IITA

INSTITUTE FOR INFORMATION TECHNOLOGY APPLICATIONS

US AIR FORCE ACADEMY

Library of the Future

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and
The Library of the Future Committee

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The Library of the Future

Introduction and Background
The US Air Force Academy library was occupied in 1958. Subsequently, additions to the collections now occupy space that was designed for another purpose and thereby have reduced the open and study areas. In order to maintain access to the materials, innovative solutions will be required. Digitizing materials, using compact shelving, and possible underground storage of lesser used, but important volumes, may be considered.

Objectives
The library study was undertaken to develop ways to improve the quality of usage by the cadet and faculty clients, and in so doing, to incorporate the learning objectives set by the Dean of Faculty (DF). A phased approach to incorporating goals was also devised to mitigate the disruption of construction and also to allow for concurrent assessment of changes before expensive structural modifications are made.

Study Approach
The proposal for the study was two-pronged consisting of an exhaustive literature search on libraries and their purpose as well as multiple site visits to the best, comparable civilian and military institutions. Libraries in the modern age are more than repositories for published works and study cubicles for scholars. They have become learning centers with multi-media capabilities. Therefore, rather than withering, usage in modern libraries has exploded. (See Appendix)

During site visits, consultations with the heads of libraries and staff were conducted leading to the reasoning for the changes that had been incorporated in renovations or why certain features were not changed.

Further research was carried out through discussions with USAFA cadets, faculty and library staff. Academic department and agency heads as well as USAFA IT experts contributed ideas. The backbone of the study was the Academic Working Group, composed of representatives from several departments who individually researched assigned areas bringing their reports to regular organization meetings.

Discussions were also held with USAFA Civil Engineering regarding possible architectural changes. USAFA has been designated as an historical site which limits opportunities for change.

Literature Review and Research discoveries
The literature review and research emphasized the necessity of broadening the role of the library from an information repository to that of a learning center. The concept was to transition from an area of stored information to a gateway that also would include the latest information technology (IT able to retrieve the stored information. Additionally, centers of learning, writing, speech presentations, and related areas critical to processing information would be integrated into the library's composition.

Discoveries from Site Visits
Site visits demonstrated the use of current technology innovations applied in several ways that supported creativity for the student clients. For example, a learning center was composed of a variety of resources designed to enhance learning and collaboration. For example, most learning centers contain sharable computers, group study rooms, integrated audio/visual equipment for making and practicing presentations, as well as social areas such as coffee and snack shops. There were also integrated support services in a single location where students could receive assistance in locating reference materials and

learn how to access them for themselves. In some cases, there were media centers where students could employ a variety of media—sound, video, and other types of media in composing presentations and reports. A multiplicity of types of group study centers varying from space for 2-4 persons to rooms for larger groups was found in several visited libraries. The latest technology was integrated into these areas providing superior support for collaboration activities.

Framing the Situation
The study has attempted to align objectives with the USAFA Strategic Plan as well as the DF plan for Learning Outcomes.

The following elements are in the Strategic Plan:

> "Instill a <u>culture of learning</u>…" (Objective 5.2)
> "Enhance <u>USAFA's reputation </u>as a valuable national resource/treasure…and a respected academic institution" (Objective 2.4)
> "Expand exposure and involvement of faculty and staff in developing the <u>USAFA outcomes </u>in our cadets" (Objective 6.1)
> "… information technology <u>info</u>structure needs immediate attention…to support USAFA's needs for <u>leading edge Information Technology (IT) capabilities</u>" (p.5)

Elements of the plan for Learning Outcomes are listed below; the underlined outcomes can be well supported by the library of the future:

> RESPONSIBILITY OUTCOMES
> – Ethical Reasoning and Action
> – Respect for Human Dignity
> – Service to the Nation
> – <u>Lifelong Development & Contributions</u>
> – Intercultural Competence
> SKILLS OUTCOMES
> – <u>Quantitative Literacy</u>
> – <u>Information Literacy</u>
> – <u>Oral Communication</u>
> – <u>Written Communication</u>
> – Critical Thinking
> – Decision Making
> – Stamina
> – Courage
> – Discipline
> – <u>Teamwork</u>
>
> <u>KNOWLEDGE OUTCOMES</u>
> – <u>Heritage and Application of Air, Space and Cyberspace Power</u>
> – <u>Nat'l Security & Full Spectrum of Joint & Coalition Warfare</u>
> – <u>Civic, Cultural and International Environments</u>
> – <u>Ethics & the Foundations of Character</u>
> – <u>Principles of Science and the Scientific Method</u>
> – <u>Principles of Engineering & the Application *of Technology*</u>

The Vision for the Future

It is imperative to update and enhance the library's ability to support a "culture of learning" by increasing access to the current collections of print, archival materials, and special collections, and to provide a capacity for materials. Further, it is critical to renovate in such a manner to allow for future expansion to include advances in electronic and digital media and information technology. In order to provide the education suitable for the cadet clients, the library learning center will also need to support the USAFA Learning "Skills" Outcomes.

Design Recommendations

1. Establish a world-class digital interface to allow access from both inside and outside the physical library to holdings and other resources.
2. Improve support for group study including the evening tutoring center
3. Exploit inspirational views and create inspirational space for quiet study
4. Improve lighting–mix overhead, natural, table top lighting for the optimum reading/viewing capability
5. Enhance and integrate support for electronic media
   – Both access via IT and content as well as support from library personnel
   – Technology should be ubiquitous but discrete without a sea of computers
6. Set up a Communication Skills Center
   – Oral presentation rehearsal studio
   – Writing center
   – Multimedia center
   – Print / copy / scanning center
7. Improve functional arrangements for all library and other staff housed in the library including both work space and office space
8. Create warm, welcoming environment with a coffee bar, color, and comfortable furniture

Recommended Phased Approach

- Apply academic library "best practices" to fit the specific needs of USAFA
- Develop design alternatives and recommendations
- Collaborate with USAFA Team to identify preferred alternative
- Present final design recommendation

   Phase 1– hire an academic library architect to develop a master plan based upon committee's vision statement and design recommendations. Possible options:

      Space limited to present library footprint
      Present library input + "Academic Services area" (DFR) + DFPY on first floor
      Present library + first and second floor on north end of Fairchild (including DFP, DFMI)
      Expand Fairchild building envelope

   Phase 2
      Use gift or non-milcon funds to pilot key features that align with the master plan.

   Phase 3
      Refine the design based on feedback and assessment of Phase 1.
      Execute a Military Construction (MILCON) major remodel/expansion project and a Sustainment, Restoration, and Modernization (SRM) major repair/renovation expansion project.

Appendix

Selected Site Visits

Group Study Room - USMA

Integrity - Service - Excellence

"Collaborative Learning" Room with IT – Emory

Integrity - Service - Excellence

Group study booths - USMA

Integrity - Service - Excellence

Group work area for papers and presentations - Emory

Integrity - Service - Excellence

Supporting "information literacy"

- Provide right type of help near "point of need".

- Both information access and content

Furman University

Communication Skills Center

Colorado College

Oral Presentation Rehearsal Studio - Ga Tech

Integrity - Service - Excellence

Oral Presentation Rehearsal Studio - Ga Tech

Integrity - Service - Excellence

Supporting a "culture of learning"

- **Inspirational space**
- **Inspirational views**
- **Adequate lighting**
- **Comfortable furniture**
- **Info Technology**

Inspirational space for quiet study with great lighting and comfortable furniture

USMA Jefferson Hall

Highlight inspirational views

Integrity - Service - Excellence

Technology "ubiquitous but discrete"

Also wireless throughout

Power and ethernet connection in base of brass lamp

Integrity - Service - Excellence

Multimedia studio

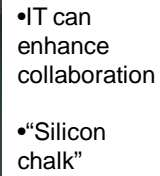Video editing at Georgia Tech

Integrity - Service - Excellence
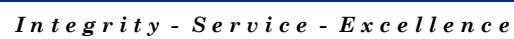
Copy Center
- free scanning to pdf's

Clemson University

Integrity - Service - Excellence

Group study whiteboard good but "Smartboard" better

- IT can enhance collaboration

- "Silicon chalk"

NYU

"Collaborative Computing Center" – GA Tech

"Info Commons"
with IT help desk

The Queue

Help desk

Library plays central role in
supporting "information literacy"

Columbia University

2nd floor directory

- Computer Lab
- Center for New Media in Teaching and Learning
- Information Resources Training Center and Lab
- Copying Center
- Media Center
- Coffee Bar

Oral presentation rehearsal studio (every classroom – common hardware interface and AV control) - Emory

Coffee shop! Warm, inviting, appropriate social space

Drinks with lids allowed in library – <u>damage has gone down</u> because drinks are no longer hidden

ABOUT THE INSTITUTE

The Institute for Information Technology Applications (IITA) was formed in 1998 to provide a means to research and investigate new applications of information technology. The Institute encourages research in education and applications of the technology to Air Force problems that have a policy, management, or military importance. Research grants enhance professional development of researchers by providing opportunities to work on actual problems and to develop a professional network.

IITA coordinates a multidisciplinary approach to research that incorporates a wide variety of skills with cost-effective methods to achieve significant results. Proposals from the military and academic communities may be submitted at any time since awards are made on a rolling basis. Researchers have access to a highly flexible laboratory with broad bandwidth and diverse computing platforms.

To explore multifaceted topics, the Institute hosts single-theme conferences to encourage debate and discussion on issues facing the academic and military components of the nation. More narrowly focused workshops encourage policy discussion and potential solutions. IITA distributes conference proceedings and other publications nation-wide to those interested or affected by the subject matter.