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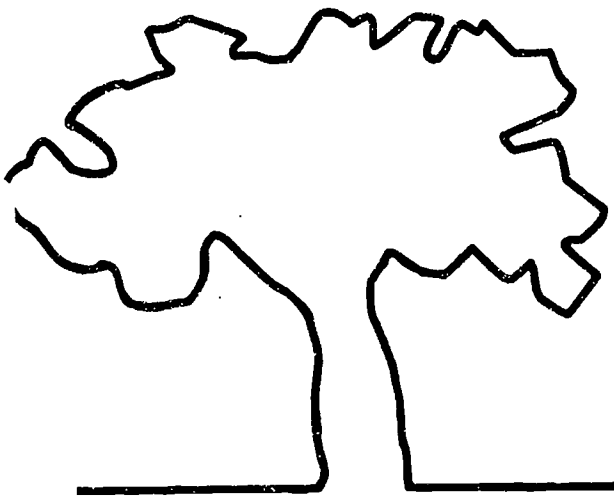
ABSTRACT

This annual serial issue contains seven articles on technology and higher education at institutions in Maryland. "A Faculty Development Model for the Virtual Campus" (Diane E. Davies) describes a seminar that helps instructors at the University of Maryland University College adapt to on-line teaching and learning. "The Maryland Instructional Framework: A Project for All Reasons" (Ronald L. Dietz) describes a project that uses computer technology to help elementary and secondary school teachers. "Designing a Hypertext Knowledgebase for Maximum Use" (James H. Rawson) recounts some of the design decisions in using Hyptertext as a teaching tool. "Project ICONS (International Communication and Negotiation Simulation) International Negotiation Seminars Project: Teaching with Technology" (Brigid Starkey and Jonathan Wilkenfeld) describes the program that won a 1994 Distinguished Program award. Both "The Circuitous Dilemma: The Role of the State, of Business, of the Consumer, and of Higher Education in Twenty-First Century Economic Development" (Robert F. Wiedefeld) and "Community Colleges and Workforce Training: Past Performance and Future Direction" (Craig A. Clagett and Andrew L. Meyer) both look at higher education and economic development in Maryland. The last article is "A Survey of Practices Relating to Faculty Handbooks at Maryland Postsecondary Educational Institutions" (Margaret C. Ryan). Most articles contain references. (JB)



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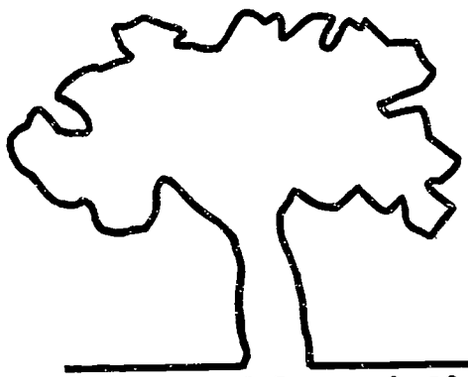

The MAHE Journal

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Maryland Association for Higher Education

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The MAHE Journal is published annually by the Maryland Association for Higher Education (MAHE). MAHE comprises individuals and institutions committed to the advancement of higher and adult education in Maryland. MAHE, through its conferences and publications, promotes communication among all sectors of higher education in Maryland.

Contributions to **The MAHE Journal** are welcomed. Manuscripts should be typed, double-spaced, and should include the name, title, institutional affiliation, and telephone number of the author. Upon acceptance of the manuscript, the author will be asked to submit the manuscript on diskette. Mail all editorial correspondence to Craig A. Clagett, Office of Institutional Research and Analysis, Prince George's Community College, 301 Largo Road K-231, Largo, MD 20772.

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Foreword

Next year the Maryland Association for Higher Education will observe a fiftieth anniversary. This is a remarkable half century as a voluntary organization of institutions and individuals committed to the advancement of higher and adult education in the State of Maryland. Through its publications, conferences, and recognition awards, MAHE continues to provide a forum for ideas that are on the cutting edge of post-secondary education, as this volume aptly demonstrates.

"Technology and Higher Education" was not only the topic of MAHE's Spring Symposium in 1995, it also provides the unifying theme for articles by Diane E. Davies, Ronald L. Dietz, James H. Rawson, and co-authors, Brigid Starkey and Jonathan Wilkenfeld. The first, by Ms. Davies, describes a Faculty Development Seminar that helps instructors at the University of Maryland University College adapt to the "Virtual Campus" of on-line teaching and learning. A state-wide project in which Mr. Dietz of Towson State University took part uses computer technology to assist K-12 teachers, and has obvious potential at all levels of instruction. James Rawson of UMUC recounts some of the design decisions in using Hypertext as a teaching tool. Starkey and Wilkenfeld then describe Project ICONS that enables students at College Park to assume negotiating roles through computer assisted simulations of international debates. This project also won MAHE's 1994 award for Distinguished Program.

Two other articles look ahead to the topic for MAHE's 1995 fall conference which is "Higher Education and Economic Development in Maryland." Robert F. Wiedefeld of Prince George's Community College explores the intricate relationship in "The Circuitous Dilemma." Craig Clagett and Andrew Meyer evaluate the level of satisfaction among Maryland employers who have contracted with community colleges for workforce training. Mr. Clagett is from PGCC and Mr. Meyer is at Anne Arundel Community College. Finally, Margaret C. Ryan, who is on the faculty at PGCC, reports on a survey of faculty leaders to find out about the usefulness of faculty handbooks at Maryland's post-secondary institutions.

This issue of **The MAHE Journal** is the first under the editorship of Craig Clagett and with assistance in desktop design from Pat Diehl. With it, I believe that MAHE reaches a new level of professionalism in both presentation and content. We commend all involved - authors, editor, and production staff.

Margaret W. Masson, President
Maryland Association for Higher Education

A Faculty Development Model for the Virtual Campus

Diane E. Davies

Virtual Campus

The Virtual Campus enables a student to experience the feeling of a campus while sitting at his or her personal computer at any time of the day or night. The Virtual Campus is a graphic representation of a college campus which a distant student traverses with a mouse as a traditional student would through a brick and mortar campus. With a click of the mouse, the student can go to the library and research a topic, peruse periodicals, or put a book on hold. The student can attend a class by joining the discussions in his or her course conference, ask the instructor a question, work on a small group project or submit a homework assignment. A trip to Student Services provides online tutoring, multimedia instruction, career counseling, and other services. When ready for a break, the student can click on the Student Union to socialize with other students, join a discussion group, place a want ad, or shop for a used book.

This learning environment is more student-directed than most classroom-based courses. Faculty no longer stand face-to-face in front of their students, perceived as the repository of knowledge, espousing lecture material while students take copious notes. On the Virtual Campus, faculty experience a paradigm shift from faculty-centered instruction to the new role of mentor and moderator in a student-centered learning environment. Experience has shown that faculty need training and development to accomplish this transition.

This paper describes the Virtual Campus implemented at the University of Maryland University College (UMUC), and the Faculty Development Seminar offered through their Open Learning distance education program. This seminar developed over three years by offering a variety of Open Learning courses via online conferencing and the Virtual Campus.

Tycho

The concept of a Virtual Campus evolved as a means to provide increased interactivity and educational resources to distant students. The advances in technology in the early 1990's and an increase in student access to computers and telecommunications enabled the development and implementation of the UMUC Virtual Campus, now referred to as Tycho. Tycho is a graphically oriented, client/server software system which resides on a Unix server at the University of Maryland University College in College Park, Maryland. To connect to the Virtual Campus, students use an IBM compatible (286 or better) or Macintosh computer with a modem and the Tycho Client communications software package. Tycho can be dialed directly or accessed through the Internet. Tycho technologies used in the Virtual Campus application include electronic mail, access controlled online conferences, online libraries, file transfer, hypertext, Internet access, computer-based instruction, and multimedia capabilities.

Faculty Development Model

In early trials with online courses, faculty were selected who were highly computer literate. As expected, they had little or no trouble with the software; however, they were not as successful in the pedagogical areas, as evidenced by the level of student interactivity, creative use of electronic resources, student evaluations and complaints, and faculty responses.

In response, each semester the training was modified to address more faculty development concerns. This process evolved into the Virtual Campus Faculty Development Seminar which consists of four phases: training, development, assessment, and follow-up.

Faculty Training: The first phase involves teaching the faculty the major components of the Virtual Campus software system and how to use them. At UMUC, adjunct faculty are paid a stipend to attend the training sessions.

The first training session is approximately four hours in a computer lab with demonstrations and faculty exercises. This session can be held on an ongoing basis independently of the Faculty Development Seminar.

At the end of the first session, faculty should be comfortable with the following functions performed by students:

- navigate through the Virtual Campus
- write and read conference notes
- send and receive electronic mail
- access online libraries, research topics, and reserve books
- electronic file transfer
- introductory level access to Internet resources

A second training session is scheduled two weeks later for approximately three hours in the computer lab. In this session participants learn to:

- create the structure of a course conference
- administer a conference
- access student profile information
- check student usage statistics
- access student assignments online
- return student assignments online
- attach or restrict student access and access levels to resources in their course (such as specific conferences, learning modules, Internet, etc.)

Faculty Development: This phase attempts to provide faculty with the necessary understanding and skills to use the Virtual Campus system as a tool to enhance the learning experience of distance students. It is important to distinguish between training and development. Training teaches which keys to press to perform a software function. Development is the process of understanding and acquiring skills to effectively use the available resources to enrich the learning environment.

In the model developed at UMUC, faculty development is conducted online over a six-week period. The goal is for each faculty member to develop an understanding of the paradigm shift necessary to teach effectively on the Virtual Campus. During this six-week period the faculty play two distinct roles. First, in "student mode", they are expected to spend several hours a week online in the Seminar conference. Similar to a course, they have discussion topics in which they are expected to participate and homework assignments to submit.

The online discussion topics center on pedagogical issues related to moderating an online conference. The Seminar conference starts with a discourse on the meaning of the word "moderate." It then proceeds with a discussion of the variety of techniques needed to become a more effective online moderator. Faculty need to understand and experience the impact of computer communication in its various forms, particularly the differences between hard copy, soft copy, and oral communication. In an interactive environment, the seminar participants practice modifying their communication style to conform to the soft copy (computer screen) form.

Additional discussion topics in the Seminar conference encourage faculty to become aware of techniques to generate effective discussion questions, methods to stimulate students to actively participate, and options for responding to challenging online situations.

During the six-week development period, faculty also experience the Virtual Campus in "moderator mode." Each faculty member sets up a conference for a mock course with a few fellow participants as "students." As a moderator, many of the screens have additional options for faculty use. The faculty members compose their welcome messages; develop discussion topics; access, assess, and return student assignments online; monitor student progress using statistical information; and update their syllabi to integrate online resources.

During the third session each participant provides a short presentation of a creative idea or experience related to the delivery of their course on the Virtual Campus. These presentations have provided significant input into the continued development of the Tycho Virtual Campus. During one of the early Seminar sessions, Laura Lathrop, an associate professor in Humanities, discussed the potential use of a private conference for each student to use as a journal. This electronic journal is now available to all students. JoAnne Hildebrand, an assistant professor and content specialist in Fire Science, invited distinguished members of the National Fire Academy to attend her course conference as guest speakers. When implemented, Hildebrand's students considered this a significant opportunity to interact with top professionals in their field.

Bob Obermeyer, a professor at Empire State College, provided a demonstration of a case study/role playing exercise used in his Fire Science course. Obermeyer provided the case study material online, and each student selected a role (such as fire chief, concerned citizen, politician, etc.). Throughout the semester, discussion continued on the conference with students representing their roles, often requiring research on their part to respond to questions and discussion.

At the end of session three, Seminar participants are given the opportunity to interact with a panel of experienced Virtual Campus faculty.

Faculty Assessment: During the first training session, faculty are given a list of the assessment criteria used to determine if they have successfully completed the Seminar. Successful Seminar attendees receive a Certificate of Completion of the Virtual Campus Faculty Development Seminar. This certificate is required to teach a distance course using the Tycho Virtual Campus at UMUC.

Several faculty characteristics appear to increase the likelihood of a successful online experience: willingness to learn new skills, commitment to sign on frequently, creativity to assist with the paradigm shift, tolerance to inevitable software and hardware problems, and experience with distance education and adult students.

Follow-up Training and Development: Faculty need to be identified as potential Virtual Campus instructors several semesters in advance. During semester one they attend the Faculty Development Seminar, in semester two they observe their mentors, and in semester three they are ready to teach an online course with their mentors shadowing them. By semester four, they are available to assist new online faculty and participate on the faculty panel assembled for session three of future Seminars.

Faculty are encouraged to join some of the ongoing discussion groups on the Virtual Campus. These discussion groups range from the Open Learning forum at UMUC to national discussion groups on distance education and specific content areas of interest to individual faculty members.

Specialized workshops on various topics related to distance education and the Virtual Campus are offered on a continuing basis through the Open Learning program. Adjunct faculty are required to attend at least two of these workshops each year.

Faculty training and development does not ensure success without an institutional commitment to technical and instructional support. Without adequate support a Virtual Campus cannot exist. UMUC has found it necessary to provide toll free and online access to technical

support twenty-four hours per day, seven days a week. Faculty have access to instructional development support to assist with the integration of Virtual Campus resources into existing and new disciplines and courses. The electronic tools should not be viewed as a simple add-on to a course; their integration should be part of a formal course development process.

A Personal View

I was always one who enjoyed the classroom teaching experience. I thrived on class discussion, collaborative work, and experiential learning. I recall the first time I was asked as a faculty member to teach a course over instructional television. I declined, fearing that I couldn't possibly be effective without face-to-face interaction. Years later, as I taught my first online course, I learned that I could infuse my interest and excitement in the course material without face-to-face contact. More importantly, I learned that when I am an effective moderator the students begin to direct the learning process themselves. For me, this is the first sign of what I refer to as a successful online course — students interacting with students, building on each others experiences and insights, with occasional guidance from the instructor. In undergraduate classroom-based courses I tried to motivate students to join class discussion and help them transcend the attitude that when a classmate talks it is a waste of time. On the Virtual Campus it is apparent that student discussion is a crucial element which enables meaningful learning to take place in a collaborative environment. Course structure and content are also provided by other materials such as textbooks and syllabi.

As Director of Open Learning Technologies, I have witnessed disasters online. For example, when the instructor is a weak moderator, more assertive students may be able to take over the role. In two cases an online mutiny occurred of which the administration became aware through multiple student complaints. In both cases the instructors were provided with immediate guidance and support. One instructor was able to work through the situation on the conference by providing more structured guidelines. The course went on as a stunning example of cooperative interaction. In the other case, refunds and transfers were provided, and the course continued with the assistance of a co-moderator. These early experiences illustrated the importance of faculty training, development, assessment, and follow-up. The Virtual Campus Faculty Development Seminar has succeeded in providing faculty with the necessary understanding and skills to use the Virtual Campus system as a tool to enhance the learning experience of distance students.

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The Maryland Instructional Framework: A Project for All Reasons

Ronald L. Dietz

The Instructional Framework is an interactive, technology-based project that promises to finally set education on the road to establishing teaching as a science that can be readily referenced, analyzed, modified, and validated in a unified and convenient format.

Project History

The Instructional Framework was the brainchild of Dr. Nicholas Hobar, Assistant State Superintendent of the Division of Instruction at the Maryland State Department of Education (MSDE). The concept at the project's inception in 1987 was to develop a database of effective teaching strategies that would model the (then) new Maryland State educational outcome standards for all major disciplines. It was designed to accomplish this by supporting and complementing the staff development process of school improvement through pre-service and in-service education. Dr. Hobar set his plan into motion by creating a special MSDE Task Force under the leadership of Barbara Reeves, Specialist in School Improvement through Technology. This group formed a consortium made up of the MSDE, the University of Maryland University College's (UMUC) Instructional Technology Division, and several county educational systems. The original Task Force quickly evolved into a statewide "Action Team" that was augmented in 1991 to include an additional representative each from Maryland higher education agencies (HEA's) and the State of Delaware.

In 1988 a development team was established under the leadership of Scott Burg, an Instructional Designer with UMUC. It was this group, along with a contracted programmer from private industry, that designed and programmed the first viable software package in the Macintosh "Hypercard" format. The first four prototype modules for the system were produced by 1991. These modules were pilot tested in 1991-1992 at twenty-five public school, staff development, and University of Maryland sites in thirteen counties.

The original Framework modules concentrated on core areas of Science, Mathematics, English Language Arts, and Social Studies. These four were soon joined by an additional module in Adult Basic Education. The project's scope has since been expanded to a total of ten completed modules in nine subject areas. The system has currently been distributed to over 150 public school and related educational sites in Maryland, as well as single sites in five other states. The project continues to be supervised by the volunteer Action Team mentioned previously.

Pilot Test Results

The initial results of the pilot testing in 1991 and 1992 were encouraging. After a brief introductory training session, participating teachers and school support staff were given the opportunity to make use of the Framework as often as desired.

All participants were then asked to complete a survey at the end of the first year of access. Teachers comprised the largest single number of respondents, with 77 percent of the total 114 participants who returned forms. Better than 46 percent of the teachers reported that they made at least one additional follow-up use of the system in the one year period, while 50 percent of those individuals employed it at least 2-5 times during the interval.

Teachers reported that they particularly liked the user-friendliness and convenience of the system. Eighty-six percent of the teachers reported that they required little or no assistance in operating the system or in locating what they needed there. Nearly 78 percent typically used the system during breaks and after school. Almost all users thought the teaching examples were excellent, though limited in depth in this first iteration.

A total of 42 responding sites used the Framework as an integral tool for district professional development or instructional improvement programs. The most frequent uses were in the subjects of Math, Science, and English Language Arts. The three most important potential uses of the Framework suggested by these sites were: (1) exploring the "Dimension of Learning"; (2) taking college credit courses; and, (3) designing conferences and workshops.

Project Description

The Instructional Framework is an interactive, multimedia resource with many unique features and special uses. The components of the Framework are interactively combined in a way that is not available from any other single source at this time. Together they allow the project to demonstrate a combination of the following qualities.

1. First, the Framework is a comprehensive *vehicle*. It offers easy access to most of the crucial data that relate to the effectiveness of the teaching process. Interested explorers can access, review, and analyze the current best practices and practitioners in the art of teaching. It also acts as a ready repository and vehicle for delivery of all of the Maryland State educational outcomes produced under the five elements of the "Dimensions of Learning" model. While the present version of the system deals only with public school K-12 and some adult education, it is completely adaptable to higher education and private sector curricula

as well. The Framework format would have no difficulty in accommodating and transporting the outcomes and strategies of any number of educational enterprises.

2. The Framework is a powerful and versatile *tool*. Its concrete integration of the primary elements contained in real teaching episodes makes it a valuable agent for personal growth. It can also act as a modeling experience for the adoption or adaptation of new methods that can foster substantial increases in the available repertory of professional skills.

3. The Framework is a collection of highly useful *databases*. In addition to making accessible all of the Maryland State educational outcomes in one place, it is also formatted to store and retrieve key elements of: (1) teaching strategies; (2) research findings; (3) familiar quotes; (4) lesson plans; (5) print and non-print resources; (6) assessment models; (7) rationale; (8) references; (9) contacts; and (10) exemplar videos of master teachers in action. In the current version 1.0, these elements are all accessed from a "search information" screen that is displayed soon after the system is turned on. The screen requests the user to enter information about desired school location, subject matter, grade level(s), and special conditions and/or outcomes. The system then compiles an appropriate list of strategies that match the requested conditions. The user then selects any strategy from the list to receive a submenu of choices leading to linked content within the above elements. Exploring material that is organized in this logical manner can provide greater insight into the process of teaching, leading to more satisfying and informed learning experiences.

4. The Framework can be described as a *delivery system*. The content is delivered directly to end users by standard data diskettes or downloaded hard drives, and from high quality laser videodisks. This delivery method makes it possible for either individuals or groups to elect to use any or all of the materials according to their own needs, preferences, paces, and convenience. (Group use may be limited to availability of computer stations and networking facilities, however). A further advantage of the delivery system is that updates in databases can be distributed easily by simply mailing out new disks. Protection of access to dated disk content can also be controlled in some measure by periodically collecting old disks.

5. Finally, the Framework is a *site-based resource*. Its rich source of information arrives right at the user's point of practice, the school environment. In this way it is always ready and available to be employed by teachers, staff developers, administrators, or parents alike. The package is available without leaving the convenience of the school, library, or home.

Future Development

The Framework Action Team is investigating a number of options for expanding and marketing the system. In one such development, the State of Delaware has procured a series of grants that will enable it to become a major contributor. Delaware has already completed the shooting of classroom video for two new modules that will serve to illustrate their recently established state standards in Math and Science. First phase plans call for the completion of one additional module in the series. The three new modules will be distributed through a network of sites located in all nineteen school districts in the state. The material will also be shared with present users of the system in Maryland. The Framework is expected to become one of the primary delivery modes for Delaware's "New Directions" educational improvement plan for the "Goals 2000" national initiative. Delaware is continuing to seek grants to finance additional Framework materials.

Additional states have recently expressed interest in the system. Twenty-three Chief State School Officers recently attended a two- day conference sponsored in Baltimore by the Action Team. In addition, the Framework has been demonstrated at several prominent local, state, and national conferences that feature innovative instructional systems. Many attendees have shared information with Framework team members. Most have expressed a desire to obtain the system for use in their own states, but others have expressed interest in participating by actively undertaking development projects. Two states have inquired about the possibility of converting the current Macintosh-based system to an MS-DOS format to increase its potential utilization to all users. This latter option was an early project objective that still remains under consideration.

A new version 2.0 of the Framework is nearing completion under the direction of the UMUC/MSDE/Action Team coalition. The new version is due to be released sometime in the fall of 1995. It will incorporate significant improvements and modifications that had been suggested by users. Some of the changes include:

- the ability to shorten or bypass the entry of individual user information (without sacrificing useful tracking data)
- a move to a commercial database that reduces waiting intervals substantially
- new screen layouts with greater clarity (allowing more flexible movement between databases)
- the ability to access databases in any sequence (thus avoiding the need to begin with "strategies", and facilitating random searching and comparisons between data)

The 2.0 version will continue to rely on the use of laser videodisks for delivery of classroom t: aching examples, but subscribers will receive at least four complete new modules with the accompanying video discs. The four new modules are titled as follows:

- Use of Technology in Mathematics and Science
- Career and Technology Education
- Writing to Learn - Across the Curriculum
- ICONS (International Computer Online Negotiations Simulations)

Some additional modules are currently in the planning stage. Some of the titles most prominently mentioned are: (1) Performance Assessment; (2) Home Economics; (3) Library Media Utilization; and (4) Special Education. A number of students polled at university demonstrations suggested a further need for modules in Classroom Management, the Arts, and Multicultural Education.

Despite system improvements and the above new and proposed modules the plan still calls for all the software to be provided to qualified parties free of charge. The only cost to the consumer continues to be in the purchase of the required hardware to run the system.

A future version 3.0 is already in the planning stage. A special committee currently meeting on the campus of Towson State University is focusing on the possibility of incorporating one of the new delivery formats for packaging the system. Under consideration are the newly

proposed high density data compression systems that can be contained on CD-ROMS or transmitted and downloaded over high speed distribution networks. This would result in the first major departure from previous reliance on the hard drive/laserdisk combination of delivery platforms. This should have the effect of speeding up both the production and utilization of the system, as well as allowing it to become physically more compact, portable, reliable, available, and simple to use with playback hardware. It would also free computer memory for more creative interactivity with the disk data - e.g., allowing local experimentation, content modification, personal notes, importation of related data and building new case scenarios.

The Towson committee has taken the first move to open contacts with commercial vendors who have expertise with interactive instructional projects and access to private or public networks such as the Internet. The tentative goal is to produce at least one demonstration prototype of an existing Framework module in one of these formats by the fall of 1996. Further, the group hopes to design and package (and post on a network distribution system if possible) at least two new modules by the fall of 1997 or 1998. This committee is also investigating sources of major grants to carry out these and other future objectives.

Potentials and Challenges

The concept of the Instructional Framework is basically a sound one. Students of education can quickly enter the system and explore the total experience of instructional planning and teaching. For any such future opus to be considered successful, however, it must possess the following qualities as a minimum:

- accessibility (including visibility and convenience)
- clear organization of content
- replicable/printable materials
- provision for user input
- formatting for networking capabilities

To a large extent the first three of the preceding qualities were inherent in the original version 1.0 of the Framework. However, a major problem is that the system is only a prototype product at this time. The modular content is not yet extensive enough to continue to provide in-depth experiences to repeat consumers. There needs to be a deliberate and systematic process for expanding and refining the system's various databases. This has not been possible thus far because of existing time demands on the all-volunteer Action Team.

One possible solution to limited personnel time is to employ a full-time project director and a production staff to manage development of the project. This team should be charged with the additional task of cultivating an ever-expanding network of regular contributors, consumers, and evaluators from all levels of educational endeavor. The nature of the system is such that increasing professional involvement translates directly to increasing usefulness. Imagine a comprehensive system that would allow individuals to explore relevant databases related to the outcomes of widely different institutions, states, and nations. Imagine further a cadre of students of education, educational psychologists and theorists, professors of edu-

cation, researchers, school teachers, parents, and business representatives - all focused on evaluating the same visualized events. Imagine the opportunities to educate a largely uninformed public about how to identify qualities of sound instruction.

The Framework has the ability to embody a networked communications system that would allow greater sharing of information among users. A dual-level system should be created that would include: (a) the "read only" documented package of accumulated "summative" data (as is now supplied by the software part of the system); and (b) a user-programmable database formatted for the easy addition of "formative" material. To borrow a concept from commercial television production, the above system could be described as having an "above-the-line" and a "below-the-line" function. Subscribers could receive both the "above-the-line" (the protected summative) package, and the programmable "below-the-line" (formative) database to record potential material for the summative side of the system. A special panel could be assigned to periodically monitor and review the formative ("below-the-line") data entries over a dedicated network such as Maryland's METNET educational network or the Internet. In this way all users become potential active contributors to the system.

There are numerous potential uses for the Framework throughout all levels of the educational establishment. In addition to the obvious foregoing benefits for in-service education, colleges of education in HEA's are seeking ways to utilize features of the Framework to benefit their teacher training programs. Some examples of pre-service uses of the Framework are as follows:

- compiling data to fulfill classroom assignments
- introducing beginning students to early classroom experiences
- modeling acceptable teacher behavior
- illustrating/supplementing classroom presentations
- introducing/reviewing/developing research summaries
- providing examples for study, use, or analysis
- exploring contacts and resources for new approaches

Students in several cooperating Maryland HEA's are currently receiving course assignments that encourage them to evaluate, modify, and create content for various components of the Framework. After grading by the course instructor, students are able to submit their work and to receive official recognition for their effort. Some student materials have already found their way into the present system. It is one additional opportunity to bring students into the mainstream of teaching and learning at an early stage. Imagine the impact of enfranchising students to contribute in this very visible and meaningful way to the profession they are about to enter!

Future educators and in-service teachers alike may also contribute through a recent "Call for Materials" form issued by the Action Team. Contributors are provided with an established format in which to submit their materials for formal review and possible inclusion in the "above-the-line" system. This could become one of a number of criteria for identifying

master teachers. Imagine also the potential for motivating classroom teachers with rewards of official recognition by their professional peers!

The benefits of the system in contributing to the development of a ju'ied and systematic science of instruction are incalculable. The Framework format disciplines participants to reflect on the interdependency of links, influences, and outcomes. The visibility of the databases and video illustrations provides a record that allows one to trace, isolate, and study unfolding developments within an instructional event. The necessity to account for specific variations in outcomes forces the profession to create descriptions for contributing phenomena (this is why the current system contains more than 400 separate strategies commonly used in instruction). The presence of suggested grading rubrics and assessment strategies allows participants to contrast and compare methods of evaluating the merits of various educational outcomes. The presence of complete and printable lesson plans saves time by providing teachers with time-tested models to audition, thus preventing them from having to "reinvent the wheel" and providing a head start in the planning process.

The vision of the Framework system as a dynamic and responsive product is in line with a science of instruction that incorporates change and innovation. It is a system that can be adapted to input from feedback from a wide variety of participant orientations and needs. The network component proposed earlier would even allow parents and the general public to monitor the system through direct access to libraries and homes. A public online forum can be visualized that would permit consumers to input their comments and reactions directly to system designers.

The Framework can be the vehicle that allows education to harness seemingly disparate but individually significant forces for teacher improvement and renewal. It can serve to enlist and unite the efforts of the complete spectrum of the profession from students through master teachers and college professors. The opportunity is now provided by a fledgling technology to focus both the entire professional establishment and a hungry public on the task of constructing a truly participative science of instruction!

Conclusion

Maryland has a proverbial tiger by the tail in the form of the Instructional Framework. Admittedly, a great deal of work remains to be done in some areas to move the system to the lofty status of a definitive tool for instructional improvement. However, the promise and the opportunity are tangible enough. A coherent plan that is executed with vigor and imagination can make all the difference.

The project is currently at a particularly crucial stage of development and implementation, being trapped in limbo between versions 1.0 and 2.0. Maryland must move quickly in choosing to steer its tiger into new territory. The alternative is to be forced to relinquish its hold on the tail and to assume complicity in the failure to seize the initiative. It seems certain to this author that some form of enabling technology like the Framework is inevitable. If Maryland fails to pick up further ownership and expansion of the system to support its educational outcomes, some other agency will surely do so for its own purposes. This is a project whose time has arrived, even as the technology to support it has matured.

The following elements are some of what will be required to preserve and nurture the project for the near future: (1) adequate funding to develop new iterations and produce new modules to cover all subject areas; (2) a dedicated production and programming component; (3) role descriptions and incentives for institutional and professional cooperation; and (4) a continuing commitment and consistent guidance from an authoritative educational establishment. With these additional resources, a grassroots effort could be mounted that may well change the very nature of how and why we build instructional systems for all occasions.

Society has finally arrived at the doorstep of an era in which information about effective teaching practices will be available at a convenient "one-stop shopping center" as close as the nearest computer screen. For the first time in history, any person will be able to empower himself/herself to become at least a vicarious participant in educational processes and issues.

Make room baseball, football, and the performing arts!...here comes the newest spectator sport...*education*!

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Designing a Hypertext Knowledgebase for Maximum Use

James H. Rawson

Although the rapid spread of the World Wide Web on the Internet seems to indicate the widespread acceptance of hypertext in higher education contexts, there are, as with any relatively new technology, many barriers to successful implementation. Nevertheless, hypertext has become "socially acceptable" (Neilsen, 1995) in higher education: hypertext's ability to allow students to control how they browse complex collections of information and how they interact with such information is now perceived more as a valuable asset than as a technological gimmick.

More problematic is hypertext's "practical acceptability" (Nielsen,1995), i.e. the ease with which it may be implemented. Between design and implementation lie a host of barriers that must be overcome. In designing and developing the China Area Studies knowledgebase, a broad, seven-module hypertext introduction to China for use by both University College and other organizations, UMUC's office of Instructional Development considered two categories of issues: (1) internal accessibility, and (2) external accessibility.

Internal accessibility refers to the ease with which learners may browse (access) information—the degree to which the knowledgebase encourages users to explore information without becoming disoriented in the electronic environment. What do users have to know in order to use the product? How simply can users navigate the knowledgebase? How easily can they comprehend the information displayed on the screen?

External accessibility refers to the transparency of the technology required to run the hypertext, especially the hardware. Although internal accessibility is always a major issue in designing hypertext, external accessibility presents a unique challenge because, by discouraging use, clumsy technological implementations can ruin the most promising designs. Hypertext that requires an expensive, high-end computer platform is practical only for those relatively few users who can access such equipment or afford to purchase it. Indeed, despite the rapidly rising popularity of the World Wide Web, its wider implementation is hindered

by the software's requirement for both a powerful computer and a speedy communications link.

The challenge in developing the China Area Studies project was to maximize external accessibility without compromising internal accessibility, that is, without compromising design. To that end we chose to develop the knowledgebase using the Hyperties authoring software, which can create products to run on any IBM-compatible PC using just about any version of DOS—no Windows required. Hyperties also allows users to navigate a knowledgebase using either keyboard or mouse, making it an attractive choice for use on laptops.

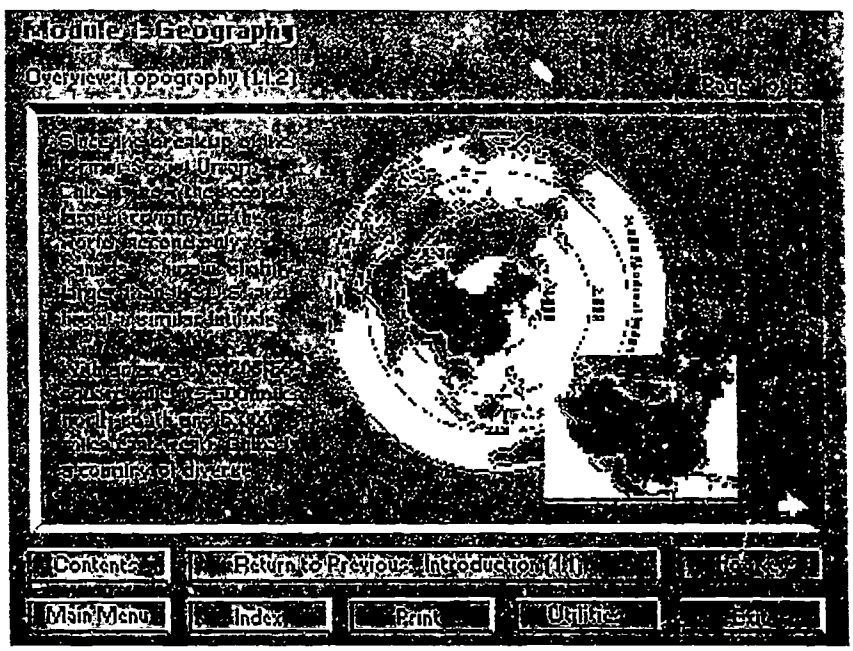
External accessibility issues also influenced the design. We chose to use color and graphics to maximize readability and ease of use, but we limited the color palette to 16 colors (as opposed to the now common 256 color palette) thereby allowing the knowledgebase to run on any machine supporting a VGA display (any IBM compatible machine from a 286 on up including most laptops). The choice of 16 colors limited our use of photographic images to black and white, but that constraint was a reasonable trade-off for minimizing hardware requirements. This limitation made it possible to effectively use the knowledgebase on monochrome screen displays.

Following the same logic, we eschewed using multimedia (although Hyperties will support it) because of its significant hardware requirements. Users could have benefited from hearing the pronunciation of many of the geographical place names and glossary terms, but it seemed counterproductive to require users to install soundcards on their computers.

Working Within the Envelope

Of course, maximizing external accessibility is futile if internal accessibility issues are too severely compromised. The China Area Studies knowledgebase is highly effective within the chosen constraints, offering a simple, "Windows-like," point-and-click interface without requiring powerful hardware.

The figure shows the screen that displays any article in the knowledgebase. In addition to displaying article content the screen provides navigation information and a variety of buttons. The navigation information includes the module name, article name, and and article length (number of pages or screens). The clearly labeled buttons activate various functions ranging



from navigating within and between articles, to activating special functions such as full-text searching, a "history" of articles previously viewed, and an online notepad. The graphic is simple, effective, and, as you can see, readable in black and white as well as in its original 16 colors.

In concrete terms, designing for a low-level platform means that a student can use the knowledgebase at any time and place. Although faculty and/or institutions may choose to install the knowledgebase in a lab environment, there is no reason why students could not access their own copies, just as they read their own textbooks.

Some faculty may choose to use the China Area Studies knowledgebase in classroom presentations. All of the knowledgebase's many graphics can be displayed effectively using any computer projection device including monochrome LCD plates. It would take relatively little effort to install the knowledgebase on a laptop for use with an LCD plate and an overhead projector, allowing the package to be carried from classroom to classroom as needed.

Authoring Issues

The previous discussion explored the knowledgebase from the perspective of end-users who browse a fully-completed product. However, given the volatility of area studies information, we have designed portions of the knowledgebase to be replaced or revised by anyone with access to the Hyperties authoring program and appropriate hardware. All articles and most display codes can be accessed from the authoring system as plain text. Although authoring is most convenient on a 386 and faster machine, it can be done effectively on a 286 machine—just more slowly.

Even without the knowledgebase, articles can be revised or created independently of the authoring system using any wordprocessor or text editor, and then imported into the knowledgebase. In other words, revision requires a knowledge of wordprocessing and a minimal familiarity with a "mark-up" language (similar to the popular HTML language used on the World Wide Web) which authors can input manually or rely on the authoring system to do.

In this way authors can "pour" new data into the custom shell designed by UMUC, consisting of the seven modules and their built-in graphics and buttons. We strongly recommend that authors not tamper with the shell itself. However, knowledgeable users could perform this level of authoring on the machines described above.

Internal accessibility for authors is augmented by using a numbering system that designates any article's hierarchy in the knowledgebase. For example, an article numbered 1.1.1 would be part of section 1.1 of Module 1. While this numbering system is useful for end-users, it is essential for author-revisers who are not part of the initial development process.

The various accessibility issues affecting both end-users and authors is summarized in the matrix on the following page:

Access Matrix		
	End-users(students)	**Author-developers**
External accessibility (hardware/software requirements)	browsing information	revising information
Internal Accessibility (design issues)	- ease of navigation - clarity of screen display - user interface design	article numbering system to clearly indicate article's hierarchy in the knowledgebase

Like anything engineered for the real world, the China Area Studies knowledgebase is the result of many compromises. But the result of such compromises is a good instructional tool: "a good tool is an invisible tool...you focus on the task, not on the tool. Eyeglasses are a good tool — you look at the world, not the eyeglasses" (Weiser, 1994). Given the current state of computer technology, the China Area Studies project has achieved much of the eyeglasses' technological transparency.

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Project ICONS International Negotiation Seminars Project: Teaching with Technology

Brigid Starkey and Jonathan Wilkenfeld

Introduction

Over the past decade, an increasing number of reports and national studies have highlighted the failure of postsecondary curricula to involve students in their own learning and to provide them with the problem-solving skills they will need to function in a complex and interdependent world. Moreover, the contemporary workplace is infused with information technology and is global in scope. Students' academic preparation typically gives them too few opportunities to be active participants rather than passive observers. And the technology that they will need in the workplace is under-utilized in the college classroom, where the integration of computers into the learning process is significantly lower than in the K through 12 environment (Norman, 1994).

To better prepare postsecondary students to function in today's workplace, the International Communication and Negotiation Simulation (ICONS) Project at the University of Maryland provides structured exercises that build communication skills and cross-cultural awareness through the use of technology. A recent ICONS initiative, the "International Negotiation Seminars Project," was recognized by the Maryland Association of Higher Education (MAHE) in 1994 for instructional excellence and innovation. This article describes the general ICONS approach and details this latest enterprise.

Collaborative Distance Learning Through Simulation

Foreign language instruction, student exchanges, and a conscious emphasis on world cultures, geography, and history are some of the strategies that have traditionally been used to globalize the curriculum. The arrival of the virtual classroom — a technology-mediated environment that can support a "dispersed community of learners" (Hiltz, 1994) — provides

new media through which students can transcend borders. This is especially important for the majority of students who do not have the resources to travel abroad. Educational technology can facilitate a learning model that encourages true experiential and collaborative work. An active learning environment allows the learner to manipulate dependent and independent variables, experimenting with different scenarios and different outcomes. A collaborative learning environment encourages synergy in problem-solving. It counters the focus on individual achievement that dominates American post-secondary education, shifting the nature of the educational enterprise to cooperation, rather than competition. A further gain from a group-oriented learning process is that social interaction becomes a prominent aspect of the methodology (Alavi, 1994).

ICONS

In using negotiation as the theoretical context for the ICONS simulations, an automatic emphasis is placed on group process and communication skills. The computer-assisted simulation, able to support worldwide participation, provides an authentic cross-cultural communication experience. Using a combination of synchronous and asynchronous communications, ICONS participants negotiate with one another by exchanging positions and "meeting" on-line in bilateral and multilateral conferences in hopes of achieving mutually acceptable outcomes. Learning is in the hands of the learners, who work in groups to accomplish simulation-related tasks. Student-participants are cast in the roles of high-level negotiators for various nations and must research positions and formulate policies as they engage in the negotiation process. As part of the group of activities in the field of international relations that are referred to as simulation and gaming exercises, the ICONS model facilitates interdisciplinarity and internationalization of the curriculum. Social, behavioral, physical, and environmental sciences are all relevant to the research and negotiation phases of the model, as are foreign language and culture studies (Wilkenfeld and Kaufman, 1993).

ICONS now reaches over 5,000 university and high school students and teachers on a yearly basis, with a variety of simulations. From its inception in the early 1980s, the Project has capitalized on the ability of computers to link learners at remote locations to one another during participation in the negotiations. Initially, ICONS utilized ARPANET, Sprintnet, and NSFNET to facilitate the distance learning component, linking American students to peers in Asia, Europe, Canada, and Latin America. Now, the wide accessibility that the Internet offers has made ICONS available to students in virtually every corner of the globe.

The International Negotiation Seminars Project

With the support of a three-year grant from the U.S. Department of Education's Fund for the Improvement of Post-Secondary Education (FIPSE), ICONS adapted its simulation model to target lower-division undergraduates in large, "lecture" course settings (Starkey, 1994). With a premium on cost-effectiveness, the initiative sought to develop ways to enliven the learning experience for first and second-year students in ways that did not require large infusions of scarce institutional funds. The project targeted reform in three broad areas: curricular, structural and technological.

Globalization of the curriculum, with an emphasis on enhancing interdisciplinarity, was a main goal of the project. On the College Park campus, a new course, Introduction to International Negotiation, became the vehicle for the FIPSE initiative. Accepted as one of the courses that meets "cultural diversity" requirements on campus, the class was open to all lower-division undergraduates, although it was required that they have at least one political science course as a prerequisite. A simulation scenario based on post-communist Europe — the "New Europe" — was drafted and European universities were recruited to participate. The scenario incorporated four main issue areas: environment, security, ethnicity, and economics. Senior-level faculty members on the campus were invited to deliver guest lectures on these various topics and work with interested students as they delved more deeply into such subjects as the pollution of the Rhine River, in preparation for the negotiations.

Structurally, the course took advantage of the conventional "discussion sections" that complement lecture courses. Students who signed up for the Thursday morning session did so without knowing that this would predestine them to become part of the Russian negotiating team. The Tuesday morning session became France, and so on. These "country-teams" (groups of 15-20 students) used the weekly discussion section meeting of the class to work as a group, with facilitation from a graduate teaching assistant and consultation from the lead professor and other guest lecturers. Hence, a seminar-type experience was integrated into the course structure. Negotiation theories, tactics, and strategies were presented in the twice-weekly large group or lecture meetings, which also relied on case studies to bring the topic of negotiation to the students.

Technology, in the form of the computer-assisted simulation, electronic mail on the University of Maryland campus, Internet resources, and video conferencing capabilities, all contributed to the active and distance learning components of the experience. Students and faculty were able to exchange thoughts through electronic mail, the Worldwide Web facilitated research searches on the Internet, and students at remote locations were able to "debrief" with their peers following the simulation experience using video technology. In addition to reaching over 500 students on the College Park campus during its three years (1992-1995), the "International Negotiation Seminars Project" encouraged the growth of virtual classrooms on fourteen other campuses in the United States and Europe, including Frostburg State University and Morgan State University in the state of Maryland.

The ICONS Negotiation Seminars Project produced a model, with the following central components:

- A substantive focus on international issues, such as trade, the environment, security, and ethnicity.
- A focus on group decision-making, as students worked together to prepare to play the roles of high-level international negotiators.
- An authentic cross-cultural experience, as students negotiated with peers at overseas institutions.
- An introduction to the technology of the 21st century, as students conducted research using Internet resources and communicated with one another using synchronous and asynchronous modes of computer-facilitated communication.

Evaluation of ICONS: Some Findings

Using evaluative techniques such as a recently developed on-line (pre- and post-test) questionnaire, cognitive mapping schemes, and think-aloud problem-solving techniques, the ICONS evaluator concluded that participants' understanding of the complexity of international issues increased as a result of participation. Post-simulation "maps" showed not only a greater fact base, but also an enhanced understanding of the possible options and alignments of players in the international system. She also reported an increased sensitivity to cultural and linguistic perspectives that nations bring to negotiation situations (Torney-Purta, 1992).

Evaluations of the ICONS Project have also highlighted language (reading/writing) outcomes. Three levels of communication have been identified as central to the simulation process (Torney-Purta, 1994): (1) between-team interaction among peers representing different countries sending messages via the computer network; (2) within-team interaction and co-construction of messages in oral discourse resulting in message entry; and, (3) individual processing, cognitive representations/schemata, and restructuring. Using data collected through field and video observation, the evaluation found that "task-related" behavior such as reading messages, processing the main points of those messages, and communicating those points to peers accounted for the majority of activity during the actual simulation. The high involvement levels of students in the process were attributed to the following:

> First, the computer screen is an object of highly focused student attention because it is constantly changing and providing valuable information in a way the blackboard or textbook does not; this appears to enhance individuals' processing of information...The process of co-construction and group revision of the message on the screen provided a potent stimulus for elaborating individuals' representations, and for students discovering that what seemed obvious to one about a situation was not obvious to another. Often participants would see complications even in a simple proposal. The computer system provided information corresponding to examples in a science text to be dealt with at a deep or surface level (Torney-Purta, 1994, p.70).

The simulation process keeps students involved in a cycle of thinking, revising, and explaining that carries over from the within-team dialogue to the between-team negotiations.

Conclusion

The International Negotiation Seminars initiative was designed to reach more students at the critical beginning stages of their college careers with an active learning strategy. Using the successful ICONS simulation model, a premium was placed on active, collaborative learning. To enhance the experience, interdisciplinary teaching assistants and lecturers were brought into the learning environment. Authenticity was lent to the "New Europe Simulation" through the participation of institutions in post-Communist Europe. This FIPSE-sponsored initiative has produced several legacies that will last well beyond the grant period. The centerpiece course, Introduction to International Negotiation, will continue to be offered on the College Park campus, targeting lower-division undergraduates. In addition,

relationships built between ICONS and the University of Warsaw, Budapest University of Economic Sciences, Novosibirsk University in Russia, and American University in Bulgaria will continue into the future, providing American students with a unique opportunity for interaction.

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The Circuitous Dilemma

The Role of the State, of Business, of the Consumer, and of Higher Education in Twenty-First Century Economic Development

Robert F. Wiedefeld

Our American society is building its economic infrastructure for the twenty-first century upon a foundation of dichotomies. We know that we can expect a shortfall of 400,000 science and engineering personnel by the year 2000 (Matthews, 1990), and yet, according to a recent analysis of college transcripts by the U.S. Department of Education, we allowed 31 percent of recent bachelor's degree recipients to graduate without studying mathematics of any kind (Wingspread Group, 1993). We also know that our economy is moving toward industries that rely upon knowledge, and that by 2000 half of all workers in the service sector will have jobs that "involve collecting, analyzing, sorting, and retrieving information" (Seefer, 1991). In spite of this impending reality a college education is rapidly becoming a luxury that only the wealthy will be able to afford. One of the more puzzling dichotomies is that state governments are looking to cut support to higher education at a time when it should be recognized that the very product of colleges and universities is an expansion of a state's tax revenue base. Higher education is, in fact, the state's most powerful economic development tool. An increase in state aid to higher education, as painful as it may be during the rest of this century, will fuel a long-term cycle of economic development that will strengthen private-sector business, and will result in a higher level of state taxes paid by those businesses and by individuals earning a higher life-long wage due to their advanced skills.

The state has long been a key player nationally in the funding of higher education, with total state appropriations in 1994-95 totaling nearly $43 billion. In 1992-93, state revenue to colleges and universities represented over 24 percent of nearly $171 billion in total revenues, and it was the source of over 36 percent of all revenues generated by public institutions during that year (*The Chronicle of Higher Education Almanac*, 1995). But the trend of the 1990's has clearly been away from any growth in this state support, and in some cases it has decreased. In fiscal year 1992 total state appropriations for higher education were $40.1 billion, compared to $40.8 billion the year before, and from 1985 to 1990 these appropriations had decreased from 7.4 percent of total state budgets to 6.9 percent. "By the end of 1992,

declining state appropriations, at least in seven states, were coupled with diminishing enrollments" (Eaton, 1994).

This erosion in state funding of higher education comes at a particularly critical time in the development of a rapidly changing economy as our society prepares for the new millennium. Until very recently in the history of this country it was possible for an individual to obtain employment with an organization, to combine the skills learned on the job with a basic educational foundation, and for that employee to expect to retire forty years later from the same employer having acquired little or no additional training along the way. In fact, this workplace phenomenon was the rule rather than the exception. The current ranks of retired persons are full of single employer retirees who faced their first major career change at retirement. This trend is changing rapidly, as the sons and daughters of the retired generation are learning first-hand. The employees of the future can expect to work at as many as ten different jobs during their lifetimes, each requiring new skills and new knowledge, and they will enter and re-enter higher education to acquire needed competencies. At a time when businesses will expect colleges and universities to be supplying these competencies, the trend of reducing state funding during this final decade of the twentieth century will have made it virtually impossible to do so.

It is important to note that while many of these employees will be seeking a traditional academic education, most will require training of a more skill-oriented nature. While there is the need to strengthen institutions of higher education in general, there is an even greater need to invest additional resources in those colleges and universities that can adequately serve the short-term training goals brought about by career changes. If the states do not take the lead in creating these educational opportunities for the employees of the future they will be missing significant economic development opportunities, for there is a direct correlation between the level of higher education attained by a population and the return in economic value to the surrounding community.

In 1963, the median income of twenty-five to thirty-four-year-old males with a college education was $6,947, while the median income of the same age group of high school graduates was 19 percent less at $5,612. By 1990, the median income of college graduates in this age category was $29,568 and that of high school graduates was $20,051, a full 32 percent less (Becker and Lewis, 1993). If this trend continues, by the year 2000 a college graduate will be earning $46,569 compared to a high school graduates' $26,483, a difference of 43 percent.

This disparity is a double-edged sword for the economy. Obviously, the twenty-first century state tax collector would rather collect income taxes on a $46,000 salary, than on one of $26,000, not to mention sales taxes on the additional buying power of the college graduate.

Less obvious is the impact of the disparity of these incomes on the business community. If the college graduate at the turn of the century will be earning $20,000 more than the high school graduate, it will be because the former is worth that much more than the latter in a business' quest for profits. Two key trends that will shape the last years of the twentieth century are that manufacturing will be a much smaller share of the economy, and that the new jobs in service industries will demand much higher skill levels (White House Conference on Library and Information Services, 1991), posing yet another higher education-economic development dichotomy. If state governments are interested in driving the economic devel-

opment machinery they must first provide the fuel—employees that are educated and trained to industry's specifications. Ironically, state governments are now looking at reducing funding for this very endeavor.

It should be clear that an investment of state dollars in higher education will result in a more-than-reasonable return to that state in the form of additional tax revenue, but there is a very interesting statistical twist that will serve to compound this return to state treasuries in the years to come. In the age group of twenty-five to thirty-four, the mean annual earnings of male college graduates is $32,470 while the mean annual earnings of female college graduates is only $22,250, almost a full third less for professional women (Becker and Lewis, 1993). This gap will close swiftly during the next decade, and when it does the monetary incentive for the state to support higher education fully will be even greater. The disparity of annual incomes of male and female high school graduates deserves notice as well. The mean annual earnings of a male high school graduate in the twenty-five to thirty-four year age group in 1989 was $21,330, but a female under the same circumstances earned a mean annual wage of only $12,160. Consider for a moment that "85 percent of all workers entering the labor market between now and the year 2000 will be women, minorities, and immigrants (Cox, 1992), and that "sixty-one percent of working-age women, more than 60 percent of them mothers, will be in the permanent work force by the year 2000, when 47 percent of the entire work force will be female" (Sullivan, 1992). This represents the most significant economic challenge to a state for the rest of this century—make higher education accessible to as many of the young women who would be earning twelve thousand dollars a year as high school graduates, and turn them into thirty-two thousand dollar college-trained wage earners when they inevitaoly reach parity with their male counterparts in the workplace. The benefits to business, to the individuals involved, and later to the state in terms of additional tax revenues will be substantial.

It should be obvious that higher education is not a passive influence on economic development, but is a very active component of a self perpetuating cycle. As the state provides financial support to institutions of higher education, they in turn provide society with a well trained and educated workforce. The key to the operation of this cycle is the relationship between the employment needs of business, and the higher education funding policies of a state. A graphic portrayal of this economic development cycle would place the state at the top of a circular series of arrows, moving clockwise to higher education in the three o'clock position, to business in the six o'clock position, on to the consumer at nine o'clock, and then moving back to the top closing the circle with the state once again. As the state provides revenues to higher education, an educated workforce is provided to business. Business in turn earns a higher level of profit, on which it pays taxes to the state, and pays higher wages to its employees, the consumer of higher education, who also pay a higher level of state tax than they would have without the college experience. The state, business, and the consumer will benefit from this cycle only to the extent that the momentum of activity within it continues to grow. If the state slows its revenue support to colleges and universities the entire cycle is likely to stagnate and everyone involved loses. The credibility of this entire model rests heavily on the ability of higher education and business leaders to convince state legislators of the monetary return on their investment of tax dollars. This issue of return on investment has been questioned frequently in recent years, and the answers proposed by higher education have been remarkably specific.

The less tangible contributions of higher education to economic development offered for decades as the defense for continued growth in state support are fairly obvious, but may not be as effective in the future as colleges and universities face increased scrutiny from legislators and the public. The first of these involves the production of knowledge, predominantly through the activities of the large universities as a result of the research activities of both students and faculty. The second contribution to economic development occurs as a result of the diffusion of knowledge caused by the external activities of the higher education community. And a third from the transmission of knowledge through the teaching activities in and outside of the classroom. These examples of ways in which higher education enriches not only the student but the surrounding community, including the state, have succeeded for decades in securing the funds from state governments to ensure the growth and vitality of colleges and universities.

More recently supporters have cited the mutually beneficial relationship of higher education and technological advancement. "Many, although far from all, innovations are based in varying degrees on scientific and technological advances. The activities within firms that support such innovations in turn can depend on higher education's contribution of scientific and technological knowledge and the skills needed to apply it" (Becker and Lewis, 1993). This is especially true with the recent decline in defense funding. This reliance of industry on the ability of higher education to deliver technological advances and competent employees is a compelling reinforcement of the economic development cycle presented earlier. If business must have this infusion of creativity and talent from the nation's colleges and universities in order to continue to grow, then it must rely on the state to continue to support higher education in its quest to meet these demands. If the state cites reduced tax revenues as its reason for cutting subsidies to higher education then this situation may very well be the result of its failure to provide adequate post-secondary funding in previous years. Truly a circuitous dilemma!

Because these less tangible arguments in support of the rate of return of higher education to state economic development are being viewed by many with a jaundiced eye, it may be necessary to point to quantitative data provided by several studies during the past decade. One of these defines a "private rate-of-return" as the return of a college degree to the individual, and a "social rate-of-return" as that derived by society. During the late 1970's and early 1980's data suggested that the private rate-of-return of a college education was nine percent, and the social return was 12 percent (Psacharopoulos, 1987). Few business people would pass on the opportunity to reap the benefit of these rates of return on any investment given today's economy, which is one reason why business is beginning to take a more direct role in the financing of higher education.

In the 1996 edition of *Money Guide* from the editors of *Money Magazine*, the California Institute of Technology was selected as the fifth "best buy" in a college education nationally. "Although the university's $17,586 price tag, up four percent in 1995-96, is the steepest in our top 10, what students receive in return is astonishing. Caltech spends $39,842 per undergraduate for instruction, by far the highest in the nation" (*Money*, 1995). Although state aid certainly supports a portion of this excess in student expenditures over tuition revenues, a university spokesperson credits a significant contribution by corporations as a primary source of additional needed revenue. At first glance, one might suggest that we cut the state

out of the cycle altogether and let the private sector fund higher education. But the social implications of this strategy would be very costly for the state.

In the suggested economic development cycle it can be logically presumed that the passage of tax dollars through the state to higher education is at a ratio of less than one-to-one. In fact, if one looks at the level of state support to higher education nationally compared to total state budgets, 6.9 percent in 1990, it should be obvious that 93 percent of state tax revenue dollars support programs other than higher education. The state must recognize that for every dollar that business would have paid in state tax that is written off because of direct contributions to higher education, ninety-three cents is lost for other state programs. It is incumbent upon the states to raise their average national contribution to a higher level and reap the benefit, although admittedly delayed, from the additional tax collections from business and successful college graduates. Reducing the levels of funding will have the long-term effect of deepening the fiscal trouble that they are already in.

Increased levels of state aid to higher education will deliver the creative and human resources that businesses need in order to continue to grow into the next century. These businesses in turn will provide a greater source of tax revenue to the states—as will the "human capital value" (Becker and Lewis, 1993), the term used to describe the marginal increase in an individual's future earnings and productivity. But the academic community cannot expect the state to simply throw dollars its way, and in this regard has a serious obligation which must be fulfilled as a member of the cycle. Responsible administrators within higher education must manage their institutions as enterprises. They must make effective, expedient, and efficient bottom-line business decisions in the expenditure of all funds supplied, not just by the state, but by the consumer—the student—as well. If the private sector and the consumers perceive that institutions of higher education are spending resources in a manner that is not consistent with their desired outcomes, businesses will take the lead in direct funding of select colleges that demonstrate a willingness to fulfill their requirements. Even worse for the state, the consumer will seek institutions in other states that will meet their needs. As important as is the role of business in the cycle, the role of the consumer is of equal consequence.

For generations higher education has been in the driver's seat. Until the last decade, states demonstrated a relatively laissez-faire attitude toward the day-to-day operations of colleges and universities, under the assumption that they knew best how to spend their funds. And the consumers of higher education, for those same generations, took for granted the mandates placed upon them to take a rigidly prescribed regimen of courses toward a degree, whether they considered the courses relevant to their desired outcome or not. But the times have changed. The consumer is voting for a change in the system with the immense power of the tuition dollar. The same 1992 analysis of transcripts cited earlier revealed that 26 percent of all college graduates earned not one credit of history; that nearly 40 percent earned not one credit of English or American literature; and that 58 percent of all bachelor's degree recipients had no exposure to a foreign language (Wingspread Group, 1993). The primary question of the tuition-paying consumer is coming through loud-and-clear to the revenue starved college. "Why should I have to pay for three credits of western civilization history if my career goal is to be a computer programmer?" It may not seem right to the stalwart minds in the bastions of higher education, but the very real and scary reality for them is that the future fate of higher education programs, and even institutions, is in the hands of students and busi-

ness leaders, and not in their own. Their success will be determined by their ability to adequately satisfy the educational and training needs of these groups.

The role of higher education in the circuitous realm of economic development in the twenty-first century is to operate as an enterprise. Tough, bottom-line decisions, which effect the desired outcomes of the consumer must be made by resourceful administrators on a regular basis. The consumer will expect no less; the taxpayer will expect no less; and certainly business will expect no less. The efficient production of a well educated and trained workforce will be the measure of success for the college or university of the next century.

The role of business in the cycle into the next century is to clearly set the standard for graduate achievement. It is entirely up to the most astute of higher education administrators to forge productive relationships with business leaders resulting in the seamless transition from student to productive employee. The journey from higher education consumer to tax-paying quality producer is a goal which the leaders of industry must define and achieve in concert with the leaders of higher education.

The role of the consumer will intensify in the determination of the quality and quantity of delivered education. The consumer is no longer the naive high school graduate of the sixties looking for a path to the open gate. The consumer into the next millennium has identified the path, with the help of the corporate world, and expects nothing less than a straight line, the shortest distance to the already identified outcome. Higher education must supply it.

The role of the state in this cycle is pivotal. If higher education lives up to its end of the bargain, and admittedly that is a big if, then the infusion of tax dollars into the post-secondary arena will reap significant monetary benefits for business, the consumer, and especially for the state. If the state is interested in supporting economic development it must first recognize that higher education *is* economic development. The dichotomies that exist between the trends of our society and our lack of preparation in accommodating those trends must be broken down and systematically eliminated. The vehicle for accomplishing this feat will be a close working relationship between a financially supportive state government, an efficient system of higher education responsive to the needs of all constituencies, a business community with a focused understanding of the educational needs of their workforce, and demanding and consumer-savvy students who will be unwilling to settle for second best as their careers change rapidly and frequently.

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Community Colleges and Workforce Training: Past Performance and Future Directions

Craig A. Clagett and Andrew L. Meyer

Workforce training comprises a major contribution of community colleges to the economic development of the jurisdictions they serve. For years, Maryland community colleges have entered into contractual agreements with businesses across the state to provide training and related services to their employees. In most counties throughout the state, the local community college has emerged as the leading provider of workforce training. In some instances, partnerships among colleges have enhanced the local provider's capabilities to provide employee training for local businesses.

The community colleges in Maryland have also entered into partnerships with the Maryland Department of Economic and Employment Development (DEED), the leading state agency responsible for workforce development. In 1988, the community colleges, through a Partnership for Workforce Development Grant from the Sears Foundation, spearheaded the "Maryland Community Colleges—Building Business in Maryland" campaign. The Department of Economic and Employment Development was a valuable partner in the campaign.

In addition to providing instruction and services to meet employer needs, the colleges have been committed to evaluating their performance. Formal evaluation of educational outcomes should include continuing education as well as degree-credit programs (Bragg and Jacobs, 1990; Clagett and McConochie, 1991). Efforts to systematically assess the effectiveness of continuing education provided by Maryland community colleges began in 1986 with the appointment of an advisory group of continuing education deans and institutional research directors. Meeting under the direction of staff of the Maryland State Board for Community Colleges over a two-year period, this group suggested improvements to continuing education data systems, developed an annual report of basic trend data, reviewed course evaluation forms used by the individual colleges, and developed a statewide survey of continuing education students. The results of this two-year effort were published in two reports, *Continuing*

Education Outcomes and *Continuing Education Student Follow-up Report* (Maryland State Board for Community Colleges, 1988).

The Maryland studies served as a model for a similar assessment conducted in Iowa (Iowa Department of Education, 1991), which in turn provided an example for a study of workforce training provided by Michigan's community colleges (Wismer and Zappala, 1993). Completing the circle, the Michigan survey's focus on workforce training provided by contractual agreements spurred interest in a similar survey in Maryland. This article describes the methodology and reports the findings of a survey of businesses and organizations that had received workforce training under contract with Maryland community colleges during 1993-94.

Study Design

Following the approach used in earlier studies of workforce training provided under contract by community colleges in New York (Fadale and Winter, 1988), Iowa (Iowa Department of Education, 1991), and Michigan (Wismer and Zappala, 1993), a mail survey of businesses and organizations was conducted during the spring of 1995. The specific goals of the study and the methodology used are described in the next two sections.

Research Purpose

The initial research goals were similar to those of the Iowa survey:

1. Develop a profile of businesses and organizations served by Maryland community colleges' contract training programs.
2. Determine employer satisfaction with the workforce training provided by Maryland community colleges.
3. Identify future workforce training needs of the organizations recently served by Maryland community college contract training.
4. Determine ways in which Maryland community colleges can provide better service to Maryland employers.

Survey Methodology

During January and February of 1995, members of the Maryland Association of Deans and Directors of Continuing Education/Community Services met with the directors of institutional research of Frederick and Prince George's community colleges to develop the study methodology and survey instrument. The questionnaire was largely based on the Michigan study and an earlier survey of businesses in Prince George's County conducted by the local community college, the county chamber of commerce, and a branch of the state university (Clagett and Huntington, 1988).

To avoid selection bias, surveys were sent to all businesses and organizations that had received workforce training under a contract arrangement during 1993-94. Employers surveyed included profit, nonprofit, and governmental organizations. Referrals into open-

enrollment courses, apprenticeship training, Job Training Partnership Act courses, courses provided to nursing home residents, and in-house training to community college staff or students were *not* included. Continuing education staff at each college administered the mailings of the common survey instrument. Completed surveys were returned unopened to the Office of Institutional Research and Analysis at Prince George's Community College for data entry and analysis.

A total of 1,021 employers were surveyed. When analysis commenced, 561 usable questionnaires had been returned, for an unadjusted response rate of 55 percent. Response rates for the 18 individual colleges ranged from 26 percent to 89 percent, with most falling between 50 and 70 percent.

Characteristics of the Respondents

Respondents represented the diversity of industries present in Maryland. However, three industrial classifications accounted for over three-fifths of the respondents: government (23 percent), manufacturing (20 percent), and health care (20 percent). Education was the only other category represented by at least ten percent of the respondents. Only seven respondents were in agriculture or mining. Employers in retail and wholesale trade were also not prevalent among the survey respondents, with 11 and 9 respondents respectively. Transportation/communications/utilities, finance/insurance/real estate, business services, legal and social services, and construction crafts and trades each accounted for between 3 and 7 percent of the respondents.

The survey asked how many employees were at the respondent's location. Nearly a fifth of the respondents failed to provide a usable response. A fifth of those providing an answer had fewer than 25 employees. At the other extreme, 11 of the respondents (or two percent) had 5,000 or more employees at their location. The median number of employees, with half of the respondents having more and half having less, was 100. The number of employees participating in contract training at each site ranged from less than ten to over 100. The median was 25.

Employer Goals in Contracting for Training with the Community College

The major reason given by employers for choosing a community college for their workforce training was the perceived cost effectiveness, or value for the dollar, provided by community college instruction. Nearly seven in ten respondents indicated that such value was an important reason for their selection of the community college. Other reasons cited by half of the respondents were the college's ability to customize training to meet their specific needs and the quality of instruction provided. Two-fifths were repeat customers, who contracted for training in 1993-94 because they had had a good experience with the college in the past. A similar proportion cited the fact that community colleges could deliver the instruction at the business site as a reason they selected the community college. Thirty-seven respondents, or seven percent, said that they used the community college because others had been satisfied with the instruction and services offered by the college.

Reasons for Selecting Community College for Training Maryland Community College Workforce Training Survey Respondents		
Reason	**Number**	**Percent**
Cost-effective/good value	388	69%
Customized to meet specific need	329	59%
Quality of instruction	279	50%
Good results in past with college	236	42%
Training provided on-site	220	39%
Referred to college by others	37	7%

What was the primary goal employers had in mind when they contracted with the community college for workforce training? Three-fourths wanted to upgrade the quality of employee performance in their current jobs. But many employers also were interested in preparing employees for new positions by training them in new skills. Nearly half of the respondents indicated that preparation for a new skill or job classification was important. Nearly two-fifths agreed that providing opportunities for employee self-enrichment was an intended purpose of the training. A number of respondents indicated that the training was mandated either by the employee's profession or by law.

Primary Goal for Training Maryland Community College Workforce Training Survey Respondents		
Primary Goal	**Number**	**Percent**
Upgrade quality of employee performance in current job	413	74%
Prepare employee for new skill or job classification	252	45%
Self-enrichment of employee	212	38%
Mandated by profession	123	22%
Mandated by law	77	14%

Employer Satisfaction with Community College Training

How satisfied were the employers with the training provided by Maryland community colleges? The questionnaire asked this question directly and respondents gave overwhelming approval. Nearly sixty percent of the respondents said they were very satisfied, and another 37 percent said they were satisfied. Overall, 535 of the 555 respondents to this question or 96 percent expressed satisfaction with the training provided by the community college. Twelve respondents, or two percent, were not certain and only eight of the 555 expressed dissatisfaction.

Satisfaction with Quality of Community College Training
Maryland Community College Workforce Training Survey Respondents

Level of Satisfaction	Number	Percent
Very satisfied	331	60%
Satisfied	204	37%
Uncertain	12	2%
Unsatisfied	4	<1%
Very Unsatisfied	4	<1%

The survey asked if the respondents would recommend the community college to other businesses or organizations that had similar employee training goals. The employers gave nearly unanimous assent. Ninety-six percent of the respondents said they would recommend the community college. Only 12 of the 557 respondents to this question said they would not recommend the college.

Recommend Community College To Others?
Maryland Community College Workforce Training Survey Respondents

Recommend Community College?	Number	Percent
Yes	533	96%
Not sure	12	2%
No	12	2%

The final question probing employer satisfaction with the community college asked if the organization would use the college again if it had further training needs. *Ninety-three percent of the respondents said they "definitely" or "probably" would use the community college again.* Only eight of the 553 respondents to the question said they would not use the community college for future training.

Use Community College for Training Again?
Maryland Community College Workforce Training Survey Respondents

Use Community College?	Number	Percent
Definitely would	316	57%
Probably would	200	36%
Not sure	29	5%
Probably would not	5	1%
Definitely would not	3	<1%

Future Training Needs

The organizations surveyed were asked about their anticipated training needs over the next three years. The responses to this part of the survey must be interpreted with extreme caution. This study did not attempt to ascertain the training needs of all businesses in the state or in each college's service area. The responses reflect only the expectations of organizations previously served by community college contract training and only the subset of that group responding to the survey. Generalizing the findings to the larger populations of businesses and organizations in each service area or in the state would be inappropriate. Given these caveats, however, ascertaining the anticipated training needs of current customers is certainly useful for program planning.

The greatest need for technical training was in computer applications, with half the respondents stating that they had substantial need for this kind of training. Second only to computer training was the need for employee improvement in interpersonal relations and team building, with 44 percent of the respondents indicating classes in these topics were substantially needed (rated 4 or 5 on a five-point scale). A third of the respondents gave employee written and oral communications a similar rating of need. Other technical training areas cited as needed, at least to some degree, by a majority of the respondents included customer service training, telecommunications and networking, and modern office technologies.

Anticipated Employee Technical Training Needs
Maryland Community College Workforce Training Survey Respondents

Type of Training	N	No Need (Rated 1)	Some Need (Rated 2-3)	Substantial Need (4-5)	Scale Mean
Computer applications	545	17%	33%	50%	3.33
Interpersonal relations	542	22%	35%	44%	3.09
Written/oral communications	545	24%	44%	32%	2.80
Customer service training	547	36%	34%	29%	2.56
Telecommunications/ networking	541	36%	43%	21%	2.39
Modern office technologies	544	40%	45%	16%	2.24
Basic skills (reading, math)	546	58%	27%	15%	1.97
Manufacturing/ industrial job skills	537	72%	13%	14%	1.69
Languages (foreign, English as 2nd Lang.)	540	78%	18%	4%	1.39

Among management training alternatives, respondents gave the highest rating of need for classes in supervision and leadership. Nearly half of the respondents said the need for such training was substantial, indicated by their 4 and 5 ratings on this item. Not far below in perceived need was training in Total Quality Management or Continuous Improvement methods. The stated need for other types of management training was much less widespread. While each type of training included in the questionnaire elicited a rating of substantial need from some respondents, in half the cases a majority indicated no need at all:

Anticipated Management Training Needs
Maryland Community College Workforce Training Survey Respondents

Type of Training	N	No Need (Rated 1)	Some Need (Rated 2-3)	Substantial Need (4-5)	Scale Mean
Supervision/ leadership	545	22%	30%	47%	3.17
TQM/Continuous improvement	540	27%	29%	44%	3.03
Personnel and labor law	539	42%	43%	15%	2.17
Career planning/ goal setting	538	48%	42%	10%	1.97
Accounting/ financial analysis	538	52%	39%	9%	1.88
Marketing/sales/ promotion	535	60%	27%	13%	1.81
Environmental management	539	59%	30%	10%	1.79
International trade/ export/import	537	84%	14%	2%	1.26

Whether included in the previous forced-choice questions or not, respondents were asked to describe the type of training *most needed* by their employees. Responses to this open-ended question were consistent with the quantitative ratings, with computer applications, supervision and leadership, team building and interpersonal relations, and written and oral communications most frequently cited. The only other responses given by at least 30 (or five percent) of the respondents were Cardiopulmonary Resuscitation (CPR) and customer service training. Other training topics mentioned by at least ten respondents included first aid, Total Quality Management, child care, basic mathematics, nursing, and computer networks. A number of specific manufacturing techniques and health care subjects also received multiple mentions.

Most Needed Training
Maryland Community College Workforce Training Survey Respondents

Type of Training Most Needed	Number of Mentions	Percent of Respondents
Computer applications	107	19%
Supervision/leadership	53	9%
Team building/interpersonal relations	39	7%
Written and oral communications	37	7%
Cardiopulmonary Resuscitation (CPR)	36	6%
Customer relations/customer service	30	5%

In addition to asking prior clients what kinds of employee training they anticipated would be most needed over the next three years, the survey asked respondents to rate their needs for several training-related services, such as needs assessment studies, consulting services, and assistance in seeking funds to support training efforts. The community colleges sponsoring the survey were ready and able to provide the listed services and wanted to gauge employer interest in them. For the most part, employer interest was modest. The only item eliciting a rating of substantial need by at least a quarter of the respondents was customized job-skill training. Half of the respondents indicated at least some need for an analysis of employee needs. The other services received ratings of "not needed" from a majority of the respondents. It is apparent that most of the clients of community college contract training are most interested in the kinds of specific employee training they have received—and been overwhelmingly satisfied with—in the past. While a third or more of the respondents indicated at least some need for related services, it is the quality, customized instruction they most favor.

The survey's second open-ended question asked what the community college could do to help the employers improve the performance of their organization or operate their business more effectively. The most prevalent comment was to continue doing what the college had done in the past, a reflection of the widespread employer satisfaction with prior contractual arrangements. Nearly as prevalent were suggestions for specific courses or training programs. The third most common response theme concerned publicity and making sure the business community was made aware of college offerings. Other suggestions made by multiple respondents included offering different training formats (e.g., one-day seminars, Saturday classes), providing on-site instruction, keeping up-to-date (specifically with computer technology), and maintaining low costs so that employers could afford to continue to contract for training. Employer suggestions were almost always phrased in complimentary contexts. Only a handful of respondents indicated an area of college performance in need of improvement.

The questionnaire concluded by asking if the respondent would like to be contacted for further discussion of their employee educational and training needs. A fourth of the respondents said yes and provided their name and telephone number.

Conclusions

Workforce training provided by community colleges under contractual arrangements with employers is an established and successful practice in Maryland. A mail survey of 1,021 employers who had contracted with Maryland community colleges during 1993-94 elicited 561 usable responses, for an unadjusted response rate of 55 percent. The respondents represented organizations ranging in size from less than 25 employees to firms with over 5,000 workers. Government, manufacturing, and health care provided 63 percent of the respondents, although all industrial classifications were represented among the respondents.

Although three-fourths of the respondents had contracted for training to upgrade the quality of their employees' performance in current positions, preparing them for new jobs involving new skills was also important. Nearly half of the respondents said such advancement was a primary goal. Community colleges were selected to provide the training because of their good value for the money invested, because they customized training to meet specific employer needs, and because of the quality of instruction they provided.

Responding organizations were overwhelmingly pleased with the training provided by Maryland's community colleges. The survey found that:

- 96 percent of the respondents were satisfied with the training
- 96 percent would recommend the community college to others
- 93 percent said they would use the community college again

Respondents were asked what kinds of training they would need over the next three years. Training in computer applications was most frequently mentioned. Other types of training with respondent interest included supervision and leadership, team building and interpersonal relations, written and oral communications, customer service training, and Total Quality Management/Continuous Quality Improvement. Many specific types of training were also identified by individual respondents, including Cardiopulmonary Resuscitation (CPR), first aid, child care, basic mathematics, and several manufacturing methods. The survey also asked about employer needs for related services, such as consulting and employee needs assessment studies. While some respondents indicated interest in these other services, customized job-skill training was the primary focus of their relationship with the community college. Judging from the findings of this study, Maryland employers have been very pleased with the training provided by the state's community colleges.

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A Survey of Practices Relating to Faculty Handbooks at Maryland Postsecondary Educational Institutions

Margaret C. Ryan

Background

Most postsecondary educational institutions have faculty handbooks or similar documents that delineate their policies and procedures for dealing with promotion, tenure, sabbatical leave, outside employment, and other matters of importance to faculty members. Over the past several years, the Maryland Higher Education Commission (MHEC) has received various reports of situations in which a faculty member was placed at a disadvantage because he or she was not familiar with important college policies. In some of these instances, the faculty handbook was found to be out-of-date, not readily available, or simply nonexistent, leaving faculty members inadequately informed. These cases led to questions about whether the needs of Maryland faculty members are adequately served by prevailing institutional practices relating to faculty handbooks. In the spring of 1994, the MHEC staff asked the Commission's Faculty Advisory Council (FAC) for assistance in answering such questions.

Methodology

In mid-April of 1994 a survey developed by the FAC was sent to campus faculty governance leaders at both public and private colleges and universities across Maryland. The survey included questions about the availability, updating, and use of faculty handbooks or other documents intended to serve the same function. The survey was accompanied by a cover letter explaining that the results would be reported to the Secretary of Higher Education as well as to the governance leaders themselves. The letter also indicated that if any widespread problems were identified, the Council would consider making recommendations for dealing with them.

The survey went to the 51 individuals identified as campus faculty leaders or contacts on the mailing list that is used to disseminate informational copies of FAC agendas and minutes. In addition, the Maryland Association of Private Career Schools (MAPCS) sent the survey to the 12 institutions among its members that offer courses with a significant lecture component, primarily business and technical schools.

Survey respondents were not asked to identify either themselves or their institutions by name. This was intended to encourage candid responses. They were, however, asked to indicate what type of institution the response came from, so that it would be possible to determine whether there were any patterns that were specific to a particular category.

Responses were received from 14 of Maryland's 18 public community colleges. Four responses came from state colleges and universities that offer courses and degrees up to at least the baccalaureate level—that is, the group that includes St. Mary's College of Maryland and Morgan State University in addition to the institutions of the University of Maryland System. The survey was sent to 15 institutions in this group, but the chair of the County Extension Service (CES) Faculty Senate declined to respond because the institution was scheduled to become a part of the University of Maryland College Park in June 1994. This left the base number of institutions in this group at 14 because the Maryland Biotechnology Institute (MBI) had been inadvertently omitted from the FAC mailing list. Six responses were received from among the 18 private colleges and universities that belong to the Maryland Independent College and University Association (MICUA). The total number of responses from degree-granting institutions was 24, 48 percent of the 50 that remained without CES or MBI. While responses were received from 78 percent of the community colleges, the response rates for the other two groups of degree-granting institutions were much lower, 29 percent for the public baccalaureate institutions and 33 percent for the independent colleges and universities. The numbers of responses from the second and third categories do not provide an adequate basis for drawing conclusions that are specific to either of these two groups.

Ten responses were received from private career schools as a result of the MAPCS mailing. These will be discussed separately.

Duplicate responses were received from two institutions (even though the questionnaire was confidential, the respondents in these cases volunteered their institution's name). Information from the second response in each of the duplicate pairs was included only where it appeared to supplement the initial response or in the case of a difference between the two. Apparent conflicts between two reports from the same institution are noted to emphasize that two individuals sometimes perceive the same situation quite differently.

Since the purpose of the survey was to determine whether there was adequate access to information about institutional policies and procedures, data from faculty members were more valuable than any that might be obtained from direct examination of each institution's faculty handbook or equivalent documents. If the individuals who need information are either unaware of its existence or unable to locate it, even material that actually is available is effectively useless to them. Campus faculty leaders were chosen as the survey population with the implicit assumption that if such leaders were poorly informed, very few of an institution's other faculty members were likely to be substantially more knowledgeable.

Italics are used throughout this report to show wording taken directly from the survey questions. The conventional methods of denoting quotations are reserved for answers given in the exact words of the respondents.

Responses from Colleges and Universities

These results provide information about only those Maryland colleges and universities from which responses were received. They should not be used as a basis for generalizations about other institutions. Furthermore, the numbers of responses from two of the three major categories of degree-granting institutions, the public baccalaureate institutions and the independent colleges, were not sufficient to allow identification of patterns specific to a particular type of institution.

All of the colleges and universities represented among the survey responses were reported to have faculty handbooks of some kind. Two community college respondents gave the titles of alternative documents. A third individual checked the survey choice for *A number of separate documents, but no faculty handbook* and added, "several different faculty handbooks." No one chose the statement *There is no apparent mechanism for providing faculty members with information about institutional policies and procedures.*

Frequency of Handbook Updates. Judging from their reported publication dates and the frequency with which they were said to be updated, most faculty handbooks should contain reasonably current information. Three respondents failed to give the date of the latest handbook edition, but 15 of the remaining 21 specified 1994, 1993-94, or 1993, indicating publication at least as recent as the previous academic year. The other six individuals gave publication dates ranging from 1992 to 1988. Two members of this group also said that their institutions' handbooks were updated annually, suggesting that the documents might actually be more current than their publication dates indicate.

A total of 13 college and university respondents reported that their institutions' faculty handbooks were updated every year. In one case, a community college provided annual updates in the form of replacements for selected handbook pages, with the full document being reprinted and distributed every three years. Responses from three other institutions gave the respective frequencies of regular handbook updates as two years, six years, and eight to ten years. Only one of these three reported a date earlier than 1993 on the most recent handbook. In that case, it seems reasonable to infer from a 1988 publication date and a six-year update frequency that a revision is eminent.

Eight respondents said that their institutions did not update the faculty handbook or equivalent documents on a regular basis. Explanatory comments by these individuals indicated that handbooks at their institutions were updated "whenever there is a significant policy revision or change," "as policy is passed by the Board of Trustees," or simply "as needed." Four of these gave a 1994 or 1993-94 publication date for the institution's most recent handbook, and one did not give a publication date. The earliest handbook publication date reported for this group of institutions was 1990, and this was contradicted in a second report from the same institution (both of which happened to include the institution's name) that gave the date as 1993-94.

Faculty Involvement in Handbook Revisions. On many college and university campuses, the major responsibility for handbook revisions lies with high-level administrators or administrative offices. Answers to the question *What office, position, or group has primary responsibility for determining the content of updates and revisions in the handbook or equivalent document(s)?* were sorted on the basis of where the responsibility seemed to be centered.

Twelve of the 24 college and university respondents named specific administrative positions or offices in answer to this question. Most of these were academic deans or other administrators at a similar level. Two of these 12 cited the office of the president as having a major role in handbook revisions. Three mentioned a personnel or human resources office as either having or sharing primary responsibility for handbook revisions.

Most of the 12 institutions that assigned primary responsibility for revisions to administrators were, nevertheless, reported to have some provision for faculty participation in updating and revising their faculty handbooks. Respondents from three of these institutions failed to indicate any mechanism for faculty involvement, but even these responses did not entirely exclude the possibility that such provisions exist. One of these individuals did not answer the follow-up question at all, and another wrote, "None that I know of." The third answered, "None, for sure." However, a second response from another person at the same institution reported that there is a handbook committee with faculty representatives. Respondents from the other nine institutions indicated mechanisms such as a specific faculty handbook committee, review of proposed policies or input from one or more faculty committees or governance bodies, or participation by one or more faculty representatives in the revision process.

Six individuals reported that faculty bodies had the primary responsibility for handbook revisions at their institutions. Four of these attributed this function to a faculty committee or subcommittee, while a fifth named the faculty assembly as responsible. The remaining response in this group, "Faculty Meeting decides; Dean's office records," suggests the highest possible level of faculty responsibility for handbook revisions. Responses from all of the colleges and universities where the responsibility was centered in a faculty committee or subcommittee indicated that other faculty members also have the opportunity for involvement through faculty meetings or votes of approval.

One additional respondent attributed the primary responsibility for handbook revisions to a "faculty policy committee." Unfortunately, that name does not indicate clearly whether or not the body is made up mostly or entirely of faculty members. In answer to the question about faculty participation, this individual reported that such matters are "discussed at faculty meetings."

The five remaining respondents answered the question about primary responsibility for handbook revisions with the names of one or more administrative positions or offices along with those of one or more faculty bodies or positions. The corresponding answers to the question about faculty participation generally provided elaboration. The details of each of these pairs of responses was different, but together they suggested that there were a variety of ways for an institution's administration and its faculty to share the task of revising a faculty handbook.

Whatever the established mechanism for faculty participation, it is also important to determine whether it is consistently employed. Only two individuals characterized the frequency with which *changes in the content of the handbook or equivalent document(s) are made without faculty participation* at their respective institutions as *Often*. One of these checked both *Often* and *Sometimes* and commented: "Some debate about how often—it happens frequently enough to prompt discussion between [the] Faculty Senate and [the] Associate Dean." Eight respondents checked *Sometimes*, and one added the comment "hopefully never from now on!" The remaining 14 checked *Never*, but three added qualifying comments suggesting that there may be exceptions under certain circumstances.

Handbook Availability and Access. The survey included a series of four questions to determine whether handbooks were readily available to faculty members. Most of the colleges and universities represented among the survey responses give each full-time faculty member a personal copy of the faculty handbook and also make current copies available in various common locations on campus. The places where respondents indicated that copies could be found are listed in order of frequency, along with the number of institutions reported to use each location:

The offices of department chairs	(17)
The personnel office	(16)
Department or division offices	(12)
The campus library	(12)
Dean's office	(3)
Academic affairs office	(1)
President's office	(1)
The institution's computer network	(1)

Twenty-one respondents said that a copy of the faculty handbook was routinely provided to each new full-time faculty member, and two additional individuals wrote in "usually." Twenty of these 23 respondents also reported that their institutions take steps to apprise full-time faculty members of significant revisions in the handbook. The other three checked *No* for the question about distribution of revision information. Even so, two of these indicated, in response to the final question in the series, that faculty members did have adequate access to handbooks.

Only one respondent answered no to the question about providing handbooks to new faculty members. The person explained that "they used to be given to everyone. Now there is one per division, but you can request a personal copy." This individual indicated several other locations where handbook copies were available, but answered no to both the question about revision information and the one regarding whether the existing degree of access adequately serves faculty members' needs, commenting that "ignorance of some issues has caused problems."

Two other respondents expressed the opinion that faculty members' needs were not adequately served by the present availability of faculty handbooks. One of these checked no common handbook locations and added the explanatory comment "don't know of any," but did not specify what kinds of problems had resulted from this perceived lack of adequate access. The remaining individual also failed to give examples of such problems and indicated that even though handbooks were routinely provided to new full-time faculty

members "old faculty do not have one." This person answered *No* to the question about revision information and wrote "don't know" in answer to the question of where copies could be found. The negative picture suggested by this combination of responses was challenged, however, by someone else from the same institution who specified several locations where handbooks could be found and answered *Yes* to all the other questions in the series about handbook availability, including the one about the adequacy of access.

A total of 22 respondents, including the one just mentioned, indicated that they felt faculty members' needs were adequately served by present handbook availability. Three of these, however, added comments to qualify their answers. Two referred to the importance of faculty efforts in ensuring that information was available, and the third pointed out that "there are many issues dealing with conflict resolution which are NOT addressed in the handbook."

Handbook Content. The survey included a list of topics that might be covered in a faculty handbook and asked each respondent to check those for which a policy and/or procedure was included in the handbooks at his or her institution. For items not found in the handbook, respondents were asked to indicate, if possible, where faculty members could find information on the topic. Table 1 shows a complete list of responses. All the colleges and universities represented among the responses were reported to have policies on absences and leave and appeal/grievance procedures in their handbooks. All also included information on faculty appointments/initial placement in rank, although one individual qualified this item by adding "criteria for rank but not placement on a particular step in a rank." Only one institution's handbook was reported to contain no definition of faculty rights and responsibilities, but one other respondent wrote "to some extent" beside this item.

The items most commonly reported to be found in sources other than the faculty handbook were: faculty salary schedules; RIF, retrenchment or contingency plans; and procedures for contract renewal. Some institutions published their faculty salary schedules separately from their handbooks or made them available in their personnel or human resources offices, but seven individuals gave no alternate source for this information. Two of these represented MICUA institutions, and one explained that "faculty salaries [for that college] are not public information." The other four private college and university respondents, however, indicated that their institutions made faculty salary schedules available in documents or locations other than the faculty handbook.

Besides a personnel or human resources office, alternate sources of information on topics not covered in the handbook included libraries; division offices; the offices of associate deans, deans, presidents, or other administrators; the chair of the Faculty Assembly's Staff Development Committee; and other institutional documents such as a staff handbook, college handbook, or policies and procedures manual.

Table 1
Sources of Information About Policies and Procedures at Degree-Granting Institutions in Maryland

Policy or Procedure	Included in faculty handbook	Another source indicated	No other source indicated
Faculty appointments/initial placement in rank	24	0	0
Absences and leave	24	0	0
Appeal/grievance procedures	24	0	0
Faculty rights & responsibilities	23	0	1
Faculty evaluation	21	2	1
Faculty benefits	21	1	2
Grounds/procedures for dismissal	21	1	2
Standards/procedures for promotion decisions	21	1	2
Outside employment/consulting	20	2	2
Faculty development programs/policies	20	0	4
Normal teaching load	20	0	4
Procedures for contract renewal	19	3	2
Provisions for reduced loads (released/reassigned time)	19	2	3*
Standards/procedures for tenure decisions	19	0	5**
Statement on academic freedom	19	0	5
RIF, retrenchment, or contingency plan	14	5	5
Faculty salary schedules	10	7	7

*None of these gave information about normal teaching loads.

**Two of these are institutions that do not award tenure.

The topics that were most commonly included among those for which no source of information was specified were faculty salary schedules, a RIF, retrenchment or contingency plan, and a statement on academic freedom. One respondent who reported no source of information for any of these items and none for information about faculty benefits or grounds and procedures for dismissal, commented, "Generally these policies are not stated."

Relationship to Official Policies and Faculty Contracts. The handbooks of many colleges and universities include references that specify the original sources of procedures and rules that are derived from governing board policies or other official documents. Sixteen respondents answered yes to the question of whether these were adequately referenced in their institutions' handbooks. Six checked *No*, indicating inadequate referencing. One person checked both *Yes* and *No* along with the explanatory comment "could be clearer." The one remaining individual did not answer this question.

Faculty handbooks often contain statements as to whether their contents are contractual in nature. Only two institutions were reported to have handbooks with explicit statements that the contents were contractual. Those of three other institutions were said to include statements that their contents were non-contractual. The most common situation among the colleges and universities represented in the survey was for some of the material in the handbook to be identified as contractual and other portions as non-contractual; 12 respondents reported the handbooks at their institutions expressed this sort of distinction. The seven remaining individuals indicated that their institutions' handbooks contained no explicit statement as to whether the material was contractual or not.

Sources of Information for Part-time Faculty Members. Many colleges and universities have separate handbooks to provide information about institutional policies and procedures to part-time faculty members. Fifteen respondents reported that their institutions had separate part-time faculty handbooks; this number included 12 of the 14 community college respondents. No publication dates were given for three of these and one was said to be "in preparation." Most of the other individuals in this group gave publication dates of 1993 or 1993-94, and none of the remaining part-time faculty handbooks was reported to have a date earlier than 1992. Four respondents indicated that instead of a separate handbook, part-time faculty members were either provided with copies of the same handbook used by full-time faculty members or had access to it. One of these commented, "No distinction is made, same material."

The five remaining individuals gave no indication that faculty handbooks were available to part-time faculty members at their respective institutions. Two of these failed to specify any alternative source of information on institutional policies and procedures. One added the comment that "not much is known by part-time faculty," but a second respondent from the same institution indicated that information was available to part-time faculty members "through the division chairperson's office" and the minutes of faculty meetings. The other three all checked the choice through letters or memoranda concerning specific responsibilities. A total of nine respondents reported that their institutions used letters or memoranda to communicate with part-time faculty members, but only two of these failed to indicate at least one additional source of information.

Besides faculty handbooks and letters or memoranda, various respondents specified the following sources or mechanisms for disseminating information:

Division/department chairpersons	(3)
Department or division documents	(2)
Meetings	(2)
A separate list of policy information	(1)
Faculty association minutes	(1)

Responses from Private Career Schools

The results from the 10 private career schools that provided responses represented over 80% of the 12 MAPCS member institutions that offer courses with a significant lecture component. While it seems likely that other postsecondary business and technical schools of this type have similar practices regarding faculty handbooks, it is important to recognize that these data provide no basis for generalizations about institutions that provide training in other kinds of career fields.

Eight of the 10 individuals who sent responses from private career schools indicated that their institution had some kind of comprehensive handbook. Four of these checked *A faculty handbook.* The other four gave alternative designations that suggested that the document's content applied to other employees in addition to faculty members. Two respondents checked *A number of separate documents, but no faculty handbook,* but one of these added that "one is being developed—it's in rough draft stage." None of the private career school respondents chose the statement *There is no apparent mechanism for providing faculty members with information about institutional policies and procedures.*

Frequency of Handbook Updates. Four of the five private career school respondents who gave specific dates for their faculty handbooks or equivalent documents reported publication in either 1993 or 1994. Two of these indicated that their respective handbooks were updated every year and a third said every two years. The fourth person indicated that the handbook or equivalent document was not updated on a regular basis. One individual gave a 1985 publication date but wrote "continuously" in answer to the question about frequency of updates.

Five respondents failed to give the date of the latest handbook edition. One of these, however, reported that it is updated every year. Two others indicated that the regular updates were done but did not specify how frequently. One private career school respondent did not answer this question at all, and the remaining individual said that there were no regular updates of the informational documents at his or her institution.

Faculty Involvement in Handbook Revisions. Private career school respondents' answers to the item asking about the frequency with which *Changes in the content of the handbook or equivalent document(s) are made without faculty participation* were equally divided among the options *Often, Sometimes*, and *Never*.

Three individuals checked *Often*, indicating that changes were commonly made without consulting faculty members. All of these specified top administrators—president, owner, and/or school director—as having primary responsibility for revision of their respective in-

stitutions' faculty handbooks or equivalent documents. Their responses regarding provisions for faculty participation were: "none," "offered suggestions," and "faculty job description."

Three other private career school respondents checked *Sometimes* and designated an administrative position, office, and/or group as having primary responsibility for revision of the faculty handbook or equivalent documents. All, however, reported that there is some provision for faculty participation in handbook revisions at their respective schools.

The three remaining individuals checked *Never*, indicating maximum faculty involvement in handbook revisions. One said that responsibility for revisions lies with "all staff people." The other two designated an administrative position (director) or group (education department) as having the primary responsibility for revisions, but reported that faculty involvement is a routine part of the process.

The one private career school respondent who did not answer the question about whether there was faculty participation when changes are made in the handbook or equivalent document(s) attributed responsibility for revisions to "management," but indicated that some provision for faculty participation in revisions was "being developed."

Handbook Availability and Access. All 10 of the private career school survey respondents checked *Yes* in response to the statement that *A copy of the handbook is routinely provided to each new full-time faculty member.* Only one individual answered *No* to the following item about whether revision information was distributed to all full-time faculty members and another gave no response. The other eight respondents all checked *Yes*.

Most of the private career schools from which responses were received also made current handbooks available for faculty members' use in various locations on campus. The places where respondents said that copies could be found are listed in order of frequency, along with the number of schools reported to use each location:

The personnel office	(4)
The offices of department chairs	(2)
Department or division offices	(1)
Secretary's office	(1)
Administrative office	(1)
President's office	(1)

All 10 private career school respondents indicated that they felt faculty members' access to handbooks or equivalent documents adequately served their needs, and none specified any indications of problems caused by inadequate access.

Handbook Content. Table 2 shows the number of private career school respondents who reported that their respective institution's handbook or equivalent contained information on each of the topics listed on the survey form. The most commonly covered areas were *faculty benefits* and *absences and leave*; these were found in the documents of eight out the 10 institutions. *Grounds/procedures for dismissal* and *faculty rights and responsibilities* followed in frequency, although one individual who checked the latter item crossed out "rights," making it just "faculty responsibilities."

Table 2
Sources of Information About Policies and Procedures at Private Career Schools in Maryland

Policy or Procedure	Included in faculty handbook or equivalent document(s)	No information source specifically indicated
Absences and leave	8*	2
Faculty benefits	8*	2
Faculty rights and responsibilities	7*	3
Grounds/procedures for dismissal	7*	3
Appeal/grievance procedures	6*	4
Faculty evaluation	5	5
Faculty development programs/policies	4	6
Normal teaching load	3	7
Faculty appointments/initial placement in rank	2	8
Outside employment/consulting	2	8
Provisions for reduced loads (released/reassigned time)	1	9
State on academic freedom	1	9
Faculty salary schedules	0	10
Procedures for contract renewal	0	10
RIF, retrenchment, or contingency plan	0	10
Standards/procedures for promotion decisions	0	10
Standards/procedures for tenure decisions	0	10

* These counts include one institution reported as having separate documents rather than a handbook, but also as having the indicated policies.

At the other end of the spectrum, none of the 10 private career school respondents indicated that his or her institution published information on faculty salary schedules, procedures for contract renewal, a RIF, retrenchment or contingency plan, standards/procedures for promotion decisions, or standards/procedures for tenure decisions.

Similarly, only one of the schools was reported to have a statement on academic freedom. Some of these omissions may reflect ways in which the structure and functioning of private career schools commonly differ from the traditional patterns of colleges and universities. Private career schools, for example, seldom award tenure or categorize faculty members as holding different ranks.

Only half of the 10 private career school respondents listed any other source of information on the topics reported as not being covered in the faculty handbook or equivalent at their respective institutions, and none specified which types of information were otherwise available. One of these individuals specified a faculty handbook as the primary source of information for both full-time and part-time faculty members and listed an employee handbook (apparently a different document) as a source of additional information. The other four gave answers that indicated reliance on people rather than documents as alternate sources of information. One simply wrote "entrance and interim interviews," and the others named various offices or administrative positions.

Relationship to Official Policies and Faculty Contracts. Four private career school respondents gave no answer to the question of whether the published procedures and rules at their respective institutions included adequate references to the sources from which they were derived. The question may have been irrelevant in at least some of these instances. Two of these individuals indicated that their schools had several separate documents either instead of or in addition to a faculty handbook, and another two named a policies and procedure manual as their primary source of information. Three respondents answered Yes to the question of whether the sources of procedures and rules were adequately referenced in their institutions' handbooks, and the remaining three checked No, indicating inadequate referencing.

Only one of the private career schools was reported to have a faculty handbook that included an explicit statement that its contents were contractual in nature. The handbooks or equivalent documents of four others were reported to include statements that their contents were non-contractual. The five remaining respondents indicated that their institutions' handbooks contained no explicit statement as to whether the material was contractual or not.

Sources of Information for Part-time Faculty Members. None of the private career schools from which responses were received was reported to have a separate part-time faculty handbook. Seven respondents indicated that both part-time and full-time faculty members at their schools used the same handbook or equivalent. An eighth gave the title of an institutional policy manual, but it was not clear whether this was the same document that the individual was referring to in answering Yes to the earlier question about existence of a faculty handbook. The two remaining respondents checked only the choice through letters or memoranda concerning specific responsibilities to indicate how their schools provided information about institutional policies and procedures to part-time faculty members.

Summary

Full-time faculty members at the Maryland postsecondary educational institutions from which responses were received generally seemed to have adequate access to information about institutional policies and procedures. All the responses from colleges and universities indicated the existence of a faculty handbook, and most of these seemed to be reasonably current, judging from their reported publication dates and frequency of updates. Most of the private career school respondents also indicated that their institutions had either a faculty handbook, an employee handbook, or a policy and procedure manual.

At many institutions specific administrators or administrative offices were in charge of handbook updates, although in some cases the task was shared with a faculty body. Most of the colleges and universities represented by the survey respondents were reported to have some mechanism for faculty participation or representation in the revision process. A number of individuals named a faculty committee or subcommittee as having primary responsibility for this function. Changes made without any faculty participation appeared to be the exception rather than the rule at the college and university level. Reports from the private career school respondents suggested generally lower levels of faculty participation in handbook revisions, but most indicated that their respective institutions allowed at least some input from faculty members.

Most of the college and university respondents reported that each full-time faculty member at their respective institutions had his or her own copy of the faculty handbook, and that there were also copies available in various common locations. Furthermore, when significant revisions were made, updated information was generally provided. Full-time faculty members at private career schools also generally had personal copies of a faculty handbook or equivalent document, and most of these institutions were reported to distribute information about changes. Few respondents expressed dissatisfaction with the overall availability of information about institutional policies and procedures.

A majority of the colleges and universities from which responses were received provided information about most of the 17 major topics listed in survey. Nine of the 24 respondents reported that information on each of these topics was available either in their institutions' faculty handbooks or in other documents or locations that were accessible to faculty members. Eight more individuals indicated specific sources of information for all except one or two of the listed topics. A number of college and university respondents did, however, report a lack of adequate information as to the original sources of procedures and rules that are derived from governing board policies or other official documents.

The range of traditional faculty concerns addressed in the faculty handbooks and equivalent documents of private career schools appeared to be substantially more limited than what was found in most college and university handbooks. Fundamental differences between these two major categories of postsecondary educational institutions probably accounted for at least some of these disparities. Like some of their college and university counterparts, however, several private career school respondents expressed concern about the lack of adequate referencing of procedures and rules in relation to their original source policies. Quite a number of handbooks and equivalent documents from both types of institutions apparently failed to state explicitly what portion of their content was contractual.

Part-time faculty members at most of the colleges and universities represented by the survey respondents received information in one or more of the following forms: letters or memoranda concerning specific responsibilities, a separate part-time faculty handbook, or the same handbook used by full-time faculty members. Part-time faculty members at private career schools relied on either the same document(s) used by full-time faculty members or on letters and memoranda; none of the these institutions was reported to have a separate part-time faculty handbook. Most part-time faculty members appeared to have at least one reliable source of information about institutional policies and procedures available to them.

Overall, the survey results revealed no pervasive pattern of undesirable practices relating to faculty handbooks at the institutions from which responses were received. Certain responses suggested that problems may exist on some campuses. The most disturbing were those few that expressed overall dissatisfaction with faculty members' access to current information about institutional policies and procedures. In such instances, this report could be of value as a reference to demonstrate that a particular institution's practices are not consistent with those of others.

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