Wayne County Community College District

TECHNOLOGY PLAN

September 2001
September 26, 2001

Dr. Mary B. Breslin, B.V.M.
The Higher Learning Commission
North Central Association of Colleges and Schools
30 North LaSalle Street, Suite 2400
Chicago, Illinois 60602-2504

Dear Dr. Breslin:

The College respectfully submits its comprehensive technology plan in response to North Central team November 1999 site visit recommendations. This plan covers areas of concern, such as faculty in-service training for the purpose of integrating technology into academic programs, expanding ITV capability, and increasing administrative support.

The administration appreciates and values all suggestions and recommendations made by the North Central team. Our technology plan will provide the direction that is needed to keep pace with technological advances, and to continue offering the best curriculum and services to our students and community.

Sincerely,

Dr. Curtis L. Ivery
Chancellor

/enclosure
Wayne County Community College District

TECHNOLOGY PLAN

Prepared by:

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Under the Direction of:

Dr. Curtis L. Ivery, Chancellor

for Submission to:

The Higher Learning Commission
North Central Association of Colleges and Schools

September 2001
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WAYNE COUNTY COMMUNITY COLLEGE DISTRICT
TECHNOLOGY PLAN

Introduction

Wayne County Community College District must incorporate the use of instructional
technologies in its plans for the future if the College’s mission of providing affordable,
accessible, and high quality education is to be accomplished. Each campus and district
operational unit must plan, develop, implement, maintain, and manage in a cost-effective
manner the informational technologies, and related resources necessary to support
teaching and learning, and staff development. Just as important is the utilization of
technology in the efficient operation and management of the College by administrators,
faculty, and staff for the purpose of delivering high quality education to students.

Background

NT Domain
Chancellor Curtis L. Ivery engaged the consulting firm of Pierce, Monroe & Associates,
LLC in August 1999 to review the District’s network hardware/software to determine its
technical validity, and to determine its networking requirements. It was concluded that
the College needed to build a multi-media-networking platform to support existing and
future networking technologies. The purpose for this network was to enable the College
to effectively support an integrated work environment throughout all the campuses,
support distance learning, share information, and provide Internet connectivity.

The infrastructure was in place for the Fall 2000 semester. Nine hundred new personal
computers were distributed to staff and student computer labs throughout the District. IP
printing was implemented throughout the District as well. An NT domain was built and
new email applications were installed. All users received training prior to being brought
into the domain and were given access to the new tools. A slow and unstable ISDN
network was replaced with a high speed OC3 ATM network at all five campuses, and the
district administration building. The information technology infrastructure is essential to
the integration of new teaching strategies and techniques in the classroom and to support
the development and delivery of distance learning.
WCCCD TECHNOLOGY
HISTORICAL PERSPECTIVE

- Prior 1987 — SCT Facilities Management
- 1987—Hire Internal Staff, SCT Software
- 1988—Campus Network, 100 pc’s/300 Terminals
- 1991—UNIX Platform, EDEN-OA & IFAS
- 1996—400+ PC’s, 300 Terminals
- 1997—600+ PC’s, 250 Terminals
- 1999—1000+ PC’s, 150 Terminals
- 2000—1500+ PC’s, 20+ Network Services
- Multiple Operating Systems

Infrastructure Maintenance and Enhancement

In April 2000, the installation and implementation of a new network infrastructure was completed at WCCCD. This infrastructure has a great deal of growth potential built into its equipment. Thirty three (33) wiring closets at six locations house the routers, hubs and switches necessary to operate the high-speed ATM network implemented in fiscal 2000/2001.

At this time, the District is utilizing less than half the bandwidth available for Internet access at peak usage. Average utilization is approximately one-fourth (1/4) to one-third (1/3) of the bandwidth available for Internet traffic.

Infrastructure maintenance has been delayed due to a lack of adequate staffing. However, recent firmware upgrades have increased efficiencies of infrastructure equipment. A rollout plan is in development to bring all firmware up to current revision levels. A maintenance program is also being developed to sustain necessary equipment upgrades.

Plan

The College technology plan is created as a journey not a blueprint. Due to the on-going proliferation of technology, this area will continue to be a work-in-progress with the ability to be responsive. The College is compelled to incorporate the latest technology applications, and to provide students with practical applications, along with experience in the use of these technologies, if it is to meet the needs of business and industry, as well as promote the economic development of the community it serves.
Major Goals

1. Installation and implementation of an Information Technology Help Desk
2. Completion of Payroll and Human Resources Interface
3. Selection and installation of telecommunications system
4. Selection, installation, and implementation of student information system
5. Redesign and development of College website
6. Computer room redesign and renovation
7. Development of Asset Replacement and Upgrade Plan
8. Adoption of Acceptable Use Policy
9. Voice Response System

Process

Standing Committee on Technology
The creation of a Standing Committee on Technology (SCOT) was charged with
development and implementation of a process to identify institutional objectives that
require new or additional funding for technology. The resulting report and
recommendations submitted to the Executive Committee will allow the College to
strategically fund technologies that facilitate these objectives.

The composition of the Standing Committee on Technology includes one representative
from each campus, one representative from each division, the Director of Information
Technology, the Associate Deans of Arts and Science, Career and Technical Education,
and Educational Technology. Each campus and division representative formed their own
committees for the purpose of developing prioritized campus and divisional objectives
and technology needs. A Strategic Planning for Technology Worksheet was developed to
facilitate this process, and to standardize the data elements and format. The worksheet
was distributed to faculty in the Fall 2000 Faculty Organization Day packet, and to staff
through department supervisors (Appendix A, SCOT Structure).

Worksheets that include multiple locations were shared, as the process indicates, for
prioritizing at each location. Each campus and division committee was responsible for
collecting, compiling and prioritizing objectives for their location or division. Summaries
of this information, along with the detailed worksheets were submitted to the Standing
Committee on Technology chair and subsequently to the Executive Committee. This
process will be reviewed periodically to document priorities (Appendix B – Worksheet
Examples).

Infusion of Technology into Academics

WCCCD has a faculty committed to teaching and learning. The District has a number of
technology sophisticated faculty and administrators who see the value of technology and
are eager to embrace these resources to support the learning environment. The
Department of Educational Technology (DET) assists the instructors with exploration and implementation of appropriate technologies to meet course objectives as established by the discipline, and to ensure the integrity of the curriculum.

Along with exploring and implementing appropriate technologies, the DET disseminates knowledge of these resources, and is responsible for assisting in the development, support, and evaluation of technology resources. The department trains and certifies faculty to use a variety of technologies. It also serves as a conduit between the faculty and the Information Technology Department (IT). Trained staff also serves as delivery support. The Dean of Educational Technology is the district representative to the Michigan Community College Virtual Learning Collaborative.

**Academic Goals**

- To inform students of their role in learning with each delivery stem.
- Maintain an awareness of current and future technology in order to promote recommend. and facilitate appropriate use of technology in the classroom, in teaching and learning, and in business operations.
- Develop, recommend and apply standards and policy related to computing and telecommunications technology.
- Continue to provide training for technologies.
- Enhance student learning of course objectives through the integration of technology into the curriculum.
- Provide optimal support for the development implementation and delivery of instruction using technology.
- Enhance faculty delivery of instruction by using technology.

**NETg**

Michigan’s Governor, John Engler, has implemented an Information Technology Training Initiative, in which Wayne County Community College District is participating. The initiative provides over 700 free online courses for all Michigan students, faculty and staff. This initiative is an education-based, information technology partnership of Michigan Virtual University and NETg, a global leader in e-learning.

Wayne County Community College District may use any of the 700+ courses available through NETg and use them as content, around which a curriculum can be built to expand the instructional offering to students. In addition, these courses are being used by staff to address personal training needs and increase technological skills.

**Telecourses**

Telecourses are developed and distributed through the telecourse tape library at the Campuses Learning Resource Center. Telecourse materials for students, such as outlines and homework are currently distributed by the bookstores at the time of textbook purchase and by the US mail. These materials can be distributed electronically through the District’s website which allows students to download and print materials from PCs located in all campus labs, from home, office, or any other site with Internet access.
ITV
Two campus sites are equipped with ITV classrooms. Additionally, computers were installed to enhance the flexibility in delivery. Support services for the development of course materials, i.e. graphics and presentation materials are provided through faculty workshops (Appendix C-1).

Internet Courses
This is increasingly an area of growth. The District’s participation in the Virtual University has prompted this interest. Not all Internet courses are offered through the Virtual University. Training for this medium is also provided for faculty. Blackboard provides the format (Appendix D).

Lutheran High East Extension Center
Distance education has enabled the District to reach areas of the city, county, and state which were not before possible. Partnerships such as the Lutheran East School Center increases access for patrons on the eastern end of the District who wish to increase their knowledge and skills. Initial offerings at the new extension center include Microsoft Office User Specialist (MOUS) certification classes, as well as some entry-level academic courses.

Strengths
- Faculty has established a faculty-to-faculty support group for the development of courses for delivery on the Internet. This is known as the Faculty Technology Mentor Program.

- Dean of Education Technology conducts training twice a year for faculty interested in a distance learning modality. No faculty can be assigned a class involving distance learning unless they have completed the training. Written procedures are in place (Appendix C-2).

- A standardized format through Blackboard is used to construct Internet courses. The standard departmental syllabus is used with the same learning objectives being met by on and off-campus students. Assessment criteria and core competencies remain the same.

Challenges
- Continue to assess students adaptability to distance learning.

- Provide essential technology training and certification in a timely manner.

- Provide adequate hardware/software/personnel for technology training implementation.
Voice Response System

WCCCD has acquired a PC-based Interactive Voice Response (IVR) and Telephony (CTI) platform utilizing industry standards and Windows NT as its multi-tasking operating system. It is designed utilizing a modular approach that provides an open-architecture environment for the incorporation of multiple voice response and telephony applications. This system will allow the College to take advantage of the wide range of IVR, Telephony, Internet, and Fax technologies currently available for PC platforms. It utilizes Dialogic voice processing hardware for all call transactions. WCCCD will be provided 24 hours per day, 7 days a week support as part of the standard system maintenance. Installation, mostly of which is complete, needs to resume, and the project needs to be completed.

Telephone System Replacement

Current System and System Needs
WCCCD currently operates with a Siemens telephone system that is nearly two (2) decades old. This equipment severely limits the District’s ability to efficiently and effectively service our students.

Wayne County Community College District plans to implement an enhanced telecommunications network. This network will be used to provide administrative information, enhanced telecommunications, and increased educational delivery for all instructional disciplines within the District.

Due to the complexity of this project, and the need for dedicated focus on development and implementation, WCCCD will utilize the skills of consultants to analyze telecommunications requirements. Consultants will be used for project management, as well as network and telecommunications expertise. A consulting team will review the existing network and telecommunications architecture. They will develop telecommunications network requirements, review and evaluate current usage of local and long distance telecommunications systems and services, ATM network bandwidth utilization, redundancies and existing circuitry. In addition, they will determine future telecommunications needs, planning for growth over the next five years, including the District’s need to integrate educational objectives and expand distance learning technologies, integrate VoIP, PDA’s, telephone registration, student information system interface, voicemail, email, fax, streaming audio and video, remote access and system feature synchronization.

Finally, consultants will develop requirements and prepare a telecommunications RFP for submission to prospective telecom vendors, including vendors for unified messaging systems.
**Recommended Replacement**
Once submissions have been received from various telecom vendors, consultants will work with IT Department management to analyze the RFPs and make an informed recommendation to District management.

**Equipment Maintenance and Replacement**

**Inventory System**
In fiscal 2000/2001, WCCCD implemented an inventory tracking system that records and maintains information on District assets. All fixed asset inventory with a value over $500 is tagged with a bar code and scanned into the inventory tracking system. The system being used is the Fixed Asset Tracking System (FATS) which operates on a Windows platform.

Currently, staff from Auxiliary Services conducts a bi-annual inventory of assets at all six District locations. Equipment that is located off-site is scanned into the system prior to shipment to the appropriate facility. Currently, over 5000 assets are recorded and maintained, including all PCs and network infrastructure equipment. Asset reports are provided to, and reviewed by, financial management. Inventory Control Forms are used to record the movement of equipment between locations.

**Asset Placement and Upgrade Plan**
Over 900 new PCs were rolled out to staff and student labs throughout the District in 2000. Approximately 600 new PCs remain to be upgraded or replaced. The initial capital expenditure for these 900 PCs was necessary, but financially stressful on the District. To eliminate the future financial stress of a large capital expenditure, an upgrade/replacement plan must be developed to systematically upgrade and replace PCs (and other IT equipment) as new technology becomes available and existing technology becomes out-dated. The District cannot afford to allow IT assets to languish and become obsolete to the point of necessitating another huge capital investment. Equipment must be maintained, upgraded and/or replaced in a well-planned manner, with forethought and consideration given to growth, changing technology and financial ramifications.

IP printing was implemented throughout the District last year as well. These printers are just now, or will be shortly, exceeding their warranty period. Therefore, it is necessary for District management to review and research some type of printer maintenance and repair contract for this equipment. Again, District management is in the process of researching and evaluating their options.

**Computer Room Renovation**

The College employed the services of Computer Environment Services, Inc. in August 2001 to conduct an audit of its computer room environment. The results of the audit
reveal concern in four areas: air conditioning, fire protection system, power quality, and the security system.

**Air Conditioning Upgrade**
The computer room has two Edpac Glycol type computer room air conditioners built in 1980 that need to be replaced, and should be given high priority. The frequent breakdown of these units places the College at great risk of damage to hardware and data. The recommended replacement is one Free-Cool Air conditioning system rated for 160,000 btuh of cooling @ 72/60 design condition in mechanical cooling and a minimum of 140,000 btuh of cooling in free cool mode.

**Fire Protection System**
The College needs a fire protection system that include vapor and smoke barriers, and improved fire sensing equipment. Removal of the perimeter walls and ceiling, and construction of exterior walls of materials design to protect against heat, smoke, and acrid gasses is also recommended. Finally, a reduction in computer room space, and installation of racks for equipment is recommended.

**Electrical Power Quality**
The WCCCD computer room has three different sources of power, none of which has any power protection. Issues concerning power disturbances and overloads exist. The installation of a 40 kva/40 kw, N+1 fault tolerant UPS capable of supporting a unity output power factor load and a 50 kva/42 kw PDU is recommended. Also recommended is the routing of all computer power under the floor via U.L. listed, flexible, water resistant power distribution cables. Other recommendations include installation of a stand-by generation, and the banning of space heaters in the computer room.

**Security System**
The College needs to install automatic mechanical closure systems that:
- Require some form of security clearance to open from the outside.
- Doors should not require any code or key to exit the room.
- Alarm in the event that the door is propped open.
- Is impenetrable to fire, smoke, acrid gas and water.
- Automatically closes in response to an alarm signal from a computer Room and base building alarm system.

**Major Systems Replacement**
Currently, the District maintains two management information systems, both implemented in the fall of 1993. The student system, Eden-OA, operates in a UNIX environment using an Informix database. It consists of the following major modules:
- Admissions
- Student Records
- Financial Aid
- Student Bursar
- Standard Reports
This system, owned by Sigma Systems, Inc. of Denver, Colorado, is currently not Sigma's major product, and does not receive the development and maintenance to the extent that other Sigma Systems products receive. Support for this system is sorely lacking, and in all likelihood, future support will be non-existent. Currently, there is no user-group to lend support, and share ideas for development, or offer solutions to problems. Any modifications made by Sigma Systems in the future will be costly—if made by WCCCD, will be unsupported by Sigma.

The WCCCD finance system, Interactive Fund Accounting System (IFAS) is an application owned by SunGard Bi-Tech—headquartered in Chico, California. Bi-Tech provides financial and human resources systems to colleges and universities. The foundation of its software is the Relational Database Management System (RDBMS) from Informix. The District employs both systems. The HR system, however, is an old version and is not integrated into the finance system. An interface is accomplished through batch processing. The major system modules currently in use are as follows:

**Financial**
- General Ledger
- Accounts Receivable/Cash Receipts
- Accounts Payable/Encumbrances
- Payroll
- Budget Item Detail
- Fixed Assets
- Bank Reconciliation
- Purchasing
- Report Writer

**Human Resources**
- Person/Entity
- Applicant Tracking
- Employee Demographics
- Employee Benefits
- Employee Evaluation
- Faculty Seniority

**Recommended Replacement**
A new student system must contain all major modules that are found in the Eden-OA system. The College needs to maintain the ability to track admissions, schedule classes and rooms, assign faculty, register students, maintain academic history, award and disburse financial aid, manage student accounts receivable, generate tracking letters and transcripts, and report in accordance with regulatory requirements. Additionally, the College would like to take advantage of the latest in technology—customer-centered solutions, i.e. providing the end user with the ability to access information via a choice of gateways. Included in the gateways should be portals, web browsers, as well as the application's user interface and interfaces native to other software applications. Reporting solutions should address all aspects of data retrieval, manipulation, and
knowledge sharing. The system should provide the ability for any user to use any reporting tool to access information when they need it.

Staff has reviewed the SunGard Bi-Tech’s SRN system—an integrated student records, student financial aid, and financial management system; and Datatel, a similarly integrated system. Other systems to review include: SCT Banner, Sigma System’s SAM, and PeopleSoft.

The College’s IFAS system needs integration of payroll and human resources. The College needs to complete conversion of data into the latest version of Bi-Tech’s human resources system (Triad). The conversion process was placed on hold pending resolution of software issues. One issue involved the test system that had to be repaired before testing of the system could occur. Another issue was the need for a new compiler. Presently, obstacles such as the aforementioned should not be a hindrance to proceeding with the conversion process.

Website Design, Development and Management

The College plan calls for a redesign, update, and maintenance of the current college website. A website planning and oversight committee has been formed, and charged with the development of procedures for the placement of information on the site. A webmaster has been identified, and charged with the responsibility for redesign and development.

Administrative Support

Help Desk
At this time, WCCCD does not have a help desk. We have, however, implemented IT Works, a problem tracking system for the IT Department (Appendix E). A problem may be called into or emailed to IT Works, at which time a ticket is opened and assigned to the appropriate staff for investigation and resolution. While this system does allow IT Department management and staff to track the calls assigned, it does not offer any real time assistance to resolve end-user issues. In addition, the IT Works system does not provide for any knowledge base development.

While IT Works is somewhat helpful to management and staff, it does not address the real need for a full-fledged help desk. With the implementation of over 900 PCs, as well as neophyte Windows and Outlook training for over a thousand users, there is a great need for end-user assistance by qualified help desk personnel. Implementation of a help desk, as well as qualified personnel to staff it, is one of the major goals for the 2001/2002 fiscal year. Various help desk software is being evaluated at this time.
<table>
<thead>
<tr>
<th>Project</th>
<th>Task</th>
<th>Projected Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Help Desk</td>
<td>1.1 Selection</td>
<td>12/14/01</td>
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<tr>
<td></td>
<td>1.2 Staff Training</td>
<td>02/08/02</td>
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<tr>
<td></td>
<td>1.3 Implementation</td>
<td>03/01/02</td>
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<tr>
<td>2. Payroll/HR Interface</td>
<td>2.1 Conversion</td>
<td>12/14/01</td>
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<td></td>
<td>2.2 System Testing</td>
<td>02/15/02</td>
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<td></td>
<td>2.3 Staff Training (users)</td>
<td>03/29/02</td>
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<td></td>
<td>2.4 Implementation</td>
<td>04/01/02</td>
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<td>3. Communication System</td>
<td>3.1 Selection</td>
<td>12/14/01</td>
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<td></td>
<td>3.2 Installation</td>
<td>03/04/02</td>
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<td></td>
<td>3.3 System Testing</td>
<td>03/29/02</td>
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<td>3.4 Staff Training</td>
<td>04/05/02</td>
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<td>4. Student System</td>
<td>4.1 Selection</td>
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<td></td>
<td>4.2 Installation</td>
<td>05/06/02</td>
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<td>4.3 Staff Training (IT)</td>
<td>05/20/02</td>
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<td></td>
<td>4.4 Conversion</td>
<td>05/27/02</td>
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<td></td>
<td>4.5 System Testing</td>
<td>06/24/02</td>
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<td></td>
<td>4.6 Staff Training (users)</td>
<td>06/24/02</td>
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<td></td>
<td>4.7 Implementation</td>
<td>06/01/02</td>
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<tr>
<td>5. Website</td>
<td>5.1 Update Committee Schedule</td>
<td>09/28/01</td>
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<td></td>
<td>5.2 Identify Webmaster</td>
<td>10/26/01</td>
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<td></td>
<td>5.3 Assign Staff</td>
<td>10/26/01</td>
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<td></td>
<td>5.4 Development</td>
<td>On-Going</td>
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<td>6. Computer Room</td>
<td>6.1 Process RFPs</td>
<td>09/28/01</td>
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<td></td>
<td>6.2 Select Contractors</td>
<td>10/26/01</td>
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<td>6.3 Work Complete</td>
<td>12/14/01</td>
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<td>7. Asset Replacement/Upgrade</td>
<td>7.1 Completion of Written Plan</td>
<td>12/14/01</td>
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<td></td>
<td>7.2 Implementation</td>
<td>01/07/02</td>
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<td>8. Acceptable Use Policy</td>
<td>8.1 Board Approval</td>
<td>11/24/01</td>
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<td>9. Voice Response System</td>
<td>9.1 Installation</td>
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<td>9.2 System Testing</td>
<td>10/31/01</td>
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<td>9.3 Staff Training</td>
<td>11/08/01</td>
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<td>9.4 Implementation</td>
<td>11/11/01</td>
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Acceptable Use Policy

With the installation of over 900 new PCs, and implementation of a high speed ATM network, the District has provided staff and students with tools that grant speed and access to everything on the Internet. These tools also contribute to possible liability issues. At this time, students and staff alike have unrestricted Internet access. Additionally, no policy currently exists as to the acceptable use of District computing equipment or end-user installation of hardware or software.

Unrestricted access to Internet sites that may be considered inappropriate puts WCCCD at risk, both legally and financially. With no policy in place, the District could be held liable, should a student or staff use the network for inappropriate or illegal means. In addition, unlicensed software installed on District computing equipment is a very real risk. Harsh fines could result, should a surprise audit ever be executed.

To preempt these issues, an Acceptable Use Policy (AUP) has been written for review, approval and publication. The AUP outlines and defines the District’s policy regarding Internet access and appropriate use of District computing equipment, as well as delineates policy regarding installation of District owned software and hardware. The AUP will also outline the ramifications and consequences for violation or lack of compliance with District policy.

Upon approval, the Acceptable Use Policy will be submitted to the Board of Trustees for review and approval. It is planned that the summary version will be placed on WCCCD’s Intranet and web page for staff and student review. In addition, all staff will be required to read the full policy and sign an acknowledgement and acceptance form. Complete publication and implementation of the Acceptable Use Policy is planned for completion by the end of fiscal 2001.

Funding Sources

Information Technology maintains all licenses and access fees. The director ultimately coordinates the purchase and maintenance of all hardware for administrative and academic use. There is a process for submitting requests for hardware, software, and upgrades for the technological environment through SCOT. The executive committee of SCOT interfaces with finance to establish a funding and implementation mechanism.

Academic support is provided through the Office of Educational Technology. The budget supports course software training and the exploration of innovative ideas. In fall of 1999, a technology fee of $3 per credit hour was implemented. This allowed the District to begin to expand in the technology area. However, today it provides only a small percentage of the needed funding.

The WCCCD strategic planning goal #3, To enable the District to become more effective in meeting changing needs for all technologies in the District's educational programs, is the mechanism, which ties funding to the budget. Because of the cost associated with the
technology a plan for funding sources is currently under development. Capital outlay funding will be the primary source. Additional resources may be obtained through grants and partnering with business and industry.

Summary

Much has been accomplished via the infrastructure and hardware to position WCCCD to continue to move in a positive direction to support a cutting-edge environment in technology. Teaching and learning technologies and student services are at the center of all technology planning. Sufficient funding, staffing and training are the key components to this work-in-progress.
APPENDIX A
District-Wide Technology Committee
Structure

Executive Committee
Vice Chancellor for Educational Affairs
Vice Chancellor for Administration & Finance
Director Information Technology
Dean of Educational Technology
District LRC Media Specialist

District-Wide Standing Committee on Technology (SCOT)
Director of Information Technology
Dean of Educational Technology
District LRC Media Specialist
Associate Dean Liberal Arts
Associate Dean Career & Tech
Academic Affairs Divisional Technology Committee Chair
Administration & Finance Divisional Technology Committee Chair
Chancellor's Divisional Technology Committee Chair
Northwest Campus Technology Committee Chair
Eastern Campus Technology Committee Chair
Downtown Campus Technology Committee Chair
Downriver Campus Technology Committee Chair
Western Campus Technology Committee Chair

Divisional Technology Committees (DTC) 3

Campus Technology Committees (CTC) 5
<table>
<thead>
<tr>
<th>PRIORITY</th>
<th>EQUIPMENT/TECHNOLOGY (Describe type of equip/tech.)</th>
<th>OBJECTIVES (List those to be met with this technology/equipment)</th>
<th>DEPARTMENT/NO. OF UNITS</th>
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**PART 2: TRAINING**

- Is training required for this equipment/software?  Yes  No
- If Yes, indicate staff positions to be trained:
- Indicated internal or external trainers needed:  internal  external
- Cost to provide: $ 

**PART 3: Please provide as much of the following information as possible**

<table>
<thead>
<tr>
<th>PURCHASE, INSTALLATION &amp; SUPPORT COSTS</th>
<th>ADDITIONAL PERSONNEL NEEDED TO SUPPORT THE EQUIP/TECH. (POSITION &amp; SALARY)</th>
<th>FACILITY MODIFICATIONS NEEDED TO SUPPORT THIS EQUIP/TECH. (Please list)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COST/UNIT $</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL COSTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RECURRING COSTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Supplies, Maintenance, Warranties, Upgrades, Repairs)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Submitted by: ___________________________ Date: ___________________________
Strategic Planning for Technology Worksheet
Instructions for Distribution, Completion and Submission

1) Distribution - Week of 9/18

The Strategic Planning for Technology Worksheet shall be duplicated and distributed by the Division Heads (Chancellor and Vice Chancellor's) to all program directors, discipline and department heads.

2) Completion - All submissions must be typed.

All program, discipline and department heads shall, with the input of their respective faculty and staff complete one worksheet for each type of technology, or equipment, providing the following information:

PART 1:
   a. Priority - Each worksheet shall be given a priority order.
   b. Equipment/Technology - Identify the equipment/technology needed (provide as much information as possible).
      Example: PC with 8.5 gig hard drive, speakers video editing software, video capture card, microphone
   c. Objectives - List the objective(s), which will be met once the needed equipment/technology is acquired.
      Example: This equipment will provide students in the Radio/Broadcast Technology program with access to the type of PC used in the production industry to create and edit audio and video.
   d. Department/ No. of Units - Identify the department at each location to receive this equipment/technology and the number of units to be placed.
      Example: DT, Production Studio/ 2 units

PART 2:
   a. Indicate whether training is needed
   b. Staff to be trained
   c. Car training be provided by internal or external trainers
   d. Total cost of training (trainer, supplies, etc.)

PART 3:
   a. Cost/Unit - List the cost per unit
   b. Total Equip/Tech Costs - List the total cost for all units to be acquired
   c. Additional Personnel Needed to Support this Equip/Tech - List the position and anticipated salary for any additional personnel needed to support this equipment/technology.
      Example: None
   d. Facility Modifications Needed to Support this Equip/Tech - Indicate any modifications, which will be needed to support this equip/tech.
      Example: One room will need to be equipped with additional electrical
outlets, room darkening shades and Internet access.

3) Submission:

Completed worksheets shall be submitted to the appropriate campus or division technology committee representative no later than November 3, 2000.

CAMPUS REPS:
DR-Debra Swope, Computing Lab Coord.
DT-Wallace Peace, Counselor
E-Pam Broaden, Registrar
NW-Mable Ivory, Computing Lab Coord.
W-Diane Taylor, General Clerk

DIVISION REPS:
Martha Grier- Chancellor's Division
Bernadette Spencer-Finance Division
Melva Bradford-Educational Affairs Division
Strategic Planning for Technology Worksheet Instructions for 
Campus/Division Processing

Upon receipt of the Strategic Planning for Technology Worksheets, the Campus and Division Technology Committees will:

1. **Review** each worksheet for completeness
   a. Part 1 of each worksheet must be completed
   b. Part 2 of each worksheet should be completed if possible

2. **Copy and forward** worksheets, which have implications for campuses other than your own.
   a. Copies should be forwarded to the appropriate campus/division representative for consideration.

3. **Review forwarded worksheets**
   a. Eliminate duplicate submissions

4. **Complete cost information** as necessary
   a. Resources available to help obtain this information include, the Purchasing Department, the IT Department, the Central Learning Resource Department, the Distance Learning Department and vendors.

5. **Determine objectives priorities**
   a. From the objectives listed on the worksheets, determine which objectives are first, second, third, etc for your campus or division
   b. Meet with your campus Provost or division head to review and revise as necessary the objectives priority order you have developed.

6. **Prepare Campus/Division Strategic Planning for Technology Report - Due November 30, 2000**
   a. Information regarding the format of this report will be forthcoming
MEMORANDUM

To: Dr. Joann Pieronek, Vice Chancellor of Educational Affairs

From: Deborah Fiedler, District Director of Distance Learning

Date: November 5, 1999

Subject: ITV Procedures

Attached for your review, please find the following documents:

1. **ITV Procedure Narrative and Flow Chart 5/99-Present** which reflects the processes which are currently in place, as well as the evaluation process which will be implemented when the ITV Student Evaluation of Instruction instrument has been developed. Please note that the shaded boxes highlight process modification made in May, 1999.

2. **ITV Pilot Processes 1/97-5/99 Flowchart** which reflects the initial processes utilized when ITV was introduced. You will recall that this process was modified in May to accommodate new faculty requirements instituted by the Western Campus Assistant Dean of Instruction.

3. **ITV Process Recommendations—Proposed Implementation: Spring 2000 Flowchart.** This chart reflects not only the process modifications implemented in May, 1999, but also indicates additional modifications I am recommending to institutionalize the process (see shaded boxes).

The current procedures narrative and flowcharts have not yet been submitted to the Dean of Educational Services for inclusion in the Educational Affairs Procedure Manual as they have not been reviewed and approved by you. If, however, upon your review of the current and proposed processes, you approve the implementation of the proposed processes, the narrative will have to be revised to include the new processes before this section is included in the manual.

Upon your review of the attached documents, should you wish to discuss any aspect of this matter, please do not hesitate to contact me.

Attachments

DF/wfa
EDUCATIONAL AFFAIRS PROCEDURES

INSTRUCTIONAL TELEVISION (ITV) PROCEDURES

I. Statement of Purpose.

ITV courses are offered to provide students with instruction at multiple campuses simultaneously. The purpose is to provide academic departments with a mechanism for combining low enrollment courses into one viable section and to extend faculty expertise to campuses where the faculty do not normally teach. In addition, the use of ITV technologies provides the faculty and student body with exposure to telecommunications technologies commonly used in business and industry.

II. Certification Training

A. Faculty members wishing to teach in the ITV classrooms must first complete ITV Faculty Training.

B. ITV Faculty Training is conducted by the Distance Learning department immediately following each academic term.

C. ITV Faculty Training developed by the District Director of Distance Learning is comprised of 12 hours of instruction over 1 1/2 days and is followed by faculty demonstrations of techniques learned. The instruction includes equipment operation, faculty preparations, presentation techniques and instructional strategies.

D. Upon completion of training, the Distance Learning department will provide faculty with certificates of completion with copies of same sent to the faculty member's personnel file, Campus Assistant Dean of Instruction and Vice Chancellor of Educational Affairs.

III. ITV Course Development

A. During the pilot period Faculty members who have been identified to teach any ITV course for the first time shall receive payment equal to one half of a course the semester prior to teaching for course development. The appropriate paperwork shall be completed and submitted by the faculty member's Campus Assistant Dean of Instruction.

B. Course development shall be completed prior to the semester in which the ITV version of the course is offered. The appropriate Campus Assistant Dean of Instruction shall oversee the course development process. Course development activities should include the following:

1. Identification and clustering of performance objectives to support the departmental course goals/objectives.

2. Development of appropriate student assessment methods and instruments.
3. Development of appropriate instructional strategies.
4. Identification of appropriate presentation techniques.
5. Conversion of course materials, i.e. overheads, hand-outs.

The District Director of Distance Learning shall provide faculty members in the course development process with instructional design advice and guidance as requested.

IV. ITV Semester Preparations/Operations (see ITV Modified Process 5/99-Present)

A. Campus Assistant Deans of Instruction and faculty determine ITV course offerings.

B. Campus Assistant Deans of Instruction reserve ITV classrooms through the Distance Learning Department which is responsible for all ITV room scheduling.

C. Campus Assistant Deans of Instruction complete schedule input of ITV sections, identify faculty to teach those sections, and notify the Distance Learning Dept. of faculty assignments.

D. Faculty who have not completed ITV training must do so before the semester begins.

E. Campus Assistant Deans of Instruction complete and submit IAT course development assignments.

F. The Distance Learning Dept. requests faculty origination and exam schedules from faculty.

G. The Distance Learning Dept. prepares and distributes the Semester ITV Origination Schedule to Campus Computing Lab Coordinators and Business Managers.

H. The Distance Learning Dept. prepares the ITV Exam Proctor Schedule and forwards it to the appropriate Campus Provost.

I. The Campus Provost identifies exam proctors and completes the ITV Exam Proctor Schedule by including the proctor's name and telephone number and returns the schedule to the Distance Learning Dept.

J. The Distance Learning Dept. prepares the final copy of the ITV Exam Schedule and distributes it to the ITV faculty and the Campus Computer Lab Coordinators.

K. Faculty members communicate directly with the assigned proctor to provide copies of the exam, special instructions for administration of the exam and return to the faculty.
A. The Distance Learning Dept. will provide copies of the evaluation instrument for completion by students with a self-addressed interdepartmental envelope.

B. Faculty will distribute the evaluation instrument to students at all locations the last class session and will designate one student at each location to handle the completed evaluation instruments.

C. The designated students will collect all completed instruments, put them in the interdepartmental envelope addressed to the Distance Learning Department and take the envelope to the Campus Main Office for interdepartmental delivery to the Distance Learning Dept.

D. The Distance Learning Dept. will tabulate all responses, prepare a semester summary and disseminate that information to the faculty and the appropriate Campus Assistant Deans of Instruction.

E. The Director of Distance Learning will discuss individual faculty issues and concerns directly with the faculty member for resolution. The issues/concerns and proposed solutions will be documented and forwarded to the appropriate Campus Assistant Dean of Instruction.
Wayne County Community College District

Interactive Television Faculty Certification Training Workshop
AGENDA

Tuesday, May 11, 1999 (1:00 - 5:00 p.m.)

Module 1

1. Welcome and Introduction
2. Review of Agenda
3. Introduction to Distance Learning
   a. Methods and Technologies
4. Distance Learning at Wayne County Community College
   a. Telecourses
   b. Teleconferencing
   c. Interactive Television (ITV)

Module 2

1. Equipment Operation
   a. Classroom equipment components
   b. Acoustical Touch Screen Control System
   c. Control System Operation
2. Equipment Operation Hands-On
Introduction to Distance Learning
"... the process of extending learning, or delivering instructional resource-sharing opportunities, to locations away from a classroom, building or site, to another classroom building or site by using video, audio, computer, multimedia communications, or some combination of these with other traditional delivery methods."

<table>
<thead>
<tr>
<th>Same Time</th>
<th>Different Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same Place</td>
<td>Same Place</td>
</tr>
<tr>
<td>Different Place</td>
<td>Different Place</td>
</tr>
</tbody>
</table>
Telephone Bridge

Audio Courses

Video-based Courses

Cds
Videos
Laser disks
ITV Benefits

Continued ...

Facilitate inter-campus communications and activities.
Import professional development activities.

Distance Learning at

**WCCCD**

Satellite Teleconferencing
Telecourses
Interactive Television (ITV)
On-line Learning

Time for a Break!
Taped Television Courses

T.V. + Print + Class Meetings

Live Televised Courses

One-way video, two-way audio
Two-way video and audio

ITV Benefits

Combine low enrollment courses college-wide to create viable sections.
Share faculty expertise college-wide.
Equipment Operation
The equipment in the ITV classroom was designed, developed and installed by Innovative Communications, Inc and is electronically controlled by the instructor using a computerized touch screen. Using the touch screen, you can control the angle and zoom of the camera facing you (instructor camera) and the student camera. You can determine what your remote site(s) see and hear whether its you, another student in the class, the document camera, a video or computer image. And it all begins with bringing the system up.

**Bringing up the ITV system**

1. **Monitors.** If not already on, the monitors should be turned on manually by pressing the power button or using the remote control (if a remote control for the monitors is provided, it should be in the instructor station drawer) and pressing the power button.

2. **The ITV System.** The rest of the system is brought up by using the touch screen. Place your hand on the touch screen and the screen-saver should disappear and ask you for your access code. This code will change from semester to semester, but you will be given the current access code prior to the start of a new semester in which you will be teaching on the system. To enter your code, you simply press the number buttons represented on the screen in the correct order and then press enter. Generally, our computing lab staff will perform these tasks for you and they have the current codes should you need them.

The next screen you see should be the main menu screen. I'm going to go through each of the functions here in the front and then we'll put the screen back where it belongs and give you a chance to try your hand. Learning to operate the equipment smoothly will take some practice, and practice time will be available to you before the semester begins. But, you should leave here feeling comfortable that you can, with practice, control all aspects of the system. As a reinforcement, we have also provided you with written directions on the functions within your control. Most of the controls you'll be using are called "INPUT" controls. These are clustered on the left side of the screen, so let's begin there.

1. **The instructor camera.** This camera is positioned on top of the monitor cabinets in the back of the room. You can control the direction of this camera by moving it up and down, left and right and by zooming. You can also control the focus.

When you press the Instructor Camera button on the main menu, it is highlighted with a green box and another menu comes up at the bottom of the screen. The green box indicates that this is the source that is being transmitted to your remote site. The menu should have a section called Instructor Camera
Presets, Focus, Zoom and Pan/Tilt. These controls are used to position the Instructor Camera where you want it.

**Instructor Camera Presets.** Each number button has been programmed to position the instructor camera on the teaching podium differently giving you the ability to quickly move the camera to a pre-determined angle and closeness. **Press any number** and the camera will go to where it is programmed and stop. It is our hope that you will find the presets to be useful. Even if the pre-sets are not perfect for you, they can be useful in quickly getting the camera to a position close to what you want and then making adjustments from there.

**Pan/Tilt.** The pan/tilt buttons are used to move the instructor camera to other positions not covered by the pre-sets. The round buttons in each corner of this section represent "X/Y" coordinates. This allows you to move the camera on a diagonal. **The arrowed buttons indicate the direction the camera will move while you are pressing them.** You'll notice that the camera can move quite fast. Since the screen is an acoustical touch screen, the speed with which the camera is moved is determined by the amount of deadening you create with your finger, so a light touch on the screen is recommended, at least until you get used to the camera response. Because this camera is facing you, you'll also find that the direction seems to be just the opposite of what you thought. You will get used to it with practice.

**Zoom.** The zoom allows you to zoom in or out from the instructor podium. This can be very useful during demonstrations or when more than one person is at the podium. **Simply press the button until you are close or far away enough.**

**Focus.** The focus button allows you to focus the camera once you get it into position. The focus on these cameras is automatic, but you may **Press near or far** if you feel you need to adjust the focus further. Depending on the patterns and colors used, you may experience some problems with the automatic focus constantly trying to focus on a particular object or document. If this happens, allow the camera to focus on the object or document while it is perfectly still and then turn the auto focus off. It will come back on when you choose another camera source.

2. **The student camera.** The student camera works much the same as the instructor camera. When you press the student camera on the menu, it is highlighted with a green box and the student images appearing on camera are being transmitted across the system to your remote site. This is helpful when students are responding to questions or making comments and helps to let the students get to know each other visually.
Pre-sets have also been established for the student camera. Test them out to see which ones you like. One last note, this camera is facing the same way you are, so you'll notice that the pan/tilt buttons operate the way you thought the instructor buttons would work.

3. **The classroom camera.** This camera operates exactly like the student camera. However, it is equipped with a wide angle lens to give a more complete view of the classroom. This can be used when general discussion is in progress, when you are out among the students and to view the whole class at your remote site. Again, once it is highlighted with a **green** box, that indicates that this image is being transmitted to the remote site and the preset buttons appear.

4. **The graphics/document camera.** This is today's version of the overhead projector. When you press this button, you'll see the **green** box indicating you are sending this image across the system. The closeness of this camera is also controlled by the "pop-up" menu at the bottom of the screen. This camera also operates like the others. Presets have been established but you also have the ability to move it where you like by using the arrow and dots in the control box on the right.

5. **The VCR.** Both ITV rooms are equipped with a professional quality video cassette recorder. It is housed in the left-hand cabinet of the instructor's console. The VCR is tied into the ITV system and is turned on automatically when the system is activated. You may insert and remove video tapes at this time, or wait until you are ready to play the tape. To use the VCR, simply **Press the VCR button on the Main Menu.** Again, you'll note the **green** box around this option on the menu and a "pop-up" menu at the bottom of the screen. This menu allows you to operate the VCR from the touch screen. The functions available are:
   - REW (Rewind)
   - PAUSE
   - PLAY
   - EJECT
   - FF (Fast Forward)
   - STOP
   - REC (Record)
   - TAPE COUNTER/RESET
   - VOLUME
   - AUDIO OUT - This feature allows you to send just video or both video and audio.
   - RECORD FROM - This feature allows you to record from a video you are receiving from your remote site, or to record what is going out on the system from the origination site.

6. **PC.** This button allows you to project the image from a PC or laptop onto the viewing monitors in both classrooms. There are connectors for your PC or laptop on the side of the instructor podium. If you wish to use this option, the computing lab staff will assist you with set up.
7. **Auxiliary Inputs.** In the future (near future) we will also have the ability to introduce other technologies into the system, such as audio cassette players, additional VCRs, CD players, laser disk players, etc. The Auxiliary Input feature will allow you to control these additional devices from the touch screen when they are available.

Now, let's look at the right side of the Menu. The buttons on this side are primarily "CONTROL" buttons. These are used to adjust and control the ITV system. Let's begin at the top and work our way down.

1. **Status Information Field.** - This field tells you the current sending and previewing source (instructor, student, classroom camera or other). And, it tells you the status of the Far-End Control. This information should eliminate any guessing as to what is being sent to the remote site.

2. **Send Video.** The default for this button is to automatically send the video from the source you choose, i.e., instructor or student camera. You may turn this default off by selecting the Special Features option and then choosing "off."

3. **Special Features.** In this option, you can control when images from the various sources are actually sent to the viewing monitors. Normally, this option is used in conjunction with the preview monitor which lets you preview your images before they are sent to the viewing monitors. When you select this option, you will see a box on the bottom left of the touch screen which allows you to turn off the automatic function. Once you do that, you must press the “Send Video” (#2 above) button every time you are ready to display from a new source.

4. **Local Diagnostics.** This button is used by technical support to run local diagnostics and to make adjustments to the equipment in the cabinets. A passcode is needed to gain access to this feature.

5. **Camera Presets.** This button is for changing the camera presets for both the instructor and the student cameras. These presets have already been established and cannot be changed without a pass code. Should you need to establish different presets for your course, please contact the Distance Learning department.

6. **Far-End Control.** Far-end control allows you to control the cameras at the remote site. This feature only works when you are connected directly to another classroom constructed by Innovative Communications, Inc. (ICI). Far end control is not available when more than two sites are connected using bridging technologies.
When Far-end Control is initialized, you will notice that the Menu on your touch screen is now the Main Menu from the remote site. If you are at the Northwest campus where the screen background is blue and you initialize Far-end control, the Eastern campus Menu with a maroon background will appear. All of the controls work just the same way as they do in the room you are in. To return to your own site menu, simply press the Far-end Control button again. The remote site can also release your control of the room by pressing the Far-end Control button on their touch screen.

7. Dialer. The dialer allows you to dial up remote sites from a pre-programmed directory. This is the function which is used to connect to your remote site and it is very easy to use. Here again, our computing lab coordinators generally perform this task for you. These instructions are provided should you have to make the connections on your own.

To connect with a remote site, touch "Dialer" from the main menu. Touch the site you are connecting with until the bar turns black and then touch "dial". The status box in the lower left corner will advise you during this process. You should see the following messages in the order listed: idle, calling, handshaking, online. Once you are online, you should be able to see and hear your remote site with a minute or so. Then, touch exit (not terminate) to return to the Main menu.

You can end your connection by touching the Dialer again from the Main Menu and then touching Terminate Call, or by touching System Off from the Main Menu.

8. Audio Control. There are additional audio controls available to you beyond the volume adjustment. When you touch this button, you have the following audio control options:

Mute Microphone - This is similar to the Mute button on your television at home, except that it controls the audio going out on the system from your site. When you touch Mute Microphone, the audio from your site becomes silent to the remote site, but you will still receive audio from the remote site. Touching it again, returns to audio to normal.

Privacy - By touching this button, you can mute all audio on the system - both transmit and receive. This is useful when you have local group discussions going at both locations.

Refresh - Refreshing the audio is used first if you begin to experience static or crackling in the audio. This, in effect, restores the audio to the condition that was saved during the last audio retraining. This takes about 3 seconds and is confirmed verbally.
Audio Train - This button should only be used if there have been changes in the room which would affect acoustics or if the Refresh button does not correct an audio problem. To retrain the room, the room must be as quiet as possible and there should be no movement or motion during the process. You will receive a 5 second countdown before the process begins and the process shouldn't last more than 30-40 seconds.

Send Still Graphics and View Receive Graphics. These two options allow you to set up a “Picture in picture” viewing mode with one source as a still and the other as live. It was actually designed for the instructor to work with a still graphic sent from the remote site which doesn’t happen very often. As a consequence, these two buttons are rarely used.

A word about the microphones

There are generally two microphones in each classroom. One in mounted to the top of the instructor podium (the instructor microphone) and one is hanging from the ceiling (the classroom microphone). Together, these microphones should pick up almost all audio in the room. There may be some areas in the room (usually the corners) that are not picked up as well. If you experience that problem, you may have to ask your students to speak louder or move closer to the center of the room.

The FAX/phone/copier

Each room is equipped with a FAX/phone/copier that allows for speed dialing.

To FAX a document, place it in the tray at the back of the FAX machine, face down and press Speed Dial #1. That button has been programmed to call the FAX machine at the remote site. There are other Speed Dial numbers that have been pre-programmed. These numbers are included in the Reference Manual under “Important Telephone Numbers” contained in each room.

To copy a document, place it in the same tray (at the back of the FAX machine), face down and press copy. You will receive one copy. This machine does not make multiple copies.

To make a phone call, you may either speed dial or dial the number yourself. It is not necessary to dial 9 first to get an outside line. If you are calling your remote site, simply pick up the hand receiver and press Speed Dial #1. Additional speed dial numbers are located in the Important Telephone Numbers section of the Reference Manual contained in each room.

FAX Paper and film cartridges can be obtained from the computing lab staff or the distance learning department.
Presentation Techniques
Presentation Techniques

From this...

To this!
Preparing for the Camera

Clothing
Choose colors that enhance your skin tone
Avoid extreme contrasts and patterns

Accessories
Avoid things that glitter or could be noisy

Make-up
Don’t overdo it!
Know Your Equipment

Limitations and Capabilities
- Television Monitors (On/Off, Channel Selection, Adjustments)
- Camera & Microphones (Stay in range)
- Auxiliaries (Connections, Use)

How is Your Message Coming Across?
Delivering Your Message

- Accommodation of learning styles
- Attention Stress
- Using the Equipment

Slates

- Eliminate video distractions - improve concentration/focus
- Use during breaks, reading, group discussion, testing

Shhhhhhhhhhh!

Exam in Progress
Read Chapter 5, pp. 101-110

When you're finished, take a break and be back in the room at 1:15 pm

Change Elements
- Attention Stress
- Variety - What are your students seeing and hearing
- More frequent breaks

Visuals
- Aspect Ratio (3 x 4)
- Safe Area (1” margins)
- Contrast and Colors (Avoid extremes, color blindness)
- Font Size
Font Size and Samples

- This is 10 point
- This is 14 point
- This is 24 point
- This is 32 point
- This is 40 point
- This is 44 point
- Times New Roman
- Arial
- Book Antiqua
- Century Gothic
- Modern No. 20
- PT Diploma
- OLD FASHIONED

Converting Your Instruction

Time for Lunch!
Instructional Strategies
Preparation Your Students

- Take them on a “tour”
- Introduce them to the room
- Explain limitations
- SOP for technical problems

Can you prevent this from happening?
Vary Your Instructional Strategies
- Discussion
- Questions
- Group Work
- Role Playing
- Projects

Include Interactions

Planning Your Instruction
- Which topics will be covered and how?
- Which interactions will be included?
- What materials will you need?
- What do your students need and how do they get it?
Common Instructional Strategies

- Lecture - Test
- Lecture, practice, demonstration, test

INTERACTIONS

- Student - Content
- Student - Teacher
- Student - Student

[Diagram showing the relationships between Reading, Writing, Watching, Speaking, and Doing]
Student-Teacher Interactions
- Lecture
- Discussions
- Questions
- Demonstrations
- Communications outside class

Student - Student Interactions
- Discussion
- Brainstorming
- Role Playing
- Group Work

Assessing Student Performance
- Testing/Quizzes
- Assignments
- Class Participation
Your overall planning is done

Now how do you plan for each lesson?

Gagne's Events of Instruction
A Good Guide To Use
The following Events of Instruction were developed by Robert Gagne and were taken from the text, Instructional Design by Patricia Smith and Tillman Regan published by MacMillan Publishing, New York, NY.

1. Gain attention
2. Inform learner of the objective(s)
3. Stimulate recall of prerequisite learning/knowledge
4. Present stimulus materials
5. Provide learning guidance
6. Elicit performance
7. Provide feedback
8. Assess performance
9. Enhance retention/transfer
Course Development Aids
<table>
<thead>
<tr>
<th>Performance Objectives</th>
<th>Strategy</th>
</tr>
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<table>
<thead>
<tr>
<th>Content to Support Performance Obj.</th>
</tr>
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<td></td>
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<table>
<thead>
<tr>
<th>Instructional Strategy</th>
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<td></td>
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</tbody>
</table>
## Teaching Techniques
### Types of Learning/Learning Outcomes

<table>
<thead>
<tr>
<th>LEARNING DOMAIN</th>
<th>CAPABILITY VERBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal Information - “Knowing That”</td>
<td>List, recite, state, summarize</td>
</tr>
<tr>
<td>Declarative Knowledge/Recall</td>
<td></td>
</tr>
<tr>
<td><strong>Intellectual Skills</strong></td>
<td></td>
</tr>
<tr>
<td>Discriminations - Differentiate between 2 stimuli</td>
<td>Discriminate, differentiate</td>
</tr>
<tr>
<td>Concrete Concepts - Classify things into categories by physical characteristics</td>
<td>Identify, sort, match</td>
</tr>
<tr>
<td>Defined Concepts - Classify things into categories by whether they match a definition or list of characteristics</td>
<td>Classify, sort, match</td>
</tr>
<tr>
<td>Rules - Relational - “If then” statements</td>
<td>Demonstrate, state, list steps</td>
</tr>
<tr>
<td>Procedure - Ordered statements</td>
<td></td>
</tr>
<tr>
<td>Problem Solving - Selecting and applying rules on “new” problems</td>
<td>Assess, determine rules, analyze, solve</td>
</tr>
<tr>
<td><strong>Cognitive Strategies-Learning Strategies</strong></td>
<td></td>
</tr>
<tr>
<td>Rehearsal - Basic learning tasks</td>
<td>Assess, select, apply, reassess, modify</td>
</tr>
<tr>
<td>Elaboration - Relate new information to prior learning</td>
<td></td>
</tr>
<tr>
<td>Organizational - Select information and define relationships for storage in memory</td>
<td></td>
</tr>
<tr>
<td>Comprehension monitoring - Metacognition - Knowing and controlling own cognitive processes</td>
<td></td>
</tr>
<tr>
<td>Affective - Focus attention, concentration, time management, motivation and anxiety</td>
<td></td>
</tr>
<tr>
<td><strong>Attitudes-Mental state that causes a learner to choose how to behave</strong></td>
<td>Choose</td>
</tr>
<tr>
<td><strong>Psychomotor Skills-Coordinated muscular movements with smoothness and precise timing</strong></td>
<td>Execute, perform</td>
</tr>
</tbody>
</table>
# Teaching Techniques
## Learning Domains and Strategies

<table>
<thead>
<tr>
<th>LEARNING DOMAIN</th>
<th>STRATEGIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal Information or Declarative Knowledge</td>
<td><strong>Information Pairing</strong> - Mental link between 2 elements - Propositional or image-based - does not require learning the meaning.</td>
</tr>
<tr>
<td>1. Labels and names</td>
<td>Propostional - Must be made meaningful by integrating them with prior knowledge/learning, organizing or elaborating.</td>
</tr>
<tr>
<td>2. Facts and Lists</td>
<td><strong>Associative</strong> - Imagery and metaphoric devices-Mnemonics</td>
</tr>
<tr>
<td>3. Organized Discourse-following the thread of ideas</td>
<td><strong>Organizational</strong> - expository/narrative structures (description, chronology, cause/effect etc.)</td>
</tr>
<tr>
<td>and following the flow</td>
<td>graphic organizers - visual images to organize content</td>
</tr>
<tr>
<td></td>
<td>concept mapping - mapping concepts throughout design</td>
</tr>
<tr>
<td></td>
<td><strong>ALL FOLLOWED BY REHEARSAL/PRACTICE</strong></td>
</tr>
<tr>
<td>Concepts</td>
<td>Generalize beyond the single instance of one concept into others</td>
</tr>
<tr>
<td></td>
<td><strong>Inquiry Approach</strong> - Exploratory or discovery-prompts for learner to discover concept</td>
</tr>
<tr>
<td></td>
<td><strong>Expository Approach</strong> - Presents concepts, labels and critical attributes early on then learners develop own examples</td>
</tr>
<tr>
<td></td>
<td>Concept Trees (i.e., Hierarchy of Goals/Obj.)</td>
</tr>
<tr>
<td></td>
<td>Analogies</td>
</tr>
<tr>
<td></td>
<td><strong>Mnemonics and Imagery</strong></td>
</tr>
<tr>
<td>Rule Lessons</td>
<td>If, then</td>
</tr>
<tr>
<td></td>
<td><strong>Expository Approach</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Inquiry Approach</strong> - Can be confusing to new learners</td>
</tr>
<tr>
<td></td>
<td>Present procedure with demonstration</td>
</tr>
<tr>
<td>Problem Solving</td>
<td><strong>Task Analysis</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Elaboration Model</strong> - Problem sets which build on the prior one</td>
</tr>
<tr>
<td></td>
<td><strong>Simulations</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Case Studies and Problems</strong></td>
</tr>
<tr>
<td>LEARNING DOMAIN</td>
<td>STRATEGIES</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Cognitive Strategies  | Discovery and guided discovery  
|                       | Observation of a model using cognitive strategy  
|                       | Guided participation  
|                       | Strategy instruction in books and courses  
|                       | Direct explanation - teacher directed  
|                       | Self-instructional training  |
| Attitude Change       | Reinforcement-based (beliefs and opinions)  
|                       | Tension created by inconsistencies in beliefs  
|                       | Balancing and accommodation  
|                       | Judgement process between competing values  
|                       | Direct or vicarious experience or emotional associations  |
| Motivation and Interest| Attention strategies (conflict/incongruity, concreteness, variability, humor, inquiry and participation)  
|                       | Relevance Strategies (experience, present worth, future usefulness, need matching, modeling and choice)  
|                       | Confidence Strategies (learning requirements, difficulty - easy to hard, expectations - realistic outlook, attributions - success to effort, self-confidence - increasing independence, practice of skills, avoid perfectionism)  
|                       | Satisfaction Strategies (natural consequences, unexpected rewards, positive outcomes, avoid negative influences, scheduling of reinforcements)  |
| Psychomotor Skills    | Massed or spaced practice  
|                       | Whole or part practice  
|                       | Progressive part practice - step 1, then 2 with 1, then 3 with 2 and 1 |
# Teaching Techniques

## Learning Domains and Test Item Types

<table>
<thead>
<tr>
<th>TYPE OF TEST ITEM</th>
<th>APPROPRIATE LEARNING DOMAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td>True/False</td>
<td>Verbal Information, Discriminations, Concrete Concepts</td>
</tr>
<tr>
<td>Completion</td>
<td>Verbal Information, Rules</td>
</tr>
<tr>
<td>Multiple-Choice</td>
<td>Verbal Information, Discriminations, Concrete Concepts</td>
</tr>
<tr>
<td>Matching</td>
<td>Verbal Information, Discriminations, Concrete Concepts, Rules</td>
</tr>
<tr>
<td><strong>ESSAY</strong></td>
<td></td>
</tr>
<tr>
<td>Essay</td>
<td>Rules, Problem Solving, Cognitive Strategies, Attitudes</td>
</tr>
<tr>
<td>Extended Report</td>
<td>Rules, Problem Solving, Cognitive Strategies, Attitudes</td>
</tr>
<tr>
<td><strong>ACTIVITY</strong></td>
<td></td>
</tr>
<tr>
<td>Lab Reports</td>
<td>Rules, Problem Solving, Cognitive Strategies</td>
</tr>
<tr>
<td>Exercises</td>
<td>Motor Skill, Rules, Problem Solving</td>
</tr>
<tr>
<td>Projects</td>
<td>Motor Skill, Problem Solving, Cognitive Strategies</td>
</tr>
<tr>
<td><strong>OBSERVATION</strong></td>
<td></td>
</tr>
<tr>
<td>Checklists</td>
<td>Motor Skill, Cognitive Strategies, Attitudes</td>
</tr>
<tr>
<td>Rating Scales</td>
<td>Motor Skill, Cognitive Strategies, Attitudes</td>
</tr>
<tr>
<td>Anecdotes</td>
<td>Attitudes</td>
</tr>
<tr>
<td>Interviews</td>
<td>Cognitive Strategies, Attitudes</td>
</tr>
<tr>
<td><strong>APPLICATION</strong></td>
<td></td>
</tr>
<tr>
<td>Problem Solving</td>
<td>Rules, Problem Solving, Attitudes</td>
</tr>
<tr>
<td>Product</td>
<td>Motor Skill, Rules, Problem Solving, Cognitive Strategies, Attitudes</td>
</tr>
</tbody>
</table>
Teaching Techniques
Rules for Writing Test Items

General

Do not provide cues/clues to the correct answer.
Do not use dependent items where one item cues the answer to another item.
Avoid negatives
Avoid unnecessary difficulty, such as obscure vocabulary
Avoid direct quotations
Do not call for trivial, obvious, ambiguous, or meaningless answers
Each item should have only one (1) correct answer
Use illustrations appropriately and accurately and make them clear.
Follow the rules of grammar and syntax
Avoid items that give away the answer
Avoid complex sentence structure

Multiple-Choice Item

Make the stem a direct question
Ask one definite question
Avoid making correct alternatives obviously different
Present alternatives in a logical order
Avoid making correct alternatives systematically different
Make response alternatives mutually exclusive and of similar length
Make response items plausible but not equally plausible
Use “None of the above” seldom and with caution
Make options and the stem grammatically parallel and consistent.
Present the term in the stem and definitions as options when testing knowledge of terminology.
Avoid requiring personal opinion unless on attitude survey.
Avoid redundancy in alternatives by stating once in the stem.
Avoid a collection of true/false alternatives.
Use “All of the above” option when there are several correct answers, not a best answer
Put as much of the problem as possible into the stem.

Matching Items

Use response categories that are related but mutually exclusive.
Keep the number of stimuli small and have the number of responses exceed stimuli by 2 or 3.
Present response in logical order (e.g., alphabetically, chronologically)
Use longer phrases in the response list, shorter in the stimuli list.
Identify stimuli with numbers and responses with letters.
Keep everything relating to an item on a single page.
Explain the basis for matching; give clear directions.
Avoid “perfect” matching by including one or more implausible responses.
Make stimuli and response columns similar in level of difficulty
Avoid using complete sentences in stimuli column, use phrases or words instead
True/False, Constant Alternative Items

Be sure the item is definitely true or false.
Avoid determiners such as always, often.
Use approximately the same number of words in each sentence
Avoid quotations or stereotypes
Don't present items in a pattern
Use quantitative language when possible
Place crucial elements at the end of the sentence
Instead of true/false, you can use yes/no, right/wrong, depends, correct/incorrect, same/opposite
Phrase items unambiguously

Short Answer, Completion, or Supply Items

Word items specifically and clearly
Put the blank towards the end of the sentence
Use only one blank
Avoid quoted or stereotyped statements
Require short, definite, explicit answers
Provide the terms and require the definitions rather than vice versa
Specify the terms in which the response is to be given, e.g., word, phrase, sentence, inches, feet.
Use direct questions rather than incomplete declarative sentences

Essay Items

Focus on the type of response you wish the student to make
Clarify limits and purposes of questions
Avoid optional questions
Word questions so experts can agree on correct response
Use more than one essay question
Set up a systematic scoring procedure

Application or Problem Solving Items

Use new or novel test materials
Use introductory materials followed by item dependence on that material
Call for identifying or producing examples
Call for identifying components or relationships
Test ability to use materials
Use pictures or diagrams for testing
Use reading material for testing
Allow for creativity
ENHANCING YOUR TEACHING EFFECTIVENESS

Accurately assessing your students' developmental state can direct your planning and impel your teaching. For instance, recognizing a 16-year-old's concern about his appearance and his standing among his peers may promote your rapport with him and eliminate learning barriers.

Keep in mind that chronologic age and developmental stage aren't always related. Throughout life, people move sequentially through developmental stages, but most people also fluctuate somewhat among stages, often in response to outside stressors. These stressors can cause a person to regress temporarily to an earlier stage. Sometimes a person may not achieve the task expected of his chronologic age. So, you will need to address your students at their current developmental stage, not at the stage you'd expect him to be because of his chronologic age.

In some situations, hopefully most, you'll have time to sit down and develop a formal teaching plan. In others, you'll be confronted with a "teachable moment" when the student is ready to learn and is asking pointed questions. Invariably, these moments seem to come at the most inopportune time. At times like these, you face the dilemma: to teach or not to teach. Having a knowledge of basic learning principles will help you take best advantage of these moments. Here are some principles proven to enhance teaching and learning.

Seize the moment

Teaching is most effective when it occurs in quick response to a need the learner feels. So, even though you are elbow deep in something else, you should make every effort to teach the student when he asks. The student is ready to learn. Satisfy his immediate need for information now, and augment your teaching with more information later.

Involv the student in planning

Just presenting information to the student does not ensure learning. For learning to occur, you will need to get the student involved in identifying his learning needs and outcomes. Help him to develop attainable objectives. As the teaching process continues, you can further engage him by selecting teaching strategies and materials that require his direct involvement, such as role playing and return demonstration. Regardless of the teaching strategy you choose, giving the student the chance to test his ideas, to take risks, and to be creative will promote learning.

Begin with what the student knows

You'll find that learning moves faster when it builds on what the student knows. Teaching that begins by comparing the old, known information or process and the new, unknown one allows the student to grasp new information more quickly.
Move from simple to complex

The student will find learning more rewarding if he has the opportunity to master simple concepts first and then apply these concepts to more complex ones. Remember, however, that what one student finds simple, another may find complex. A careful assessment takes these differences into account and helps you plan the teaching starting point.

Accommodate the student's preferred learning style

How quickly and well a student learns depends not only on his intelligence and prior education, but also on his learning-style preference. Visual learners gain knowledge best by seeing or reading what you're trying to teach; auditory learners, by listening; and tactile or psychomotor learners, by doing.

You can improve your chances for teaching success if you assess your patient's preferred learning style, then plan teaching activities and use teaching tools appropriate to that style. To assess his learning style, observe him, administer a learning style inventory test, or simply ask him how he learns best.

You can also experiment with different teaching tools, such as printed material, illustrations, videotapes, and actual equipment, to assess learning style. Never assume, though, that your student can read well - or even read at all.

Sort goals by learning domain

You can combine your knowledge of the student's preferred learning style with your knowledge of learning domains. Categorizing what the students need to learn into proper domains helps identify and evaluate the behaviors you expect them to show.

Learning behaviors fall in three domains: cognitive, psychomotor, and affective. The cognitive domain deals with intellectual abilities. The psychomotor domain includes physical or motor skills. The affective domain involves expression of feeling about attitudes, interests, and values. Most learning involves all three domains.

Make material meaningful

Another way to facilitate learning is to relate material to the student's life-style - and to recognize incompatibilities. The more meaningful material is to a student, the quicker and easier it will be learned.

Allow immediate application of knowledge

Giving the student the opportunity to apply his new knowledge and skills reinforces learning and builds confidence. This immediate application translates learning to the "real world" and provides an opportunity for problem solving, feedback, and emotional support.

Plan for periodic rests

While you may want the students to push ahead until they have learned everything on the teaching plan,
remember that periodic plateaus occur normally in learning. When your instructions are especially complex or lengthy, your students may feel overwhelmed and appear unreceptive to your teaching. Be sure to recognize these signs of mental fatigue and let the students relax. (You, too, can use these periods - to review your teaching plan and make any necessary adjustments.)

Tell the students how they are progressing

Learning is made easier when the students are aware of their progress. Positive feedback can motivate them to greater effort because it makes their goal seem attainable. Also, ask your students how they feel they are doing. They probably want to take part in assessing their own progress toward learning goals and their input can guide your feedback. You will find their reactions are usually based on what "feels right."

Reward desired learning with praise

Praising desired learning outcomes or behavior improves the chances that the students will retain the material or repeat the behavior. Praising your students’ successes associates the desired learning goal with a sense of growing and accepted competence. Reassuring them that they have learned the desired material or technique can help them retain and refine it.

Jerry Cerny, jerry@pulua.hcc.hawaii.edu
FOURTEEN COMMON TEACHING METHODS
With Strengths and Weakness

TEACHING METHODS

1. LECTURE

STRENGTHS:
- presents factual material in direct, logical manner
- contains experience which inspires - useful for large groups

LIMITATIONS:
- experts are not always good teachers
- audience is passive
- learning is difficult to gauge
- communication in one way

PREPARATION
- needs clear introduction and summary
- needs time and content limit to be effective
- should include examples, anecdotes

2. LECTURE WITH DISCUSSION

STRENGTHS:
- involves audience at least after the lecture
- audience can question, clarify & challenge

LIMITATIONS:
- time may limit discussion period
- quality is limited to quality of questions and discussion

PREPARATION:
- requires that questions be prepared prior to discussion
3. PANEL OF EXPERTS

STRENGTHS:
- allows experts to present different opinions
- can provoke better discussion than a one person discussion
- frequent change of speaker keeps attention from lagging

LIMITATIONS:
- experts may not be good speakers
- personalities may overshadow content
- subject may not be in logical order

PREPARATION:
- facilitator coordinates focus of panel, introduces and summarizes
- briefs panel

4. BRAINSTORM

STRENGTHS:
- listening exercise that allows creative thinking for new ideas
- encourages full participation because all ideas equally recorded
- draws on group's knowledge and experience
- spirit of congeniality is created
- one idea can spark off other other ideas

LIMITATIONS:
- can be unfocused
- needs to be limited to 5 - 7 minutes
- people may have difficulty getting away from known reality
- if not facilitated well, criticism and evaluation may occur

PREPARATION:
- facilitator selects issue
- must have some ideas if group needs to be stimulated

5. VIDEOTAPES/SLIDES

STRENGTHS:
- entertaining way of teaching content and raising issues
- keep group's attention
- looks professional
- stimulates discussion

LIMITATIONS:
- can raise too many issues to have a focused discussion
- discussion may not have full participation
- only as effective as following discussion

PREPARATION:
- need to set up equipment
- effective only if facilitator prepares questions to discuss after the show

6. DISCUSSION

STRENGTHS:
- pools ideas and experiences from group
- effective after a presentation, film or experience that needs to be analyzed
- allows everyone to participate in an active process

LIMITATIONS:
- not practical with more than 20 people
- few people can dominate
- others may not participate
- is time consuming
- can get off the track

PREPARATION:
- requires careful planning by facilitator to guide discussion
- requires question outline

7. SMALL GROUP DISCUSSION

STRENGTHS:
- allows participation of everyone
- people often more comfortable in small groups
- can reach group consensus

LIMITATIONS:
- needs careful thought as to purpose of group
- groups may get side tracked

PREPARATION:
- needs to prepare specific tasks or questions for group to answer

8. CASE STUDIES

STRENGTHS:
- develops analytic and problem solving skills
- allows for exploration of solutions for complex issues
- allows student to apply new knowledge and skills

LIMITATIONS:
- people may not see relevance to own situation
- insufficient information can lead to inappropriate results

PREPARATION:
- case must be clearly defined in some cases
- case study must be prepared

9. ROLE PLAYS

STRENGTHS:
- introduces problem situation dramatically
- provides opportunity for people to assume roles of others and thus appreciate another point of view
- allows for exploration of solutions
- provides opportunity to practice skills

LIMITATIONS:
- people may be too self-conscious
- not appropriate for large groups
- people may feel threatened

PREPARATION:
- trainer has to define problem situation and roles clearly
- trainer must give very clear instructions

10. REPORT-BACK-SESSIONS

STRENGTHS:
- allows for large group discussion of role plays, case studies, and small group exercise
- gives people a chance to reflect on experience
- each group takes responsibility for its operation

LIMITATIONS:
- can be repetitive if each small group says the same thing

PREPARATION:
- trainer has to prepare questions for groups to discuss

11. WORKSHEET/SURVEYS

STRENGTHS:
- allows people to think for themselves without being influences by others
- individual thoughts can then be shared in large group

LIMITATIONS:
- can be used only for short period of time

PREPARATION:
- facilitator has to prepare handouts

12. INDEX CARD EXERCISE

STRENGTHS:
- opportunity to explore difficult and complex issues

LIMITATIONS:
- people may not do exercise

PREPARATION:
- facilitator must prepare questions

13. GUEST SPEAKER

STRENGTHS:
- personalizes topic
- breaks down audience's stereotypes

**LIMITATIONS:**

- may not be a good speaker

**PREPARATION:**

- contact speakers and coordinate
- introduce speaker appropriately

14. **VALUES CLARIFICATION EXERCISE**

**STRENGTHS:**

- opportunity to explore values and beliefs
- allows people to discuss values in a safe environment
- gives structure to discussion

**LIMITATION:**

- people may not be honest
- people may be too self-conscious

**PREPARATION:**

- facilitator must carefully prepare exercise
- must give clear instructions
- facilitator must prepare discussion questions
SELECTING A DELIVERY STRATEGY

The term delivery strategy is overused and often misunderstood. Books have been written about it and often equate it to the term method. Most undergraduate teaching-training programs even require a course in methods. For the purpose of this handout, choosing a delivery strategy will be presented as a choice among the lecture, demonstrations, or discussion. The common nature of these choices do not answer the question How?, but focus on the question, Why? A series of questions is presented to help you make a decision on which delivery method to use.

Choosing a Lecture

The purpose of a lecture is to clarify information to a large group in a short period of time. It is not to convey information! Lectures require a great deal of preparation time and need to be supported by various audio-visuals. The lecture is a great opportunity for the instructors to feed their egos! It is instructor centered. Handouts, programmed instruction, information handouts, modules, student presentations, guest speakers, films, film strips, and reading assignments are adaptations of lectures.

The following questions should assist you in determining the appropriateness of a lecture.

1. What knowledge, skill, or attitude needs to be learned?
2. How many students need the content?
3. Do all or most of the students need the content now?
4. How much preparation time is available?
5. Are you in command of your nonverbal cues?
6. Can you develop interest in the lecture?
7. Are there appropriate audio-visual support systems?
8. Would a handout work just as well?
9. Can you devise means to ensure that more than one sense is used by students?
10. Are there natural divisions that equate to 20 minutes or less?
11. Would a videotape work just as well?
12. Do your impromptu lectures last 5 minutes or less?
13. Could you provide an outline of important parts of the lecture?
14. What portion of your teaching time do you spend lecturing?
15. Would a text assignment work just as well?
16. Do you summarize regularly in the lecture?
17. Do you pose questions in your lectures?
18. Have you ever listened to or watched one of your lectures?

Choosing a Demonstration

The purpose of the demonstration is to transmit the big picture to a relatively small group of students in a short period of time. Demonstrations usually require a lot of preparation time must be supported with various audio-visuals. Demonstrations are particularly useful in teaching skills and are more teacher
centered than student centered. There are several variations of demonstrations. Projects, peer tutoring, research papers, practice, field trips, on-the-job training, simulated experiences, and videotapes are adaptations of demonstrations. The following questions should assist you in determining the appropriateness of a demonstration.

1. Does the learner need to see the process?
2. How many students need the content?
3. How many students need the content now?
4. How much preparation time is available?
5. Can you tell and show the content?
6. Can you appeal to other senses?
7. Do you want the students to imitate you?
8. Is there a-v support available?
9. Will the demonstration last more that 20 minutes?
10. Could you use a videotape just as well?
11. Can you ask questions during the demonstration?
12. Can the students take notes?
13. Will there be practice time for the students?
14. Can the student easily identify the steps?
15. Will you permit the students to ask questions?
16. Is there only one right way?
17. Will you support the demonstration with handouts?
18. Have you ever listened to or watched one of your demonstrations?

Choosing a Discussion

The purpose of a discussion is to solicit and involve the student in content transmittal. Discussions are limited to small groups and require considerable time. The discussion method does not require much audio-visual support. This method is particularly useful in an affective area. It promotes understanding and clarification of concepts, ideas, and feelings. There are numerous variations, and the discussion method can vary from teacher-centered to student-centered. Role playing, debate, panel discussion, reviews, supervised study, brainstorming, buzz groups, idea incubation, tests, show-and-tell, worksheets, conferences, and interviews are examples. The following questions should assist you in determining the appropriateness of a discussion.

1. Do you need active involvement from the student?
2. How many students need to be involved?
3. Must you hear everything being said?
4. How much time is available?
5. Is divergent thinking a desirable end?
6. Could you just as well tell them?
7. Can there be more than one right answer?
8. Is there time to clarify differences?
9. How much control do you need?
10. Can you accept the students' views?
11. Can interest be aroused and maintained?
12. Is there time to draw conclusions?
13. Is there time to follow up?
14. What needs to be tested?
15. Is two-way communication necessary?
16. Are checks and balances available to prevent certain students from dominating?
17. Are there means to keep on the topic?
18. Have you ever listened to or watched yourself in a discussion?

Jerry Cerny, jerry@pulua.hcc.hawaii.edu
MEMORANDUM

TO: Anthony Arminiak, Program Director
    Michael McLain, Clinical Coordinator
    Ronald Watcke, Instructor

FROM: Deborah Fiedler, Associate Dean, Distance Learning

DATE: June 26, 2000

SUBJECT: ONLINE COURSE DEVELOPMENT

Enclosed please find a copy of the packet which was distributed and discussed at the Course Development meeting on Friday, June 23rd. I regret you were unable to attend.

As the Guidelines for Developing Online Courses indicates, there are 3 stages in the development process: Planning, Development and Management. The Guidelines for Developing a Course Design Document were discussed in detail at the Friday meeting, including the step-by-step process which must be completed in order to develop the design document. In addition, we reviewed the features available on our new course management system, Blackboard Course Info. Practice course sites have been established for those faculty who attended the Friday meeting.

The completed Course Design Document is to be submitted to the Distance Learning Department no later than Wednesday, July 12th. At that time, I will be contacting all Fall online instructors to determine whether a workshop is needed on the processes necessary to complete Development stage. In the interim, I will be loading course syllabi on the server for access by our students and Virtual Learning Collaborative students. I cannot offer your course through the VLC without your completed syllabus. If you have not yet submitted it, please do so immediately.

Please review the enclosed and let me know if you have any questions. Time is of the essence as the courses should be completed and available to students on the first day of classes in the Fall.

Enclosure

cc: Dr. Joanne Pieronek, Vice Chancellor for Educational Affairs
Wayne County Community College District
Guidelines for Developing Online Courses

I. Introduction

II. Planning
   a. Process for developing course design document

III. Development
   a. Course documents
   b. Web resources
   c. Interactions
   d. Assessment

IV. Course Management
   a. Blackboard.com
   b. Strategies for success
GUIDELINES FOR DEVELOPING A COURSE DESIGN DOCUMENT

The Course Design Document reflects the planning and design of your course and includes specific information, as well as recommendations for other faculty. Once completed, the Course Design Document will be kept on file in the Distance Learning Department and the appropriate discipline department. These guidelines provide the steps which should be followed in order to complete the components of a Course Design Document.

Every Course Design Document will be written in the format that follows:

Title Page:

➤ Course Name, Code, Credit Hours, Delivery System, Your Name and Date

I. Introduction:

(a) Need for the course
(b) Anticipated learner characteristics
(c) Context Analysis (where will the student be doing the coursework?)
(d) Course Goal and Learning Category
(e) Course Objectives
(f) Scope of Instruction

II. Course Content:

(a) Performance Objectives With Learning Type
(b) Recommended Performance Objective Clusters
(c) Recommended Instructional Strategies
(d) Performance Objectives Correlated to Current Textbook
(e) Identification of Performance Objectives Not Addressed by Current Textbook

III. Assessment

(a) Recommended Assessment Method for Each Learning Type Included in the Course.

IV. Syllabus

(a) Generic syllabus
SAMPLE COURSE GOAL

Given a valid system ID, a properly functioning terminal and various student registration forms, the learner will be able to process correctly completed student registration forms to take appropriate corrective steps in response to system error messages.

SAMPLE COURSE OBJECTIVES

The following objectives were developed for the Student Registration Data Entry course:

Upon completion of this course, the learner will be able to:

1. Sign On to the Information System Network
2. Access EDEN-OA Application Menu
3. Access EDEN-OA Student Registration System
4. Access Student Sign-Up Screen
5. Enter Registration Data
6. Determine if:
   a. Classes requested are available, or
   b. Prerequisite/corequisite conflict exists, or
   c. If system override is required
7. Provide Advise or Referral as Necessary
8. Sign Off Information System Network
What Objectives Are - and Aren't

What They Are

Instructional objectives express the behaviors or actions the learners will be able to exhibit or perform after completing your lesson. These behaviors or actions reflect mastery of the material, and you must be able to observe and assess them.

For example:

- The student can name the metals in the periodic table in response to a direct question.
- The student can argue in favor or against Work-for-Welfare programs, and support major points with historical evidence.

The idea that particular kinds of knowledge are reflected in particular types of action and behavior is typically credited to a research team headed by Benjamin S. Bloom in the early 1950s. Bloom's Taxonomy (1956) offers the instructional designer a useful framework of knowledge categories, and associated language for drafting objectives in various knowledge categories.

What They Aren't

Instructional objectives do not describe learning activities. Learning activities serve the instructional objectives. Learning activities may vary, depending on the student's personal and technological capacities.

The following are not good examples of instructional objectives because they describe learning activities, not learner behaviors that reflect mastery:

- The student will memorize relevant portions of the Periodic Table.
- The student will retrieve four recent news articles about Work-for-Welfare.

Instructional objectives do not specify covert (hidden) changes that cannot be observed or assessed. Objectives lose their value if we can't tell whether or not students have attained them. Covert or hidden changes in the minds of learners are certainly part of learning, but they are inaccessible to assessment until the student performs in some way that reflects the change. Instructional
objectives should be expressed in terms of that performance. The following are not good examples of instructional objectives, because they describe hidden states we cannot observe or assess.

- The student will understand what sets the metals apart from other elements.
- The student will develop an appreciation of the political dimensions of the Work-for-Welfare controversy.
<table>
<thead>
<tr>
<th>Situation</th>
<th>Capability</th>
<th>Object</th>
<th>Action</th>
<th>Tools/Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Given written summaries of a cancer patient’s admission interview, physical exam, and lab data</td>
<td>the student will originate</td>
<td>an individualized nursing care plan to include nursing diagnoses, nursing actions with rationales, and evaluation criteria</td>
<td>in writing.</td>
<td>The ANA Standards of Nursing Care and the textbook may be used.</td>
</tr>
<tr>
<td>Given one of the five categories of cancer chemotherapeutic agents</td>
<td>the student will list</td>
<td>the names of three drugs which are examples of that category</td>
<td>in writing.</td>
<td>Reference materials may not be used.</td>
</tr>
<tr>
<td>Having read literature on the pathophysiology of cancer</td>
<td>the student will state</td>
<td>the characteristics of malignant neoplasms</td>
<td>in writing</td>
<td>within 15 minutes.</td>
</tr>
<tr>
<td>Given the chapter to read on the psychosocial aspects of cancer</td>
<td>the student will summarize</td>
<td>the impact of cancer on the patient and family</td>
<td>orally</td>
<td>within 15 minutes.</td>
</tr>
<tr>
<td>Given a prefilled sterile syringe, an alcohol wipe, and a medication card</td>
<td>the student will execute</td>
<td>the administration of an intramuscular injection</td>
<td>by injecting the medication into the dorsalguetis site of a patient simulator</td>
<td>using sterile technique.</td>
</tr>
<tr>
<td>Given readings, discussions, and exposure to learning experiences in oncology nursing</td>
<td>the student will choose</td>
<td>to give care to persons with cancer</td>
<td>by selecting patient assignments on the oncology unit</td>
<td>without prompting from the clinical instructor.</td>
</tr>
<tr>
<td>Given a tennis ball and drawings of a square, a circle, and a triangle,</td>
<td>the student will discriminate</td>
<td>the drawing which looks like the tennis ball</td>
<td>by matching by pointing to the drawing</td>
<td>without assistance.</td>
</tr>
<tr>
<td>Given a drawing of a syringe and needle,</td>
<td>the student will identify</td>
<td>the plunger, barrel, shaft, hub, and bevel of the syringe unit</td>
<td>by labelling the drawing</td>
<td>within five minutes.</td>
</tr>
<tr>
<td>Given a list of ten side effects of cancer chemotherapy,</td>
<td>the student will classify</td>
<td>the side effects which are a result of myelosuppression</td>
<td>by placing an “X” in front of the appropriate terms.</td>
<td>A dictionary or other reference may not be consulted.</td>
</tr>
<tr>
<td>Given pictures of a 22g 1 1/2” needle, a 25g 5/8” needle, and a 20g 2” needle</td>
<td>the student will demonstrate</td>
<td>the needle to use for a subcutaneous injection</td>
<td>by drawing a circle around the needle</td>
<td>within one minute.</td>
</tr>
<tr>
<td>Given a pediatric nomogram, a child’s height and weight, the recommended dosage of a drug in mg/m²/day, and a vial labelled “100 mg/cc.”</td>
<td>the student will generate</td>
<td>the correct dosage of the drug to be given in cc or 6h</td>
<td>by calculating the amount</td>
<td>The answer and the calculations done to derive the answer will be shown on the test answer sheet.</td>
</tr>
</tbody>
</table>

Figure 7. Student-prepared sample objectives by Nina Entenkin.
<table>
<thead>
<tr>
<th>Situation</th>
<th>Capability</th>
<th>Object</th>
<th>Action</th>
<th>Tools/Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>Given successful test performance on problem solving and naval capabilities, and on being presented with a hypothetical political/military contingency,</td>
<td>the learner will originate</td>
<td>a plan for the maritime defense of Australia</td>
<td>by preparing a service paper for consideration by higher authority.</td>
<td>Stenographic assistance provided. Specialist officers will be available for advice. The task to be completed in 10 hours and in the format of JSP:AS102.</td>
</tr>
<tr>
<td>Given successful test performance on Australian Fleet organization and a general statement of New Zealand and Indonesian task force organization,</td>
<td>the learner will generate</td>
<td>an appropriate task force organization for a combined, Australian/New Zealand/Indonesian task force</td>
<td>by producing an operation order.</td>
<td>Unassisted except for stenographic support. Task to be completed in 2 hours and in format of JSP:AS102.</td>
</tr>
<tr>
<td>Given age, years of service, and salary of three officers,</td>
<td>the learner will demonstrate</td>
<td>the method of ascertaining pension entitlements</td>
<td>by calculation of their respective benefits.</td>
<td>Calculator may be used. Task to be completed in 15 minutes.</td>
</tr>
<tr>
<td>Given a list of 10 aircraft and their weapon systems,</td>
<td>the learner will classify</td>
<td>the anti-submarine aircraft</td>
<td>by checking only those aircraft on the list that qualify.</td>
<td>The list must include all types of aircraft. Task to be completed in 10 minutes.</td>
</tr>
<tr>
<td>Given a military organization wiring diagram (organization chart),</td>
<td>the learner will identify</td>
<td>the 'staff' and 'line' positions</td>
<td>by marking them with an 's' or 'l,' respectively.</td>
<td>The wiring diagram is to be limited to one command, or Branch if in head office, and displayed on one page.</td>
</tr>
<tr>
<td>Given one unknown silhouette and 10 known silhouettes of destroyers,</td>
<td>the learner will discriminate</td>
<td>the known which matches the unknown</td>
<td>by pointing to it.</td>
<td>Task to be completed in one minute.</td>
</tr>
<tr>
<td>Given that it is August,</td>
<td>the learner will list</td>
<td>the steps to be followed in preparation of the Military budget</td>
<td>by writing them on paper.</td>
<td>All steps to be included. Task to be completed in 10 minutes.</td>
</tr>
<tr>
<td>In response to a question,</td>
<td>the learner will read</td>
<td>three technological trends which will affect the future capabilities of navies</td>
<td>in an oral answer.</td>
<td>Answer to be completed in three minutes.</td>
</tr>
<tr>
<td>Following a guest lecturer's presentation,</td>
<td>the learner will summarize</td>
<td>the important points of the lecture</td>
<td>by writing a paragraph.</td>
<td>Task to be completed in 10 minutes.</td>
</tr>
<tr>
<td>In a platoon of marching men on parade on the order 'eyes right.'</td>
<td>the learner will execute</td>
<td>a salute to the reviewing officer</td>
<td>by inclining his head and eyes to the right.</td>
<td>Salute to be executed when right foot next hits ground after order 'eyes right' is given.</td>
</tr>
</tbody>
</table>

Figure 8. Student-prepared sample objectives by Haydn Daw.
<table>
<thead>
<tr>
<th>Category of Capability</th>
<th>Situation</th>
<th>Capability</th>
<th>Action</th>
<th>Object</th>
<th>Tools/Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Intellectual Skill</td>
<td>A. Discrimination: Presented a number of taste categories (sweet, sour, bitter, etc.).</td>
<td>the student discriminates</td>
<td>by placing the food item</td>
<td>under the proper taste category</td>
<td>without assistance and within two taste test trials.</td>
</tr>
<tr>
<td></td>
<td>B. Concrete Concept: Given a diagram of the reproductive organs.</td>
<td>the student will identify</td>
<td>by writing next to the associated arrow</td>
<td>the proper name of the structure</td>
<td>within 45 minutes.</td>
</tr>
<tr>
<td></td>
<td>C. Defined Concept: Given role-played examples of intervention techniques for parents (reinforcement, punishment, effective communication, deprivation).</td>
<td>the student must classify</td>
<td>by writing next to the number of the example</td>
<td>the type of intervention used</td>
<td>within one minute following each presentation.</td>
</tr>
<tr>
<td></td>
<td>D. Rule: Given a list of unacceptable behaviors exhibited by a child and a list of effective management interventions.</td>
<td>the student will demonstrate</td>
<td>by matching in writing</td>
<td>the effective consequence to the inappropriate action</td>
<td>within 45 minutes.</td>
</tr>
<tr>
<td></td>
<td>E. Higher-Order Rule (Problem Solving): Given a series of conflict-situations requiring effective communication skills.</td>
<td>the student must generate</td>
<td>in writing</td>
<td>the appropriate communication intervention in each situation</td>
<td>within one hour.</td>
</tr>
<tr>
<td>II. Cognitive Strategy</td>
<td>Given the current contributors to ineffective parenting and the rise in social ills.</td>
<td>the student will originate</td>
<td>by discussion (oral presentation)</td>
<td>the inter-relationship between these two social influences</td>
<td>within a 15-minute presentation to the class.</td>
</tr>
<tr>
<td>III. Information</td>
<td>A. Names, labels, or poems: Given a copy of the poem, 'Children Learn What They Live,'</td>
<td>the student will recite</td>
<td>by oral verbatim reproduction</td>
<td>the poem</td>
<td>within 10 minutes.</td>
</tr>
<tr>
<td></td>
<td>B. Facts: Given a list of the important developmental milestones of childhood.</td>
<td>the student must be able to state</td>
<td>in writing</td>
<td>in appropriate communication intervention in each situation</td>
<td>within one hour.</td>
</tr>
<tr>
<td></td>
<td>C. Meaningful or Substance Learning: Given the &quot;Cardinal Rules&quot; of effective parenting.</td>
<td>the student will summarize</td>
<td>in his or her own words by writing in a few paragraphs</td>
<td>the essence of good parenting</td>
<td>within 45 minutes.</td>
</tr>
</tbody>
</table>

Figure 9. Student-prepared sample objectives by Sandra Quesada.
Converting Incomplete Objectives to the Five-Component Format

Often an instructional designer begins work as a consultant on a project after the needs analysis is finished and after the courses have been outlined in some form.

In the event that objectives have also been written for course units and lessons, they are likely to be defective in communicating the intent of the writers of the objectives. The designer then would often need to confer with the writers as to their intent, or to rewrite the objectives and ask the original writers to review them.

Often the original objectives are either too broad (referring to goals rather than to objectives) or they are couched in vague terms, like “appreciate,” “know,” “understand,” etc., thus providing no basis for designing either instruction or test items.

In Figure 10, we start with objectives that are not as defective as those just described, but they are incomplete, and not written in the five-component form. Read each objective to see which components are absent or faulty; then read the completed objective and note the improvement in clarity.

Examples of Incomplete and Complete Objectives

After each number there appears an incomplete objective. Below it the objective is rewritten in the five-component format.

Verbal Information: Factual Information

1. The student will be able to recall the definition of “normal distribution.”

   Situation — In a typical classroom test situation,
   Learned capability — the student will be able to state (either verbatim or paraphrased)
   Object — the definition of “normal distribution”
   Action — in writing
   Tools/Constraints — without the use of references; the definition may be given in the learner’s own words.

Figure 10. Examples of incomplete and complete objectives.
4

Enter Registration Data (5)

State and Define Appropriate Code (5.1B)

Enter Process Code If Necessary (5.1)

Enter Course Code And Section No. (5.2)

Verify Against Student Registration Form (5.3)

6
<table>
<thead>
<tr>
<th>Domains and Sub-Domains of Learning Outcomes</th>
<th>Standard Capability Verbs</th>
<th>Typical Action Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Verbal Information Learning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Verbatim learning: names, labels, poems</td>
<td>list, recite</td>
<td>orally; in writing</td>
</tr>
<tr>
<td>2. Non-verbatim learning: facts</td>
<td>state</td>
<td>orally; in writing</td>
</tr>
<tr>
<td>3. Substance learning: organized information</td>
<td>summarize</td>
<td>orally; in writing</td>
</tr>
<tr>
<td><strong>Intellectual Skills</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Making sensory discriminations among objects or positions or qualities of objects</td>
<td>discriminate</td>
<td>pointing; sorting; underlining; matching</td>
</tr>
<tr>
<td>5. Concrete concepts</td>
<td>identify</td>
<td>sorting; pointing; underlining; matching objects</td>
</tr>
<tr>
<td>6. Defined concepts</td>
<td>classify</td>
<td>sorting correct and incorrect examples by use of a definition (not giving a definition)</td>
</tr>
<tr>
<td>7. Rules (Rule Using)</td>
<td>demonstrate</td>
<td>by applying the rule orally, in writing or by performing</td>
</tr>
<tr>
<td>8. Higher-order rule-using (Problem Solving)</td>
<td>generate</td>
<td>orally or in writing a product requiring use of several rules</td>
</tr>
<tr>
<td>9. Cognitive strategies</td>
<td>originate</td>
<td>by speaking, writing, or constructing a novel solution to a problem</td>
</tr>
<tr>
<td>10. Motor skills</td>
<td>execute</td>
<td>by a manual performance of new series of movements</td>
</tr>
<tr>
<td>11. Attitudes</td>
<td>choose</td>
<td>by engaging in an activity voluntarily</td>
</tr>
</tbody>
</table>

*Figure 5. Eleven types of learning outcomes and verbs used in writing objectives for these outcomes.*
Sequencing Instructional Objective

You've identified what your learners need to know — in terms of the behaviors they'll exhibit when they know it. The next issue is the order in which you should present the material. Here, you'll ask whether or not a particular sequence is conducive to learning.

Using a "Natural Order"
Sometimes, a "natural order" seems to be implicit in the subject itself. For example:

- a course about disease processes might sensibly be organized in a sequence that mirrors the process itself;
- a suite of activities about aesthetics might be organized in a kind of spiral that begins at a general or superficial level and repeatedly visits the same core themes in a way that becomes deeper and more specific as the learner's experience progresses;
- a collaborative research activity about seasonal bird migration patterns might address topics as they arise in the students' observations.

The use of a hypertext medium, like the Web, allows great flexibility in how you sequence instructional material. You can include supplemental learning supports for those who need them without forcing everyone to use them. You can provide all learners with a choice of alternative learning pathways to follow as they progress in understanding from level to level.

But one thing that hypertext does not do is relieve the designer of the obligation to provide some kind of structure. This is especially true when no particular sequence is implicit in the material itself. The structure suggested by your design should help students grasp relationships within the new material, as well as between the new material and things they already know. Structuring the unfamiliar is an important function of instructional design.

Using a Hierarchy of Behaviors
Another way to sequence a learning experience would be to arrange an activity pathway that requires students to handle topics at progressively higher levels of understanding. In 1956, Benjamin Bloom's research team introduced the idea that knowledge can be arranged in a hierarchy of behaviors:
The lowest level of understanding is reflected, they said, in the student's ability

- to name or recall information just as it was taught to him or her.

As students progress to deeper levels of understanding within a subject, they learn

- to describe things in their own words,
- to apply what they know to problems, and
- to analyze situations for elements and structures that belong to that subject.

Top level mastery is demonstrated by students who are able

- to evaluate and synthesize information about the subject.

Subsequent research has supported Bloom et al.'s ideas empirically.

Typically, instruction incorporates both approaches:

- It takes advantage of any order implicit in the material itself, and
- It employs a sequence of performance benchmarks that corresponds to Bloom's hierarchy.
<table>
<thead>
<tr>
<th>Type of Item</th>
<th>Domain Most Associated With</th>
<th>Type of Learning</th>
<th>KEY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Motor Skill</td>
<td>Verbal Information</td>
<td>Discrimination</td>
</tr>
<tr>
<td>OBJECTIVE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>True/False</td>
<td>C</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Completion</td>
<td>C</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Multiple-Choice</td>
<td>C</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Matching</td>
<td>C</td>
<td>0</td>
<td>0</td>
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<tr>
<td>ESSAY</td>
<td></td>
<td></td>
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<tr>
<td>Essay</td>
<td>C</td>
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<td>0</td>
</tr>
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<td>Extended Report</td>
<td>C</td>
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<td>0</td>
</tr>
<tr>
<td>ACTIVITY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lab Reports</td>
<td>C</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Exercises</td>
<td>C, P</td>
<td>0</td>
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</tr>
<tr>
<td>Projects</td>
<td>C, P, A</td>
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<td>OBSERVATION</td>
<td></td>
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<tr>
<td>Checklists</td>
<td>P, A</td>
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</tr>
<tr>
<td>Rating Scales</td>
<td>P, A</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Anecdotes</td>
<td>A</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Interviews</td>
<td>A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>APPLICATION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem Solving</td>
<td>C, A</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Product</td>
<td>C, P, A</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
APPENDIX D
## Distance Learning Enrollment Report

### Distance Learning Enrollment Report

**Semester:** Summer 2001  
**Date of Report:** July 6, 2001

### Telecourses

<table>
<thead>
<tr>
<th>Course/Cr. Hrs.</th>
<th>Instructor</th>
<th>Campus Enrollments</th>
<th>Total</th>
<th>Date Rep.</th>
<th>Lic. Fee</th>
<th>Stu. Fee</th>
<th>Air. Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COURSE/CR. HRS. INSTRUCTOR</strong></td>
<td><strong>CAMPUS ENROLLMENTS</strong></td>
<td><strong>TOT</strong></td>
<td><strong>DATE REP.</strong></td>
<td><strong>LIC. FEE</strong></td>
<td><strong>STU. FEE</strong></td>
<td><strong>AIR. FEE</strong></td>
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</tr>
<tr>
<td><strong>ANT 154 (3 Cr)</strong></td>
<td>J. Saad</td>
<td>06746 (ETOM)</td>
<td>901</td>
<td>18</td>
<td>40</td>
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</tr>
<tr>
<td><strong>BUS 150 (3 Cr)</strong></td>
<td>G. Ciampa</td>
<td>46212 (PBS)</td>
<td>901</td>
<td>5</td>
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<tr>
<td><strong>ENG 110 (3 Cr)</strong></td>
<td>G. VanDusen</td>
<td>63857 (PBS)</td>
<td>901</td>
<td>7</td>
<td>18</td>
<td>1</td>
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</tr>
<tr>
<td><strong>ENG 120 (3 Cr)</strong></td>
<td>R. Goldman</td>
<td>46189 (PBS)</td>
<td>901</td>
<td>8</td>
<td>17</td>
<td>2</td>
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</tr>
<tr>
<td><strong>GEG 202 (3 Cr)</strong></td>
<td>J. Saad</td>
<td>61178 (PBS)</td>
<td>901</td>
<td>14</td>
<td>57</td>
<td>Split</td>
<td></td>
</tr>
<tr>
<td><strong>HIS 250 (3 Cr)</strong></td>
<td>B. Talpos</td>
<td>86340 (PBS)</td>
<td>901</td>
<td>13</td>
<td>35</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>MKT 200 (3 Cr)</strong></td>
<td>D. Fairbanks</td>
<td>17889 (ETOM)</td>
<td>901</td>
<td>8</td>
<td>25</td>
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</tr>
<tr>
<td><strong>PS 101 (3 Cr)</strong></td>
<td>B. Talpos</td>
<td>43270 (ETOM)</td>
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<td>12</td>
<td>25</td>
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</tr>
<tr>
<td><strong>PSY 101 (3 Cr)</strong></td>
<td>E. Mireku</td>
<td>91429 (ETOM)</td>
<td>901</td>
<td>10</td>
<td>24</td>
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<td>0</td>
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<tr>
<td><strong>SOC 100 (3 Cr)</strong></td>
<td>H. Hershey</td>
<td>25020 (PBS)</td>
<td>901</td>
<td>10</td>
<td>33</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>SOC 245 (3 Cr)</strong></td>
<td>H. Hershey</td>
<td>86547 (PBS)</td>
<td>901</td>
<td>10</td>
<td>23</td>
<td>5</td>
<td></td>
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<tr>
<td><strong>TOTALS:</strong></td>
<td></td>
<td></td>
<td>122</td>
<td>94</td>
<td>51</td>
<td>339</td>
<td></td>
</tr>
</tbody>
</table>
Distance Learning Enrollment Report

TERM: SUMMER, 2001

Courses Offered: 12
Courses Held: 12
# Paid Sections: 13
Total Enrollments: 339
Avg. Class Size: 28.25
Credit Hours Generated: 1057
Tuition Generated: $57,078

TERM: SUMMER, 2000

Courses Offered: 11
Courses Held: 11
# Paid Sections: 12
Total Enrollments: 479
Avg. Class Size: 39.9
Credit Hours Generated: 1437
Tuition Generated: $77,598

CHANGE:

+1
+1
+1
-29.2%
-29.1%
-26.4%
-26.4%

INTERACTIVE TELEVISION

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<td>PSY 101/3.0/P. Wallace</td>
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TERM: SUMMER 2001

Courses Offered: 1
Courses Held: 1
Total Enrollments: 33
Avg. Class Size: 33
Credit Hours Generated: 99

TERM: SUMMER 2000

Courses Offered: 6
Courses Held: 6
Total Enrollments: 126
Average Class Size: 21
Credit Hours Generated: 408

CHANGE:

-5
-5
-73.8%
+57.1%
-75.7%

ONLINE COURSES

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TERM: SUMMER, 2001

Courses Offered: 3
Courses Held: 3
Total Enrollments: 87
Avg. Class Size: 29
Credit Hours Generated: 261

TERM: SUMMER 2000

Courses Offered: 2
Courses Held: 2
Total Enrollments: 38
Average Class Size: 19
Credit Hours Generated: 114

CHANGE:

+1
+1
+28.9%
+52.6%
+28.9%
## Distance Learning Enrollment Report

**Semester:** Spring 2001  
**Date of Report:** January 30, 2001

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TERM: Spring 2001

Courses Offered: 23
Courses Held: 22
# Paid Sections: 23
Total Enrollments: 708
Avg. Class Size: 30.78
Credit Hours Generated: 2184
Tuition Generated: $117,938

TERM: Spring 2000

Courses Offered: 24
Courses Held: 22
# Paid Sections: 24
Total Enrollments: 714
Avg. Class Size: 29.75
Credit Hours Generated: 2244
Tuition Generated: $121,176

CHANGE (rounded %)

- Courses Offered: - 4.1
- Courses Held: 0
- Total Enrollments: - 0.8
- Avg. Class Size: - 3.5
- Credit Hours Generated: - 2.7
- Tuition Generated: - 2.7
### INTERACTIVE TELEVISION

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**TERM: Spring 2001**
- Courses Offered: 3
- Courses Held: 2
- Total Enrollments: 41
- Avg. Class Size: 20.5
- Credit Hours Generated: 164

**TERM: Spring 2000**
- Courses Offered: 13
- Courses Held: 11
- Total Enrollments: 246
- Avg. Class Size: 22.3
- Credit Hours Generated: 784

**CHANGE (rounded %)**
- Courses Offered: - 76.9
- Courses Held: - 81.8
- Total Enrollments: - 83.3
- Avg. Class Size: - 8.1
- Credit Hours Generated: - 79.1

### ONLINE COURSES

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**TERM: Spring 2001**
- Courses Offered: 5
- Courses Held: 5
- # Paid Sections: 9
- Total Enrollments: 145
- Avg. Class Size: 16.1
- Credit Hours Generated: 435

**TERM: Spring 2000**
- Courses Offered: 2
- Courses Held: 2
- # Paid Sections: 3
- Total Enrollments: 49
- Avg. Class Size: 24.5
- Credit Hours Generated: 147

**CHANGE (rounded %)**
- Courses Offered: + 150
- Courses Held:  + 150
- Total Enrollments: +195.9
- Avg. Class Size: - 34.3
- Credit Hours Generated: +195.9
### Distance Learning Enrollment Report

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**TERM: FALL 2000**
- Courses Offered: 24
- Courses Held: 24
- # Paid Sections: 25
- Total Enrollments: 729
- Avg. Class Size: 29.2
- Credit Hours Generated: 2309
- Tuition Generated: 124,686

**TERM: FALL 1999**
- Courses Offered: 21
- Courses Held: 21
- # Paid Sections: 21
- Total Enrollments: 579
- Avg. Class Size: 27.6
- Credit Hours Generated: 1855
- Tuition Generated: 100,170

**CHANGE:**
- +14.3%
- +14.3%
- +19.0%
- +25.9%
- +5.5%
- +24.5%
- +24.5%

*Corrected: 9/20/00*
# Distance Learning Enrollment Report

## INTERACTIVE TELEVISION

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## TERM: FALL 2000

- Courses Offered: 6
- Courses Held: 5
- Total Enrollments: 106
- Avg. Class Size: 21.2
- Credit Hours Generated: 410

## TERM: FALL 1999

- Courses Offered: 14
- Courses Held: 11
- Total Enrollments: 239
- Avg. Class Size: 21.7
- Credit Hours Generated: 784

### CHANGE:
- Courses Offered: -57%
- Courses Held: -54.5%
- Total Enrollments: -55.6%
- Avg. Class Size: -2.4%
- Credit Hours Generated: -47.7%
## ONLINE COURSES

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### TERM: FALL 2000

- Courses Offered: 5
- Courses Held: 5
- Total Enrollments: 98
- Avg. Class Size: 19.6
- Credit Hours Generated: 294

### TERM: FALL 1999

- Courses Offered: 2
- Courses Held: 2
- Total Enrollments: 19
- Avg. Class Size: 9.5
- Credit Hours Generated: 57

### CHANGE:

- Courses Offered: +1.5%
- Courses Held: +1.5%
- Total Enrollments: +106.3%
- Avg. Class Size: +415.8%
- Credit Hours Generated: +415.8%
### Distance Learning Enrollment Report

**Semester:** Summer, 2000  
**Date of Report:** 6/5/00 - Final

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**Term:** Summer 2000  
Courses Offered: 11  
Courses Held: 11  
# Paid Sections: 12  
Total Enrollments: 479  
Avg. Class Size: 39.9  
Credit Hours Generated: 1437  
Tuition Generated: $77,598

**Term:** Summer 1999  
Courses Offered: 11  
Courses Held: 11  
# Paid Sections: 13  
Total Enrollments: 406  
Avg. Class Size: 31.2  
Credit Hours Generated: 1218  
Tuition Generated: $65,772

**Change:**

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### TERM: Summer 2000

- Courses Offered: 6
- Courses Held: 6
- Total Enrollments: 126
- Avg. Class Size: 21
- Credit Hours Generated: 408

### TERM: Summer 1999

- Courses Offered: 6
- Courses Held: 5
- Total Enrollments: 67
- Avg. Class Size: 13.4
- Credit Hours Generated: 201

### CHANGE:

- Courses Offered: 0
- Courses Held: +1
- Total Enrollments: +88%
- Avg. Class Size: +56.7%
- Credit Hours Generated: +102.98

## ONLINE COURSES

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### TERM: Summer 2000

- Courses Offered: 2
- Courses Held: 2
- Total Enrollments: 38
- Avg. Class Size: 19
- Credit Hours Generated: 114

### TERM: Summer 1999

- Courses Offered: NA
- Courses Held: NA
- Total Enrollments: NA
- Avg. Class Size: NA
- Credit Hours Generated: NA

### CHANGE:

- Courses Offered: NA
- Courses Held: NA
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### TERM: SP, 2000
- Courses Offered: 24
- Courses Held: 22
- # Paid Sections: 24
- Total Enrollments: 714
- Avg. Class Size: 29.75
- Credit Hours Generated: 2244
- Tuition Generated: $121,176

### TERM: SP, 1999
- Courses Offered: 24
- Courses Held: 24
- # Paid Sections: 25
- Total Enrollments: 758
- Avg. Class Size: 30.3
- Credit Hours Generated: 2396
- Tuition Generated: $129,834

### CHANGE:
- Courses Offered: 0
- Courses Held: -2
- # Paid Sections: -1
- Total Enrollments: -5.8%
- Avg. Class Size: -0.5
- Credit Hours Generated: -152
- Tuition Generated: -$8,208
## INTERACTIVE TELEVISION

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<td>05534-002 &amp; 003</td>
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**TOTAL**

|       | 112 | 134 | 246 |

**TERM: SPRING, 2000**

- Courses Offered: 13
- Courses Held: 11
- Total Enrollments: 246
- Avg. Class Size: 22.3
- Credit Hours Generated: 784

**TERM: SPRING, 1999**

- Courses Offered: 6
- Courses Held: 6
- Total Enrollments: 125
- Avg. Class Size: 20.8
- Credit Hours Generated: 375

**CHANGE:**

- Courses Offered: +7
- Courses Held: +5
- Total Enrollments: +96.8%
- Avg. Class Size: +1.5
- Credit Hours Generated: +1.5
## ONLINE COURSES

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<tr>
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<tbody>
<tr>
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<td>G. VanDusen</td>
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<td>722</td>
<td>723</td>
<td>724</td>
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### TERM: SPRING, 2000
- Courses Offered: 2
- Courses Held: 2
- Total Enrollments: 49
- Avg. Class Size: 24.5
- Credit Hours Generated: 147

### TERM: SPRING, 1999
- Courses Offered: NA
- Courses Held: NA
- Total Enrollments: NA
- Avg. Class Size: NA
- Credit Hours Generated: NA

### CHANGE:

---

TOTAL DISTANCE LEARNING ENROLLMENTS = 1009
TOTAL DISTANCE LEARNING CREDIT HOURS = 3175 (4.76% of District Total)
## DISTANCE LEARNING ENROLLMENT REPORT

**SEMESTER:** FALL, 1999  
**DATE OF REPORT:** October 11, 1999

### TELECOURSES

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<tr>
<th>COURSE/CRT HRS. INSTRUCTOR</th>
<th>CAMPUS ENROLLMENTS</th>
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<th>STU. FEE</th>
<th>AIR. FEE</th>
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<tbody>
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## Distance Learning Enrollment Report

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**TERM: Fall, 1999**

- Courses Offered: 21
- Courses Held: 21
- # Paid Sections: 21
- Total Enrollments: 579
- Avg. Class Size: 27.6
- Credit Hours Generated: 1855
- Tuition Generated: $100,170

**TERM: Fall, 1998**

- Courses Offered: 24
- Courses Held: 23
- # Paid Sections: 26
- Total Enrollments: 857
- Avg. Class Size: 32.9
- Credit Hours Generated: 2756
- Tuition Generated: $146,068

**CHANGE:**

- Courses Offered: -12.5%
- Courses Held: -8.7%
- # Paid Sections: -19.2%
- Total Enrollments: -32%
- Avg. Class Size: -16.1%
- Credit Hours Generated: -32.7%
- Tuition Generated: -31.4%
## INTERACTIVE TELEVISION

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<td><strong>239</strong></td>
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### TERM: Fall, 1999
- Courses Offered: 14
- Courses Held: 11
- Total Enrollments: 239
- Avg. Class Size: 21.7
- Credit Hours Generated: 784

### TERM: Fall, 1998
- Courses Offered: 6
- Courses Held: 5
- Total Enrollments: 143
- Avg. Class Size: 28.6
- Credit Hours Generated: 429

### CHANGE:
- +133%
- +120%
- +67%
- -24.1%
- +82.7%
## Online Courses

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<tr>
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### TERM: Fall, 1999

- Courses Offered: 2
- Courses Held: 2
- Total Enrollments: 19
- Avg. Class Size: 9.5
- Credit Hours Generated: 57

### TERM: NA

- Courses Offered: 
- Courses Held: 
- Total Enrollments: 
- Avg. Class Size: 
- Credit Hours Generated: 

### CHANGE:

- Courses Offered: 
- Courses Held: 
- Total Enrollments: 
- Avg. Class Size: 
- Credit Hours Generated: 

Procedures
For
The Information Technology IT Works

September 2000
Procedures
For
The Information Technology IT Works

The Information Technology IT Works is a service provided to staff in need of computer generated reports, data, or technical assistance from the Information Technology Department. The overall objective is to respond to all requests accurately, efficiently, and to allow for two-way communication between IT staff and users.

Receiving Requests - Staff may initiate a request in one of two ways:
⇒ A direct phone call to IT Works at 496-2955
⇒ An email message to itworks@wccc.edu

Required information necessary to forward a request is shown in Exhibit A.

Exhibit A

IT Works Request

Number: [ ] Status: On Hold [ ]

LastName: Spencer
FirstName: Bernadette
Department: Finance
EmailAddress: [ ]

Type Request: Data Extract [ ]

Date Requested: 9/1/00 Date Needed: 9/2/00

Assigned To: C. Fritz

Comments: Need Financial Aid Status Report for each Advisor

Assignments – Requests will be assigned to IT staff dependent upon the type of request made. Staff is currently assigned as shown in Table A. Reassignments will be made as staff completes cross training. All requests will be forwarded to the appropriate IT administrator for distribution and/or reassignment at the end of each day, or immediately if the request is urgent. If the work to be performed cannot be accomplished by the date
needed, IT staff must report a reasonable completion date to *IT Works* ASAP. Also, if a reassignment is necessary, this must be reported. A revision will be entered into the system, and a second acknowledgement will be sent to the requestor.

**Table A**

<table>
<thead>
<tr>
<th>INFORMATION TECHNOLOGY STAFF ASSIGNMENTS</th>
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<tbody>
<tr>
<td><strong>Requests</strong></td>
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<td>Outside Agency Reports</td>
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<td>Standard Reports</td>
<td>C. Fritz</td>
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<tr>
<td>Data Extracts</td>
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<tr>
<td>- All Others</td>
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<tr>
<td>Finance System - IFAS</td>
<td>A. Woods</td>
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<tr>
<td>Letters/Labels</td>
<td>C. Fritz</td>
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<td>Technical Assistance</td>
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<tr>
<td>Hardware Installation</td>
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<td>IFAS</td>
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<td>System Update/Table Maintenance</td>
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<td>Email</td>
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<td>Web Page</td>
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</table>
Acknowledgements – A copy of the request (Appendix A) will be sent to the requestor and to the staff person assigned the same day the request is made. Staff will be asked to acknowledge completion of the work performed either by sending an email to itworks@wccc.edu, or by calling 496-2955 to leave a message in phone mail.

Reports – Three reports will be generated weekly:

⇒ Individual Staff Assignments (Appendix B)
⇒ All Assignments (Appendix C)
⇒ Contracted Assignments (Appendix D)

Reports will be distributed for use in monitoring progress, assistance in scheduling, and in projecting need for additional resources. IT staff must report all discrepancies by either sending an email to itworks@wccc.edu, or by calling 496-2955.
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<thead>
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Comments
APPENDIX B
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Data Extract
Need Financial Aid Status Report for each Advisor
APPENDIX C
## IT Works Requests

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APPENDIX D