Two types of architecture: physical and virtual. How do you create and sustain architectures that are consistent with institutional values, but also adapt to a changing world.

Competing visions of liberal education: cila/wesleyan others….What is meant by liberal arts education? How do the physical and network structures support this type of education? How might they interfere?
Coherence: Using technology to provide enhanced advising and richer access to the curriculum (mapping)

Documenting: Making visible the invisible hand of liberal education
   - Visible Knowledge Project
   - UWired
   - Academic Commons

Co-curricular support
   - writing, math, quantitative reasoning, public speaking, infocommons

Transforming the tradition
   * infolit
Articulation of the Liberal Arts

Wesleyan
› Writing
› Speaking
› Interpretation
› Quantitative Reasoning
› Logical Reasoning
› Designing, Creating, and Realizing
› Intercultural Literacy
› Information Literacy
› Effective Citizenship

Amherst
› Knowledge of other cultures and languages, and other times
› Analyze one's own polity, economic order, and culture
› Employ abstract reasoning
› Work within the scientific method
› Engage in creative action—doing, making, and performing
› Interpret, evaluate, and explore the life of the imagination

Writing
The ability to write coherently and effectively. This skill implies the ability to reflect on the writing process and to choose a style, tone, and method of argumentation appropriate to the intended audience.

Speaking
The ability to speak clearly and effectively. This skill involves the ability to articulate and advocate for ideas, to listen, to express in words the nature and import of artistic works, and to participate effectively in public forums, choosing the level of discourse appropriate to the occasion.

Interpretation
The ability to understand, evaluate, and contextualize meaningful forms, including written texts, objects, practices, performances, and sites. This includes (but is not limited to) qualitative responses to subjects, whether in language or in a non-verbal artistic or scientific medium.

Quantitative Reasoning
The ability to understand and use numerical ideas and methods to describe and analyze quantifiable properties of the world. Quantitative reasoning involves skills such as making reliable measurements, using statistical reasoning, modeling empirical data, formulating mathematical descriptions and theories, and using mathematical techniques to explain data and predict outcomes.

Logical Reasoning
The ability to make, recognize, and assess logical arguments. This skill involves extracting or extending knowledge on the basis of existing knowledge through deductive inference and inductive reasoning.

Designing, Creating, and Realizing
The ability to design, create, and build. This skill might be demonstrated through scientific experimentation to realize a research endeavor, a theater or dance production, or creation of works such as a painting, a film, or a musical composition.

Ethical Reasoning
The ability to reflect on moral issues in the abstract and in historical narratives within particular traditions. Ethical reasoning is the ability to identify, assess, and develop ethical arguments from a variety of ethical positions.

Intercultural Literacy
The ability to understand diverse cultural formations in relation to their wider historical and social contexts and environments. Intercultural literacy also implies the ability to understand and respect another point of view. Study of a language not one's own, contemporary or classical, is central to this skill. The study of a language embedded in a different cultural context, whether in North America or abroad, may also contribute to this ability.

Information Literacy
The ability to locate, evaluate, and effectively use various sources of information for a specific purpose. Information literacy implies the ability to judge the relevance and reliability of information sources as well as to present a line of investigation in an appropriate format.

Effective Citizenship
The ability to analyze and develop informed opinions on the political and social life of one's local community, one's country, and the global community, and to engage in constructive action if appropriate. As with Intercultural Literacy, study abroad or in a different cultural context within North America may contribute to a firm grasp of this ability.

How can technology support this initiative? How does technology change the meanings of these ‘outcomes’?
"It took only twenty five years for the overhead projector to make it from the bowling alley to the classroom. I'm optimistic about academic computing; I've begun to see computers in bowling alleys."

--George Landow
Hypertext: The convergence of contemporary critical theory and technology, 1991
I want to examine four general themes that are emerging as ways of thinking about designing spaces (physical and electronic) on campus. For each theme, I will show how the theme emerges out of a particular project on our campus, and also how these themes connect to broader developments within the world of technology, scholarly communications, and American culture.

**Infrastructure:**
- what sorts of facilities does one need? How does one plan for these facilities? What sort of staff do you need?
- What kinds of support structures do you need? How do the facilities enable new types of teaching and research?

My example: classrooms

**Content:**
- Stuff made on campus: Teaching materials (syllabii, powerpoint slides, problems sets, etc.), working papers, pre-prints, data sets, video, multimedia, html, software programs, learning objects
- How to share this? How to keep track of it? How to cite it? -- > scholarly communications

My example: learning objects

**Faculty Development:**
- What sorts of structures and staff do you need in place to support the faculty?

My example: Academic Technology Roundtable

**Student Learning and New Literacies:**
- changing student demographics, challenges to liberal education values by claims about media literacy, information literacy, technology literacy

My example: InfoCommons/Academic 311
To help place the projects I am going to talk about in context of the evolution on instructional technology support on campus, it is useful to provide the local history of instructional technologies and services at Wesleyan during the late 20th and early 21st century.

This particular history at Wesleyan is a history that is likely familiar to many on other campuses, perhaps with some local variations. The story is that there has been an ongoing series of changes in the reach of instructional technologies, moving from providing public computing labs, to providing network access in dorms, providing dedicated support staff to work with faculty on instructional technology issues, building 'smart' multimedia classrooms, installing a course management system (e.g. Blackboard), creating a student web development program to further support faculty in their efforts to webify their courses, putting in place digitization services to allow for the conversion of analog materials to digital formats for web delivery.
Evolution of Instructional Technology Services at Wesleyan

- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006

- Information Commons
- Wireless
- Learning Objects
- Digitization Service
- Student Technology Assistants
- Course Management System
- Electronic Portfolio
- On-line course registration
- Multimedia Classrooms

- Instructional Technologists
- Campus Network
- Public Computing Labs
Get better diagram of cyberinfrastructure

Make note about hum/social science cyberinfrastructure initiative

"Cyberinfrastructure" is more than just hardware and software, more than bigger computer boxes and wider pipes and wires connecting them. The term was coined by NSF to describe the new research environments in which capabilities of the highest level of computing tools are available to researchers in an interoperable network. These environments will be built, and ACLS feels it is important for the humanities and social sciences to participate in their design and construction. Ed Ayers has commented that much of the work of developing the Valley of the Shadow was analogous to building a printing press when none existed. Effective cyberinfrastructure for the humanities and social sciences will allow scholars to focus their intellectual and scholarly energies on the issues that engage them, and to be effective users of new media and new technologies, rather than having to invent them.

"Cyberinfrastructure" becomes less mysterious once we reflect that scholarship already has an infrastructure. The foundation of that infrastructure consists of the libraries, archives, and museums that preserve information; the bibliographies, finding aids, citation systems, and concordances that make that information retrievable; the journals and university presses that distribute the information; and the editors, librarians, archivists, and curators who link the operation of this structure to the scholars who use it. All of these structures have both extensions and analogues in the digital realm. The infrastructure of scholarship was built over centuries with the active participation of scholars. Cyberinfrastructure will be built more quickly, and so it is especially important to have broad scholarly participation in its construction: after it is built, it will be much harder to shift, alter, or improve its foundations.
We’re currently midway through a five-year, 7.5 million dollar project to improve furnishings and technology in all classrooms on campus, including adding computers and data projection to classrooms, OR by making them “media ready” so that it’s easier to bring in a computer cart or other media device.
• This is an example of our “Interactive Computing Classroom”, we currently have two and hope to have three more, if we can get the space.
• These two rooms are immensely popular and many faculty are now using computers in their teaching who had never done so in the past, primarily, in my opinion, because these rooms make it so attractive.
• Beginning to see some competition between faculty wanting to teaching the regular computing labs and being able to reserve time for student use of these labs.

Summary
The computing environment at Wesleyan is high quality and comfortable. Faculty are really beginning to think of computing as a standard pedagogical tool, whether it takes the form of:
• PowerPoint lectures
• an exercise with discipline-specific software application
• using WebBoard for class discussions
• or providing homework problem sets via WebCT.
As is true with nearly all technology projects, it is critical to build good support structures and to understand the long-term costs of investments in classroom infrastructure.

Some of the infrastructure that we’ve put in place to ensure that we provide highly-reliable services include:

• Control system that allows us to monitor and control the room systems via the network (amx)
• A room checking-system that tracks how often a room has been checked, and the sorts of problems that we are experiencing (analogous to HEAT)
• A peoplesoft fed calendar and email system that allows us to see when the rooms are in use, and to send targeted email to the faculty teaching in individual rooms to announce any changes and/or problems in any given room
• A phone in every room and a classroom helpdesk that is staffed from 8 am to 10 pm
• Bikes that allow us to quickly reach any room that is having a problem

• We have also recently gone through a budgetary exercise to understand the long-term costs of maintaining these rooms. (600K/year)
Classrooms, laptops, and wireless

Tipping Point: At what point will it stop making sense to be investing in putting devices on the network and instead to rely on devices that the students bring with them (e.g. laptops, pdas, cell phones, etc.)
At the same time, it adds images from various cave projects.

Note about clickers and videoconferencing.
Content management

Collections Grid

A framework for representing content

Filesystems
Dscape
Archiving of course materials
Scholarly communications: born digital scholarship
We used the same schema to create another object that showed the change in water depths in the Connecticut River. It would be relatively simple to extend this model to other bodies of water for which NOAA collects data.
These movies demonstrate turbidity currents, created when waters of different densities mix, such as water from Long Island Sound entering the Connecticut river.
This learning object models the translation process in protein synthesis at a molecular level. It can be used simply as an animation to be used in a lecture presentation, as well as a step by step movie with annotations, shown here, to be used as a study aid outside of class. We created QTVR models of the most important molecules involved based on data from the Protein Data Bank, to allow students to view the shape of these molecules, and make observations about how this shape might influence the mechanics of the process.
This web site presents the field work of ethnomusicologist Mark Slobin in Afghanistan in the late sixties. It provides a layer of context for the images, video and audio clips presented, as well as allowing direct access to the archive of materials for research.
Learning Objects for Information Literacy

Literature Review

DESCRIPTION

How does the information in scholarly journals come into being? How do you go about finding the key readings in any particular discipline? Once you've collected those key readings, how do you go about organizing and synthesizing all of this disparate information?

The activity of conducting a literature review within a seminar can not only advance student understanding of the topic at hand, but also teach them valuable research and analysis skills that will serve them well as they advance in their academic careers.

"...their proposals...are excellent, so I believe this strategy worked very well"
Mention workbook

Mention learning objectives

Mention distributed development methods
Communities Beyond Our Own Campus
Academic (Technology) Roundtable

Wesleyan University

Subscribe to the ATTR mailing list to receive notices of upcoming events, and relevant news and links to new resources and publications.

YOUR_USERID@wesleyan.edu

Subscribe

Suggest a Presenter/Presentation/Volunteer to Present!

Our Mission: The mission of the Academic (Technology) Roundtable is to promote conversation, cooperation, and the sharing of information and resources among faculty, staff, library, and ITS towards the goal of effectively and appropriately using technology in teaching and learning. Sponsors: Faculty Career Development Center, FYI, 2nd Generation project, the Library, and ITS.

March 27, 2005
Fix image

Making visible the invisible hand of liberal education ➔

How the Nintendo Generation teaches
Expand on CILA projects, mission, their work to define liberal arts, assessment, etc.
Center for Teaching and Learning

Stories

Academic Commons will provide links to stories published elsewhere that document and analyze the connections between teaching/learning, technology, and liberal arts outcomes. Contact section editor Jon Olshaw for more information and to suggest materials to be included.

Posters

The Center for Teaching and Learning will encourage members to both create and link to posters, course portfolio, and snapshots documenting their work in the classroom. Using resources like the Carnegie Foundation for the Advancement of Teaching's DEEP Tools, we will document, analyze, and explore specific classroom practices while building a scholarship of teaching and learning centered on work with emerging technologies. Contact section editor Jon Olshaw for more information.

Vignettes

Vignettes will guide Academic Commons members in the documenting and analyzing how technology helped or hindered a particular course or part of a course. Through structured prompts, the vignette will provide a space for reflecting on the relationship between specific learning activities and liberal arts education outcomes. The Vignettes, we hope, will be a good step toward recognized scholarship in teaching and learning with technology. Contact section editor Jon Olshaw for more information.
Developers' Kit

- **Works-in-Progress**
  Academic Commons members can post their work-in-progress as a way of gathering feedback and criticism, attracting collaborations, and communicating what will be available in the future. Contact section editor Peter Robling for more information.

- **Project Management**
  Academic Commons will host projects for distributed teams that want to work together and need a shared space for communications. We will also provide case studies of various project management techniques, tools, and methodologies, and links to software tools useful for facilitating successful projects. Contact section editor Peter Robling for more information.

- **Collaboration Exchange**
  For those work-in-progress (or ideas for projects) that require skills that you don't have, Academic Commons will provide a mechanism for connecting people to work together on mutually interesting projects. Contact section editor Peter Robling for more information.

- **Core Technologies and Technology Initiatives**
  Academic Commons will host or link to fora on major technologies and technology initiatives. Our initial list of technologies includes perl, java, mysql, php, and apache. Our initial list of technology initiatives include COP, TriSX, and The Open Source Toolkit Initiative. Contact section editor Peter Robling for more information and to suggest other technologies and technology initiatives.
ABOUT
Learn more about AC

CONTRIBUTE
You can help us build the AC. Contribute

STAY INFORMED
Sign up to receive a monthly email that notifies you of our progress.

- Mailing Lists
  Academic Commons provides links to key mailing lists, pointing to the most important lists that keep us informed of developments in the field. Contact section editor Claire Slasky for more information and to suggest lists for inclusion.

- Journals
  Academic Commons provides links to key journals, pointing to the most important publications that we need to stay abreast of developments in the field. Exceptions, commentaries, and links to individual articles will also appear in The Commons. Contact section editor Claire Slasky for more information and to suggest a journal for inclusion.

- Blogs
  Academic Commons provides links to and feeds from the key blogs, pointing to and aggregating the most important blogs that we need to stay abreast of developments in the field. All of the Academic Commons materials will also be available as an RSS feed. Contact section editor Claire Slasky for more information and to suggest a blog for inclusion.

- Academic Commons Archive
  The Academic Commons Archive will provide a searchable archive of all materials, organized by topic, by author, and by area. Contact section editor Claire Slasky for more information.
LoLa Exchange (http://www.lolalexchange.org) is a learning object exchange which stores high-quality learning objects developed for use in liberal arts education. Participants document their use within the curriculum. Academic Commons members will be able to post their learning objects to LoLa, and share how they have used others’ learning objects in their teaching.

LoLa Exchange is in beta testing mode for the Fall of 2004. You can sign up for an account and look at the growing number of materials available by going to http://www.lolalexchange.org. For more information, contact LoLa Exchange’s Michael Bay.
Language from the strategic plan about SAR

NetGen students stuff from Educause

‘growing up digital’
Educating the netgen
Born with the mouse

How does the fact that kids today have grown up bathed in technology change how one approaches the educational process?

Harder questions: are there new forms of literacy that might be part of a liberal education? Do we need to produce ‘information literate’ students? Technology literate students? Multimedia literate students?

How can students use technology and media to produce new types of arguments that take advantage of the capabilities of these new media? How do you evaluate these types of arguments? How do you support this process?
1. info commons
2. help desk
3. outpost
4. group study rooms
5. ref / it offices
6. reference
7. access services
8. circulation desk
1. a center for student life - both social and academic
I especially like this setup because it’s big enough for two students to work with some feeling of privacy and space with the dividers between the cubicles.
4. group study rooms for collaborative learning with multimedia facilities
Larry Cuban in his book "Teachers and Machines: The Classroom Use of Technology Since 1920" re-prints a wonderful photograph that illustrates this question.

The photograph on the screen Cuban lifted from the National Archives. It depicts an aerial geography lesson that took in an airplane over Los Angeles in 1927. What is most interesting about this photograph are the strange shifts in time, space, and the role of the teacher and student that new technologies make evident, and how in the face of these challenges, we all struggle with what to do about it.

In this scenario, do you scold the child for not paying attention to the lesson and looking out the window?

I wonder if 80 years from now, someone thinking about new technology then will show pictures of us with our wireless networks, our laptop-toting, cell phone addicted students, and our multimedia classrooms, and ask these same sorts of questions.

issues that our campus infrastructure and support services are trying to address.

1. Teachers’ lack of skills in using equipment and film,
2. Cost of films, equipment and upkeep,
3. Inaccessibility of equipment when it is needed,
4. Finding and fitting the right film to the class
Questions?