

CHAPTER II

ACADEMIC SUPPORT SERVICES

A. Introduction

In this chapter we review the ways in which we facilitate teaching and learning through academic support services. Because of the impact of the information technology revolution on the academic enterprise, our review concentrates on efforts to incorporate technology in the various support services, and to plan for and manage effectively the demand for more and more resources. Over the past decade we have added to our staff and our array of support services; experienced changes in departmental leadership, enhanced facilities; we have changed the leadership of key departments; and opened new facilities. The most visible markers of growth and progress are two new libraries and the extension of the data network into virtually every faculty and administrative office, most classrooms and a majority of student rooms. The pace of technological change, the ever-increasing demand for technology and technological support from all quarters, the complexity of building and maintaining an effective infrastructure on a campus rich in older buildings and within a bi- (and to a lesser extent, tri-) college community are daily challenges for those in academic support services. We plan prudently, we believe, aware of our limitations in predicting all the changes in this area, and with the knowledge that we must be prepared to revise our expectations and assumptions.

Administrative offices providing academic support services report with few exceptions to the Office of the Provost, and that office is, in turn, responsible for maintaining their effectiveness within the institution and, as appropriate, within an inter-institutional context. The heads of these support services, the Provost, and the Associate Provost are aided in their responsibilities by a range of other administrative offices; by the faculty; and by faculty/administration, bi- and tri-college and other advisory and *ad hoc* committees, including designated committees and representatives of the Board of Trustees. These factors are worth noting at the outset of this chapter:

¶ In the fall of 1997, the new presidents of Bryn Mawr, Nancy Vickers, and Haverford College, Thomas Tritton, determined to intensify their institutions' cooperation and planning, particularly with respect to libraries and computing services, recognizing that these resource-intensive sectors at each institution can only benefit from concerted efforts, pooled expertise and experience. One immediate response to their mandate was the development of a set of technology guidelines, drafted by bi-college computing and library directors. These guidelines have informed the Self-Study process and will be useful to us as we move into a more concrete planning mode in the spring of 1999. (See Appendix II:1).

¶ At the local planning level, our efforts have been considerable, but need streamlining. We currently confront the challenge of incorporating technology in our academic programs and services and in our administrative offices in many configurations and modes; these departmental, committee, ad hoc, and/or team efforts are often redundant and time-consuming. The bi-college efforts of computing and library directors have been noted already. The faculty Committee on Academic Computing (CoAC), engages in serious discussions of the appropriate pace of and incentives (if any) for adopting innovative technology in the curriculum, in concert with pertinent *ex officio* administrators. The faculty committee on the Library has traditionally focused on those aspects of librarianship that were not technologically-oriented; the convergence of the technological and the traditional have led this committee to consider some of the same topics as those under discussion in CoAC. Thus, there is some question whether these two committees should be combined. The *Ad hoc* Advisory Group on Instructional Support (AHAGIS), comprised of members of the faculty and administration, was initiated in the fall of 1997 for the purpose of addressing a broad agenda of such issues, plus resource planning and consolidated advisory mechanisms, within a two-year period. (See Appendix on AHAGIS II:2). However, AHAGIS was furloughed early in 1998 so as not to be redundant with the Self-Study process. It could be reconvened and/or adapted to address academic support issues.

¶ The overlapping and interrelated aspects of many of these academic support services, and the centrality of digital technology to most of them, place extraordinary demands on Computing Services and its staff. Demands,

too, are placed on the College to plan wisely for and fund adequately the community's computing needs and to develop more effective working and service models, to bridge the different "cultures" of the various services and the academic departments they support.

With the Libraries and Computing, we begin to survey the services and areas which support instruction and facilitate research, noting the more significant challenges, and concluding with a summary of the most pressing issues and trends.

B. The Libraries

1. Introduction

New libraries have been at the heart of our two most recent new buildings, manifesting the central role the Libraries play in our academic mission and life of the College. Yet here, as across the nation, the Libraries are being challenged to redefine their role, from serving as repositories of knowledge to acting as conduits of information. Under the leadership of Elliott Shore, director since June 1997, our libraries are moving beyond their walls and, in cooperation with faculty, students and other academic support staff, helping to bring to the classroom, faculty office, and dorm room the materials necessary for teaching, learning and research. Campus conversations about the Libraries have in recent years broadened from such perennial topics as the number of periodical subscriptions to larger considerations, such as what materials we need to have and in the form these materials best facilitate teaching and learning.

The physical inventory of the our libraries has been enriched in the past decade. Complementing the Mariam Coffin Canaday Library, an open-stack facility for collections in the humanities and social sciences which opened in 1970, are the two new libraries. Since September 1997, collections serving History of Art, Archaeology, and major components of the Growth and Structure of Cities Program have been available in the Rhys Carpenter Library, appended to the west wing of the M. Carey Thomas Library. Materials for the sciences and Mathematics are in the Lois and Reginald Collier Science Library, which opened in March 1993 as part of the Marian Edwards Park Science Center. As of September 1998, the Libraries contain more than 1.04 million volumes. Over the five-year period ending May 31, 1998, volumes in the collection, excluding manuscripts, increased by 12.3%. (See **Appendix II:3** selected statistics on the Libraries.)

Tri-college library cooperation is fundamental to planning, collections and operations of the College's libraries. Librarians and other administrators meet several times annually to review and plan for their common operations and common budgets and to discuss further areas for collaboration. We have cooperated with Haverford College for many years in an "approval" program through which most academic press and some commercial press books in the humanities and social sciences are acquired on the two campuses. TRIPOD, our common on-line catalog (see below) and a common lending process dissolve the boundaries between the three campuses and unite the three collections. These ties will become stronger still as we implement and realize the set of objectives proposed to the Andrew W. Mellon Foundation, for which the colleges were awarded a grant of \$850,000 in June 1998. The objectives include enhancing our abilities to share print and non-print information, provide course readings, streamline our holdings and increase the quantity and quality of information that can be delivered quickly to each member of the community. As our proposal to the Foundation stated, "with the new technologies available, we are now in a position to extend the coordination of our library services even farther. We propose to design an electronic reserves system; increase the functionality and flexibility of TRIPOD; and implement closer electronic ties with the University of Pennsylvania system."

Some measures for the strength of our libraries can be found within the "Oberlin Group," a cohort of 74 selective liberal arts institutions (**Appendix II:4**). For example, the Group's 1996-97 survey found that our acquisitions spending per student of \$915 was higher than any other Oberlin Group member library (see **Appendix II:5**). Some of this may, indeed, be attributable to the fact that we are also a graduate institution and that library materials for those areas in which we have graduate disciplines--the sciences, Classics, History of Art, and Classical and Near Eastern Archaeology--are expensive. Yet, Oberlin Group comparisons show that our periodicals allocation is skewed by a relatively small number of scientific journals. Although we rank in the top ten for

periodical spending, our overall place in the ratio of the number of periodicals held to campus (i.e. students and faculty) FTE is 16th and lower than Swarthmore and Haverford. Whereas cooperation enables our users access to periodicals at Haverford and Swarthmore, users would--naturally--prefer the convenience of access within walking distance of their offices or laboratories. Our librarians--in consultation with the faculty--will continue to have to review acquisitions policies for books, periodicals and electronic materials.

2. Developing and Maintaining the Libraries' Information Resources

Careful review of the acquisitions budget during the course of FY 98 convinced the library administration that the budget is sufficient to support institutional research for graduate programs and the faculty without giving short shrift to the somewhat different needs and culture of undergraduates, but two challenges must be addressed. They are the continued inflation in the cost of materials and a misalignment between the strategies which have guided collections in recent years and the needs of the undergraduate programs. In certain cases, materials have continued to be acquired to support faculty and graduate-level research in areas where the College no longer has graduate programs. At the same time, however, it has been difficult to support curricular innovations in the undergraduate programs by allocating them a larger--and more appropriate-- share of the acquisitions budget.

The new library administration began in FY 98 to work closely with the members of the Faculty Library Committee and with pertinent administrative offices to reshape acquisitions policies with the goals of preserving traditional collection strengths while having the flexibility to support newer programs. Rather than rely principally on faculty members' requests for acquisitions in subject areas, the librarians are schooling themselves in order to offer knowledgeable assistance in collection development decisions. Librarians and faculty members will have to develop acceptable strategies concerning the choice among access options for various resources (e.g., on-site printed access; desk-top digital access; tri-college printed access; inter-library loan), rather than simply deciding whether we should acquire a particular resource. JSTOR, MUSE, and other full-text digital access programs which we now use are examples of such choices. It is worth noting, too, that traditional measures of a library's collections and operations will have to be adjusted to incorporate on-line accessing of materials.

3. Special Collections

The Libraries contain special collections, including rare books and manuscripts, Spanish-American books, and nineteenth- and twentieth-century literature. The College's Archives serve as a research and security repository for the official and personal papers of faculty, administrators and alumnae; a photographic collection of some 32,800 prints; and an oral history collection, begun in 1968. All Ph.D. dissertations of the Graduate School of Arts and Science dating back to 1888 are kept in the archives. Ph.D. dissertations and Masters' theses of the Graduate School of Social Work and Social Research are also on file. College catalogs and other publications provide information on the history of the education of women.

Since 1885, we have been acquiring fine art, archaeological, ethnographic, decorative art objects and rocks and minerals which now number over 50,000 objects. Collectively, these objects comprise the "College's Collections." Since the last Middle States review, we have added professional staff for Collections, consolidated collection types into fewer spaces, including a new prints and drawings study room, and catalogued approximately 10% of these objects on a database. We are making progress in developing a comprehensive policy to govern effective use of the collections in the future. An electronically-accessible catalog of the collections, linked to TRIPOD and/or the Web, will increase student and faculty patronage of the collections for teaching and research. The collections staff will continue to assess space and preservation needs of these resources.

Video and audio resource holdings are currently dispersed around campus, with the richest collections in the Language Learning Center. There have been some initial and inconclusive discussions about centrally cataloging, if not centrally locating, these video resources and about allocating more funds to build the collection(s).

The primary challenge for Special Collections is finding cost-effective ways of providing users access to these resources. We recognize the need to catalog unprocessed material, link existing catalogs to TRIPOD and/or the Web, and, in some cases, find more appropriate spaces for our resources.

4. Electronic Services

The Bryn Mawr, Haverford and Swarthmore libraries share a joint on-line automated library system, called TRIPOD, which is used for collection development, cataloging and circulation. TRIPOD's catalog provides access to the more than two million holdings of the three libraries, employing sophisticated, user-friendly searching for all physical and electronic materials. By 1993, TRIPOD included virtually all of the titles in the three collections and five Wilson journal citation databases. TRIPOD services continue to be extended and enhanced, with increased availability of on-line access, including Web-based access to the catalog. Patrons can request materials on-line, from one of the three libraries or elsewhere. Citation database access has grown exponentially and has been extended from single-user stations to the network. Some heavily-used databases are loaded locally, but we also take advantage of the increasing number of remote Web-accessible databases. Librarians are working among themselves and with various database vendors to implement ways to facilitate and enhance patron access to digitized information and inter-library loan requests. Access to full text materials is also increasing, as is the challenge to link these materials meaningfully to catalogs and citation databases.

Rapid evolution of data distribution methods, packages and search engines means that whereas there once seemed to be a clear path to information via the card catalog or the printed index, there are now scattered resources from different distributors, different search interfaces and different access methods. A patron who once looked at the card catalog for access to a newspaper now must consult Lexis-Nexis, FirstSearch and/or the on-line catalog. With the dispersion of digital resources, accessing any one information source has become immeasurably easier, but finding the right sources has become much more difficult. In response, the Libraries have added reference librarians, increased on-site and remote-access databases available to patrons, and extended service hours. Integration of information from remote sources with local resources is progressing on a tri-college basis, abetted by a grant from the Andrew W. Mellon Foundation.

Librarians and others continue to debate the merits of centralization and "reading room" models for organizing collections. Although centralization offers more efficient staffing opportunities and space usage, the reading room model can be more convenient for its users and enhance a sense of programmatic identity. In its central and satellite facilities alike, the Libraries will need to keep up with user needs. Increasingly, faculty and students draw on library resources, including traditional reference services, from their offices, dorm rooms, and public computer facilities. Librarians recognize the need to find creative and effective ways of assisting users wherever they access information. Five years ago the Libraries used very few microcomputers, whether for internal operations or patron use. Today there are nearly 100 computers within the Libraries, a number which rises as dedicated terminals are replaced. To take advantage of today's networking capabilities and meet the increased needs of staff and patrons, Canaday will need to be rewired. Further, the librarians believe that with their current desktop equipment they are not able to work as efficiently as they would like. Close cooperation with Computing Services has been, and will continue to be, essential to meeting demands for electronic access to information.

C. Computer Technology Support

1. Introduction

More than any other administrative department in the College over the past ten years, Computing Services has grown in staff numbers and in the size of its annual budget. In FY 88, Computing had a staff of 7.5 FTE; in FY 98, 17.4 (i.e. not counting 2.0 instructional technology staff members). Over the same period, Computing expenses rose from approximately \$510,000 to \$2,203,000. (See Appendix IV:1 on staffing patterns and IV:16 and 17 for budget figures.) Despite that growth, demands continue for increases in staff numbers; services and support; more equipment and more kinds of equipment; more space for computing staff and campus users; and a better, faster, more far-reaching infrastructure. Living with and managing this demand is a challenge to staff members, Computing Services and other administrators, and to traditional and newer heavy users among the faculty, students, and staff.

Since June 1996, Computing Services has been directed by Scott Cowdrey. Mr. Cowdrey has had to rebuild his staff almost entirely and to reorganize operations to provide better service, as basic technologies,

professional skill sets and campus needs evolve. He and his staff have also had to develop plans and procedures for the complex of campus-wide computer security and year 2000 issues. Whereas an earlier structure had Computing Services divided into "administrative" and "academic" branches headed by associate directors, the current structure provides computer technology support primarily through four divisions Administrative Data Systems, Computing Center Operations and Networking, User Services, and Academic Technology Services. See **Appendix II:6** for an organization chart and the next paragraph for a description of the functions.

Administrative Data Systems is responsible for maintaining the College's administrative information management system, a software application which, at its roots, is now more than fifteen years old and is scheduled for replacement (**see below, II.M and also, Institutional Resources, IV.D**). With new software, we expect to provide a range of functions not currently available, to extend access and services to faculty members and to students, migrating from a database and functions for administrative use only to an information system which supports and facilitates institutional and individual needs, alike. Administrative Data Systems is responsible for managing and supporting this transition. User Services provides basic support for desktop computers and network access campus-wide, administers the public computer labs and connects students' personal computers to the dorm network. It operates a Help Desk and is responsible for documentation of supported software. The Networking group has responsibility for all Internet and Intranet systems and services up to the wall plate in each office, classroom, dormitory room, laboratory, etc.; for network electronics, all servers, for e-mail, Web pages, and file/printer sharing operations. Local network services to major academic and administrative buildings are provided on a campus-wide, fiber-based Ethernet network. Internet services are provided via a 10 Mbps connection shared with Haverford and Swarthmore Colleges. A few older smaller buildings still use modems or Centrex services for their data communications and will have to be upgraded. As of September 1998, all the residential halls were either wired for Internet access or scheduled for such wiring within the next year. LAN services (print and file sharing) for both PC and Macintosh computers are provided through Novell NetWare and AppleShare via our Ethernet backbone. A small number of older Macintosh computers continue to use LocalTalk, which has been phased out in most areas due to widespread Ethernet availability. Academic Technology Services provide support to faculty in developing instructional materials, in part through the Instructional Technology Team (**see below, II.E**) and in using technology in classrooms (**see below, II.D and II.G**).

2. Desktop Equipment, Principally for Academic Programs

We provide a desktop computer in each faculty office; the computers are capable of supporting an Internet browser, e-mail, and fundamental productivity software (word-processing and spreadsheet applications). For academic departments, printing facilities are regional. We are unable to provide or support a printer in each office, a vexing issue for faculty members. All administrative offices are also furnished with desktop computers and software. As of fall 1998, approximately 700 desktop computers were in use in faculty and administrative offices, academic support departments, and in public access bays for desktop functions. (This number does not include computers in science laboratories and classrooms, nor those dedicated to specific administrative tasks, such as voice-mail, Dining Service and Facilities Services functions, etc.). Adding to the richness--or, complexity--of basic computer support for the Computing Services staff, other staff members and users themselves, is the fact that we are a tri-platform environment, with approximately equal numbers of Macintosh and PC users (the latter are all on Windows 95) and a smaller number relying on UNIX operating systems. In many cases, within departments--both academic and administrative--both Macintosh and PC platforms are in use because of personal preferences; in some, both must be used because of software needs. One of the issues with which the College and Computing Services is contending is whether we can afford to maintain support for two platforms, a debate that is not independent of recent volatility in Apple's fortunes. Support for the UNIX computers, primarily supporting research and teaching in the sciences, has been a troublesome issue, with UNIX-using faculty members preferring to have their own dedicated support personnel, and Computing Services preferring a centralized approach because of efficiency and security concerns.

We have organized and support a replacement cycle for desktop computers, known as the "cascade." We assume a five-year life for these units and maintain an inventory of all desktop computers on campus. Most computers begin their service at the College in one of the public computer labs in order to meet the perceived need of students for the most robust equipment, capable of supporting the newest applications. Each summer these computers are replaced and moved to faculty and administrative offices. The older computers are moved to offices

where computer needs are modest or are sold to used computer parts dealers. Whereas this approach gives students the latest and best equipment, it is labor- and time-intensive and requires multiple moves and set-ups, and may, therefore, be reviewed and revised.

3. User Training and Support

Although we, as an institution, recognize that responsibility for acquiring basic information technology skills lies with individual members of the faculty, staff and the student bodies, the burden of making things work falls on Computing Services. And although we, as an institution, recognize that each student and member of the faculty and staff should be expected to use her or his desktop hard- and software, and diagnose basic problems, the burden of dealing with problems falls disproportionately on Computing Services. At the core of its strategy for responding to user difficulties with information technology lies the Help Desk. As of September 1998 the Help Desk is open seven hours a day, five days a week, and is staffed by Computing Services professional staff on a rotation schedule and trained student workers. Telephones, voice-mail, and e-mail communications extend the Help Desk range of assistance and hours. We recognize that more and deeper Help Desk services would be welcome. The partnership with the Libraries, especially in the last year, in providing more extensive assistance with the technologies available in their facilities--whether involving the use of basic or more advanced applications, dataset manipulation, or, simply, a jammed printer--has been welcome. The cooperation and coordination in providing services and expertise and planning for the future which now exists between the Libraries and Computing Services (both at the College and within the tri-college community) is a model for other partnerships within our academic support services.

4. Outlook for the Near Term

With its new direction, revised internal structure, recent additions to the staff, expansion in workspaces, an extensive campus network, an internally-funded replacement cycle for desktop support, replacement of the hard and software supporting the College's administrative functions under way (see below, chapter IV.D), and many cooperative approaches to support and planning in place, Computing Services is in a relatively stronger position than it was several years ago. However, requests for more staff and larger annual operating and capital budgets may be anticipated, backed by vociferous local demands and comparisons with similar institutions of the level of support for computing operations. Annual surveys by COFHE and the Consortium of Liberal Arts Colleges (CLAC), a cohort of 64 peer institutions, suggest that we continue to lag in spending and staffing, although it is difficult to compare data in a meaningful way. With particular respect to academic support, Computing Services will continue to be challenged to provide reliable and robust data transport; take advantage of and maintain sophisticated data storage and retrieval systems for large volumes of data; supply sufficient technical support; and to provide appropriate technical support to other offices and individual users. With the guidance of Computing Services, the College must find ways to balance information access and the ability of public computers to meet diverse user needs while maintaining appropriate levels of security. Within Computing Services, there is the challenge to maintain high staff morale and effectiveness. In sum, Computing Services--and the College--need to develop long-term strategies to manage the demand for increased computer technology support.

D. Classrooms

Classrooms remain the primary environment in which faculty and students work together. According to a survey conducted in FY 96, roughly half our classrooms were networked; many had VCR/monitor facilities (or such equipment nearby); a lesser number had slide projectors, overhead projectors and projection screens; and two classrooms in the sciences had video-data projection systems. Better classroom facilities existed in some sectors of the campus (principally the science buildings) than elsewhere (e.g., Dalton, English House, Thomas), and these better facilities characteristically resulted from capital projects supported by outside funding rather than campus initiative. Since January 1996 and in response to a presidential directive, the Provost's Office has taken on the oversight of classrooms in recognition of the importance of appropriately-furnished, -equipped, and -maintained settings in which faculty members may teach and students learn with facility, regardless of the discipline and the availability of external sources of support. We have made a substantial commitment to improving these teaching spaces—not only for information technology readiness, but for general appearance and better congruence with

student and faculty needs. We now maintain them through the annual operating budget process, vigorous pursuit of outside support, and rigorous, annual inspection tours.

By fall 1998, the technology we have available in classrooms throughout the campus is vastly and significantly improved. The clearest indicator of that progress is that we now have 11 classrooms with fixed (i.e. ceiling mounted) video-data projection systems (one in Dalton, three in Thomas, two in Carpenter, one in Taylor, four in the sciences). Additional mobile video-data systems are available for classroom use in Biology, Guild/Language Learning Center and Social Work and Social Research. As "smart" as any of the classrooms with fixed video-data systems are three new seminar rooms in the Rhys Carpenter Library, which offer instructors the use of dual platform computers, fast network access, large wall-mounted monitors for video-data display, a shared laser disk player and slide projection. As of FY 99, the College is budgeting replacement funds for classroom technology, estimated at \$90,000 a year.

Smart classrooms have consequences for faculty members and academic support services. More burdens are placed on Computing Services and allied departments to add to the array of equipment and keep up with its maintenance. Increasing numbers of the faculty will require training and assistance to make effective use of these spaces. Permanently installed equipment is expected to decrease the pressures on Media Services to provide portable equipment for classroom applications.

One of the more challenging aspects of classroom assignment is the popularity of certain time slots. We have more than enough classrooms were the course offerings to be spread more evenly throughout the five-day week. However, accommodating the scheduling preferences of students and faculty creates a compression of the schedule, and, more importantly, contributes to conflicts which affect the students' ability to have a wide range of choice in their courses. This is a very difficult cultural problem: How can we, as an institution, encourage the faculty to offer classes using more of the available course schedule? How can we encourage departments (especially allied departments) to work together to schedule their courses in a manner sensitive to student needs rather than departmental convenience?

E. Instructional Technology Support

Ten and even five years ago instructional support--beyond that provided in the Libraries and Computing Services--consisted of a Visual Resources department, an Audio-Visual department, and the Language Learning Center. These departments continue to provide instructional support, but now are complemented by an instructional technology development center (including high-end Macintoshes and PCs, scanners, audio and video digitizing equipment) and additional professional staff who assist the faculty to develop digital materials for their courses; assist faculty and students engaged in research projects available in digital format; instruct faculty in the use of the new smart classrooms; and work with faculty to develop new modes of conceptualizing and presenting knowledge to take advantage of new technology and meet the needs of the current generation of students.

The Instructional Technology Team (ITT), in place since fall 1997, is comprised of the Directors of Computing Services, Libraries, the Language Learning Center and the Digital Media and Visual Resource Center; the Senior Technology Specialist in Computing Services; the Instructional Technology Coordinator for the Social Sciences; and the Libraries' Electronic Information Resources Coordinator. ITT, which is convened by the Associate Provost, is charged with anticipating and meeting the needs of the faculty for instructional support. This fall we invited the head of the Committee on Academic Computing to join the team and participate in our meetings, thus providing for better communication between faculty and administrative groups who share a basic common objective of facilitating teaching and research through the use of technology.

Although well-received by those who attend the various ITT presentations, those presentations have been, in fact, sparsely attended, principally--we believe--because of time pressures on members of the faculty. In addition to scheduling conflicts which inhibit some from participating, others feel they simply do not have the time to invest in mastering new applications and incorporating digital technologies into their courses. At present, the number of staff members providing instructional support is more than adequate to handle faculty requests, but this situation will change as more and more members of the faculty (perhaps, especially, new members of the faculty)

adopt digital technologies for their courses. In support of these endeavors, we offer a number of grant- and College-funded opportunities for curriculum development projects which aim to incorporate digital materials and technologies in existing or new courses. The most recent and substantial of these is the award from The Andrew W. Mellon Foundation to the three colleges, which provides us with the incentives and structures to further instructional technology objectives within a tri-college framework.

F. Language Learning Center

Since August 1997, the Language Learning Center (LLC) has been staffed by a full-time Director. Previously a full-time faculty member bore the additional responsibility of overseeing the LLC. The current Director teaches a course in the Russian department, is a member of the Instructional Technology Team, consults regularly with language department chairs and the faculty, and reports to the Office of the Provost. Working with a cohort of student workers, whom he trains and supervises, the Director sees that the LLC meets these objectives: providing curricular support, researching and promoting new technologies and teaching methodologies, promoting language learning through student-centered instructional materials (Computer Assisted Language Learning, CALL), and supporting language learning research and the creation of CALL programs.

Over the past ten years the LLC, which is located in Denbigh Hall, has expanded from a facility which provided support for the audio segment of language courses to a center which supports audio, video, computer-centered technologies, and satellite programming. When first built in 1986, the LLC had 22 stations equipped with audio capabilities and a centralized console for optional control of the audio lesson. Later innovations included a sound booth for creating audio materials; video stations for viewing foreign films; a satellite dish for receiving foreign news and cultural programs; and multimedia computers. The LLC now has 20 computers for students, two multimedia development stations for faculty, two satellite dishes for receiving foreign language broadcasts, and a server for administering the lab and for the delivery of Web-based teaching materials.

With these upgrades the LLC no longer simply supports language courses, but is actively engaged in the teaching and learning of foreign languages. Significant, too, in the operations and mission of the LLC is cooperation with Haverford and Swarthmore Colleges, nurtured by a 1997 grant from the Andrew F. Mellon Foundation to the three colleges explicitly for the advancement of their language pedagogy. The grant, administered at Swarthmore College and overseen by a tri-college committee of faculty members and administrators, has enabled the colleges to hire and share the expertise of two language support staff, who are helping faculty members develop teaching materials. Tri-college cooperation thus helps advance language instruction locally, but this close cooperation also makes evident the shortcomings in our facilities. Haverford's and Swarthmore's newer labs were planned facilities, resulting from a comprehensive review of the functions they were expected to serve. We recognize that we will need to engage in some comprehensive planning for our LLC, so that it may continue to advance our foreign language programs.

G. Media Services (Audio/Visual)

Working within the Academic Technology unit of Computing Services, Media Services (formerly Audio/Visual Services) has a two-person staff and relies heavily on student part-time workers to meet the campus' needs. It maintains its own inventory of basic equipment; attends to equipment dispersed throughout the College; and schedules, delivers and/or sets up equipment by appointment for classes and events. Media Services provides technical support and coordination for video filming and editing for faculty and staff projects. It is integrally involved in both the design of "smart classrooms" and their operations and maintenance. As we expand the availability of technology in classrooms, Media Services staff members require deeper and more varied professional training, which good working relationships with Computing Services staff and the ITT help advance.

H. Digital Media and Visual Resource Center

Since the last Middle States self-study, Visual Resources has experienced numerous fundamental changes. It has moved to new facilities in the Rhys Carpenter Library; experienced a nearly complete turnover in staffing, including new direction; amplified its mission; and been renamed the Digital Media and Visual Resource Center (DMVR). It currently reports to the Office of the Provost, rather than being a part of the Libraries. Digital tools and approaches have had a reshaping effect on many operations. Still, the core mission is to provide pedagogical images for three academic programs, namely the History of Art Department, the Classical and Near Eastern Archaeology Department, and the Growth and Structure of Cities Program. Faculty members in History, Latin and Greek are also patrons of the DMVR.

Support for these programs continues to be achieved mainly with 35mm slides; there are now approximately 200,000 in the collection. Each year between 5,000-10,000 new slides are added to support new courses and fill gaps in the collection. New slides are now entered into a state-of-the-art digital catalog (called EmbARK), but retrospective cataloguing is a major challenge. By the end of FY 98 the most recent 25% of the collection has been catalogued. Since FY 95 the Center has increasingly turned to supporting the development of and access to digital images for projection in classes and, especially, for course study folders. Increasingly, we are enabling students to access such study images from public computer labs and, where the network allows, their rooms. We have begun to participate in collaborative digital imaging projects with other institutions, which promises to spread the load of scanning and creating interfaces for such sets, and to greatly enrich our access to pedagogically-targeted image sets. DMVR staff members help students master these technologies. In turn, student help is essential to both the traditional analog and new digital services of the DMVR.

In time, digital media for pedagogical uses may displace analog images, especially slides, with the timing dependent on the pace of technological improvement and the faculty's willing adoption of and preference for digital modes. In the shorter term, there is the prospect of DMVR providing pedagogical images for a wider range of instructional departments and making some unified controls for these as the desire for such services in a centralized system emerges. The challenge to DMVR in the nearer term is to manage such transitions, to continue to fulfill its functions and husband its resources intelligently, as the curriculum develops and digital revolution evolves.

I. Curriculum Resource Center

The Curriculum Resource Center (CRC) both represents as a physical space and provides in its holdings the multiple perspectives and resources necessary for academic excellence in the College's Education program. The CRC is in the process of expanding its collection, as mandated by the Pennsylvania Department of Education for continued certification of students participating in the program. (**Appendix II:7** provides a detailed description of the CRC and discussion of the needs and challenges facing it.) Used principally by students in the Education program, the CRC also strives to be a resource for other members of the College community who wish to pursue discussions of pedagogy. The CRC is available as a meeting place and resource for all members of the community who wish to study, discuss, and pursue more effective educational practices.

J. Writing Center

With the inception of the College Seminar program in FY 98 (**see above, Academic Programs, I.A.2.a.6**), the need for writing support services increased and the responsibilities of the Writing Center were enhanced. The Center is now located in Canaday Library and is under the leadership of a Director whose duties include recruiting and training peer writing tutors, teaching in the College Seminar program, and advising faculty on writing matters. The Director reports to the Undergraduate Dean and the chair of the English department. The Center provides walk-in consultation for students. Students are referred to the Center by faculty members teaching in the College Seminar program, deans and, to a lesser extent, those teaching other courses. The Center has a goal of promoting its use by students in courses other than College Seminars and to educating the faculty in the ways the Center can support the writing done for their courses. In FY 98, most of the Writing Center's patrons were self-referred, suggesting that many students recognize their own need for further skill development.

While the College Seminar program strives to provide the level of writing instruction appropriate for most first-year students, we must give some thought to addressing the needs of two significant minority student populations: those whose reading, writing and critical thinking skills do not develop to the level of basic competence during their first semester at Bryn Mawr; and those whose first language is not English. The critical thinking skills of the students in the second group may be well-developed, but their lack of fluency in standard written English may mask those skills. Other longer term goals include: (a) changing the perception within the community on the proper locus for instruction on writing so that instruction is given through the disciplines and normal course work, rather than being the distinct purview of a support service, and (b) developing ways to structure and guide writing services that support disciplinary writing instruction within departments.

K. Grants Supporting Instruction and Research

1. Outside Support for Instructional Innovations

We keep informed of new funding opportunities in a variety of ways and principally through the Resources Office, which plays a major role in providing information on foundation, corporate, and government programs and soliciting grants from these organizations for instructional support, involving both equipment and curriculum development projects. The Director of Foundation and Corporate Programs works closely with the Provost, faculty members, and other administrators to develop clearly defined curricular projects and prepare proposals, consistent with the institution's priorities. Awarded grants are typically administered in the Provost's or Undergraduate Dean's Office. Our efforts are comparable to those at most of our peers institutions (i.e. highly selective liberal arts colleges), which usually have one or more staff members dedicated to obtaining programmatic support from foundation and corporations. See **Appendix IV:11** for a listing of the major grants received over the last ten years. Recent initiatives, particularly by The Pew Charitable Trusts and The Andrew W. Mellon Foundation, have been instrumental in helping us to enhance and expand our academic programs and support services through significant and targeted Bryn Mawr-specific and inter-institutional grant programs. Bryn Mawr, Haverford and Swarthmore Colleges currently hold three such Mellon grants.

As valuable as grant money has been, we are keenly aware of some of the dangers it creates. Occasionally we receive a grant before the faculty perceive a strong need for the program it supports, resulting in a sluggish start for the program, or at worst, the perception that outside money--or the administration--is unduly influencing the curriculum or a faculty member's autonomy. Moreover, faculty and staff positions made possible by grants eventually need to be mainstreamed into the operating budget or eliminated and new equipment made possible by grants must be maintained and, in time, replaced.

2. External Research Grants

The Office of Faculty Grants is responsible for assisting members of the faculty and staff, and graduate students in the acquisition of external funding to support research and other projects. The Director of the Office of Faculty Grants is responsible for all pre- and post-award administration, including understanding and anticipating individual research support needs, investigating grant opportunities and making them known via office publications and personal contact, and maintaining appropriate records. Despite the relatively modest staff devoted to this enterprise (i.e. the Director, assisted by some part-time student help) and the small size of our faculty, Bryn Mawr faculty do better than our peer institutions in submissions and awards. Within this peer group, Bryn Mawr faculty members have a 68% funding rate (awards to submissions); most of the peer institutions have a funding rate below 55% and the national average is in the 25-35% range (see **Appendix I:18**). **Appendix II:8** summarizes externally-funded research support over the last ten years.

[deletions]

M. Student Records

The Registrar's Office enforces Faculty Rules and the stated policies and procedures of the Undergraduate Council and Curriculum Committee. The office facilitates the instructional mission of the College by providing

the administrative framework for course registration, grading, student advising, scheduling of classes and examinations, tracking degree requirements and maintaining basic student records. The office also provides statistical data for faculty and staff for use in departmental and general deliberations and for federal, state and other outside agencies. The office processes transcript requests, loan deferment and enrollment verification forms, and produces lists and labels for the campus, chores not directly related to instructional support but which add to the smooth functioning of the campus community.

While technology use in the Registrar's area is probably comparable to other small colleges and universities, the present administrative computer system (AIMS) does not provide on-line access to student academic records by the faculty, students and most administrative offices. A new system (**see below, Institutional Resources, IV.D**) will broadly enhance the entire academic enterprise, provide faculty with interactive access to pertinent student records, encourage more efficient utilization of classrooms, and enable students to "do business" directly with the system (for example, update phone numbers and other personal information online, view course grades, request transcripts, register for courses). The new system (and the process of getting there) should identify and eliminate many difficulties we currently face, such as accommodating (1) our extensive course exchange with Haverford; (2) the explosion in new courses (we are running out of course numbering ability); and (3) the many methods, electronic and otherwise, by which offices and individuals send and expect to receive information.

[deletions]

O. Issues for the Future

Two themes run throughout our description of academic program support services: the continuing impact of information technology and the necessity for intradepartmental cooperation. In significant measure, it is the information technology revolution that produces the need for broad and effective cooperation. Our librarians are meeting the challenge of a profession in which operations have fundamentally changed in recent years as libraries have become less and less repositories of knowledge than conduits for the dissemination of information. As this happens defining boundaries of all sorts are dissipating, among locations on campus, between the campus and the rest of the world, between what we have available in our collections and what can be found elsewhere; and our librarians must mediate these changes. Meanwhile, Computing Services copes with accelerating demands for equipment, help desk and other support services, network access and bandwidth. Many students and faculty members expect to draw on a rich array of new multimedia options in the classrooms and for their courses, while others are discomforted by these new options and see them draining resources from traditional academic supports. This transitional era--whose terminus, if any, is distant and unknown--is challenging and costly. We must, however, retain this focus: these services support our academic mission by advancing and facilitating teaching and learning. Teaching and learning are our mission. Our challenges are, therefore, to:

- Remain cognizant of the trade-off between ever-increasing appetites for academic support services and facilities, on the one hand, and the direct support of the faculty and academic programs, on the other hand.
- Have the appropriate administrative structures and advisory bodies, clear lines of departmental responsibility, robust patterns of intra-institutional coordination and cooperation, and strong inter-institutional partnerships.
- Take advantage of our new budgeting process (**see Institutional Resources, below, IV.F**) to set budget priorities institutionally and over a multi-year period. Whereas the traditional budget process had encouraged each of the departments and offices to identify its own needs and on an annual basis, this institutional innovation challenges us--and also enables us--to confront the expensive and cross-disciplinary nature of the issues facing most academic support offices and to undertake cost-effective strategies for addressing them.