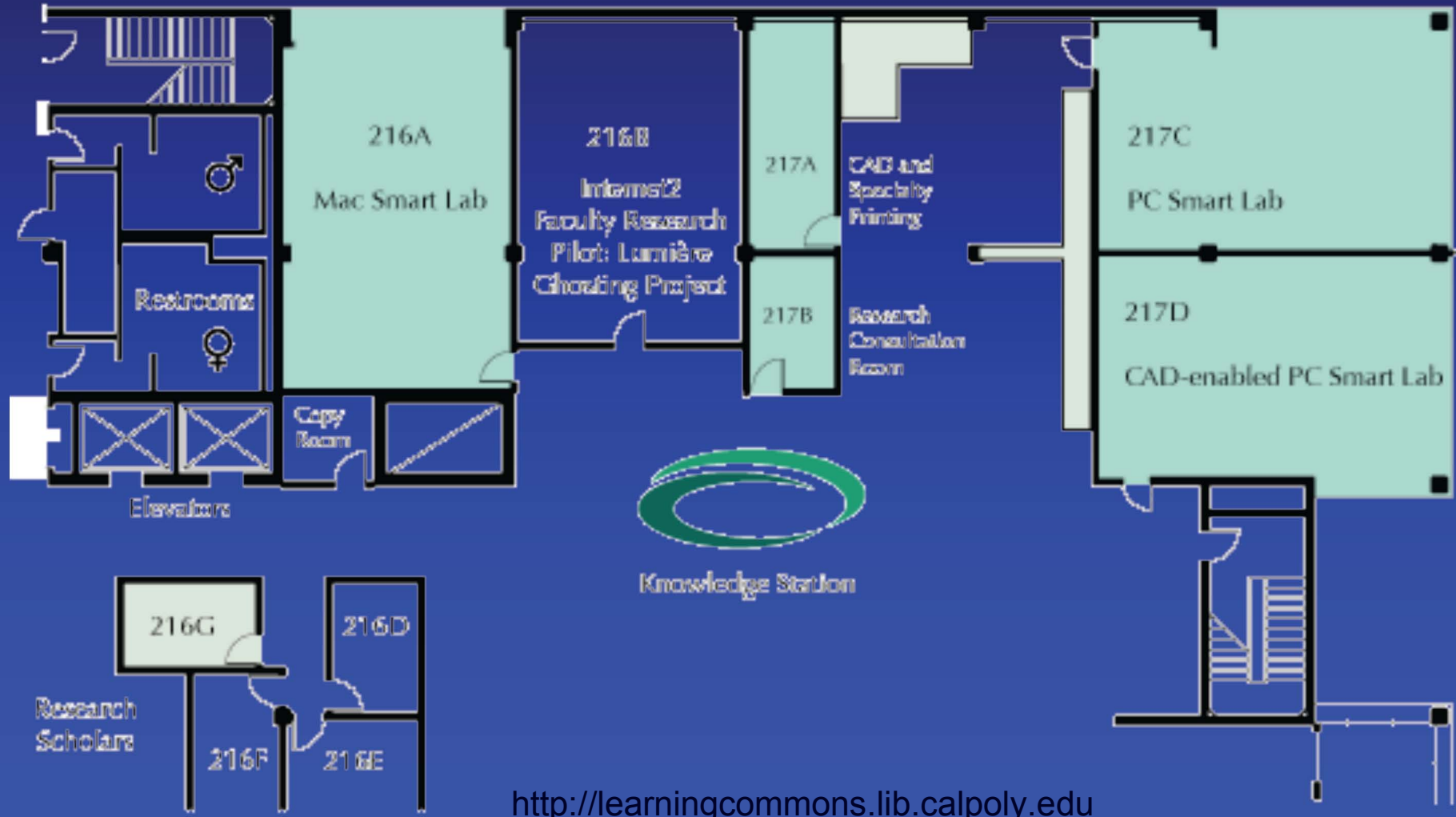◆ Motivation:
  - ◆ Learn by doing: The Senior Project is an integral part of the Cal Poly learning process
  - ◆ Sharing ideas, developing concepts, and demonstrating competence

◆ Functionality
  - ◆ Senior Idea Meeting-place: finding interest and resources
  - ◆ Senior Project Development: Milestones and student-advisor communication
  - ◆ Showcase: Searching and viewing finished projects

Learni

Learning Commons Layout Phase 1

216A
Mac Smart Lab

216B
Internet2
Faculty Research
Pilot: Lumière
Ghosting Project

217A

CAD and
Specialty
Printing

217B

Research
Consultation
Room

217C
PC Smart Lab

217D
CAD-enabled PC Smart Lab

Restrooms

Copy
Room

Elevators

216G

216D

Research
Scholars

216F

216E

Knowledge Station

http://learningcommons.lib.calpoly.edu

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Future Developments

- Expansion of the Learning Commons
  - conversion of space currently used for books and journals
  - re-configuration of existing spaces
    - more group work areas
    - power and network connections
    - projection and recording facilities and equipment
- Distributed Learning Spaces
  - group work areas in other parts of the campus
- Library Building Expansion
  - major extension in the planning stages

http://learningcommons.lib.calpoly.edu

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http://learningcommons.lib.calpoly.edu

Questions and Discussion