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ROLES, REWARDS, AND RESPONSIBILITIES

C. COLLECTIVE BARGAINING AND TECHNOLOGY

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Technological developments have expanded dramatically. It is having a great impact on the work of faculty in higher education. One way to understand this impact is to review what is being bargained around the issue of technology. The negotiation of technology matters is in an emergent phase, with much left to be negotiated and, from the standpoint of faculty, with much left to be protected. Contracts have inadequately anticipated the potentials inherent in such technological usages as long-distance learning, telecommunications, and the entrance of the Internet into college classrooms. By and large, contracts of two-year institutions tend to have anticipated the impact of telecourses on workload more extensively than those of four-year institutions and have attempted to quantify the impact for purposes of calculating workload and compensation. Contracts of both two-year and four-year institutions contain provisions on property rights, although those of the four-year institutions tend to be less restatements of external law than adaptations of that law to the academic workplace. Workload sections follow a fairly traditional industrial model of seeking to protect workers through a definition of terms and conditions of a teaching-based load. In two-year colleges, the contracts are far more detailed in their provisions. For the most part the contracts in the NEA Higher Education Contract Analysis System (HECAS)¹ lack proactive provisions that will ensure the employees a voice in decisions around increasing productivity, creating or enhancing jobs, and sharing in the proceeds of such increases in productivity.

The word "technology" encompasses a wide range of issues including intellectual property rights, training, preparation time, job security, evaluation, and compensation. For example, if 2,000 students are signed up for a television course viewed in their homes, how should the class size be counted

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for compensation? Once a faculty member is video taped and the tape is used again in subsequent semesters, who owns the rights to the video? What kind of preparation is involved in filming a course? Who owns the product? What kind of payment should the developer receive? Will technology supplement or supplant staff? Will training in the use of technology be provided? What resources will be available to staff? What are the standards for evaluation? Where does technological use fit -- under teaching or scholarship? How will the use of technology be evaluated?

INTELLECTUAL PROPERTY RIGHTS

Ownership of the products of faculty work is not just a theoretical issue. The institution that had no interest in laying claim to \$500 in royalties for a scholarly book is now ready and willing to assert ownership over potentially lucrative patents or copyrights. There are instances of faculty inventions that have been worth millions of dollars and ownership of these inventions is sometimes contested. In 1989, the University of California estimated that the patent/licensing rights produced over \$10 million of income from faculty works and predicted that in the next decade, it would be \$40-50 million. The University of Wisconsin makes \$50 million from the licensing of intellectual property. Other examples include: Gatorade was invented by a professor at the University of Florida; Stanisfloride was invented by a professor at Indiana University.²

Enghagen (1994) notes that "Faculty members will continue to encounter intellectual property issues in the course of their duties. While the legal issues are settled for many of the traditional facets of classroom instruction and research, new frontiers have arrived in the areas of distance education, and technology development and transfer."³

According to traditional common law principles, in the absence of an explicit agreement, the rights of employees to their inventions depends on the nature of the employment. The seminal case delineating rights to employee inventions during employment is United States v. Dubilier Condenser Corp. Dubilier involved the rights of two full-time laboratory researchers at the U.S. Department of Commerce's Bureau of Standards, who generated inventions while on the job, using the Bureau's resources and facilities. Focusing on the fundamental nature of the employee's job, the Supreme Court established that if an employee is hired to invent products as part of the job, then the patent belongs to the employer. If the employee is hired to do general work and the employee conceives an invention the "contract is not so broadly construed as to require an assignment of the patent." (Dubilier, 53 S. Ct. at 557). Further, if the employee creates his/her invention while on the job, using the employer's facilities and resources, the employer acquires an implied licensee or shop right to used the invention. These principles are established for both the private and public sectors. There is a difference in law between patents and copyrights. Copyright law vests ownership in the author, but allows employers to claim ownership if the work is within the

scope of employment. Courts have recognized a "teacher exception" to this doctrine for education materials created by teachers.

There have been lower court cases that apply the principles of Dubilier. In sum, it can be concluded that absent an express agreement assigning ownership rights, or conduct that might be construed as contractual acquiescence in university policies providing for such assignment, faculty members retain all rights to their inventions. However, if the invention is developed while on the job, using university materials and funding, the university may have a nonassignable licensee to use the invention. A further important distinction is in the determination of whether the invention is subject to patent law or copyright law. Faculty-created software is potentially a very lucrative product over which an institution might attempt to claim ownership. The legal precedents in this area makes the issue very important to unions that want to protect faculty property rights.

The most common provision bargained in the area of technology is copyrights and patents. Twenty-eight contracts in the NEA - HECAS have a section on this topic. Many of the contracts have language similar to that found in common law. If the individual develops the product on his/her own time and without college resources, then the copyright or patent belongs to the individual. If the person uses university resources then usually the faculty member and the campus share the copyright or patent. Or in some of the contracts, once the campus has been reimbursed for using its resources, then the faculty member owns the rights to the product. In some cases, if there is not written agreement to the contrary, then the campus owns the product. One example of this language appears in the Shoreline Community College in Washington contract, Article 7, "Copyrights and Patents" which states:

- a. The ownership of any materials, processes or inventions developed solely by an academic employee's individual effort and expense shall vest in the academic employee and be copyrighted or patented, if at all, in the academic employee's name.
- b. The ownership of materials, process or inventions produced solely for the College and at College expense shall vest in the College and be copyrighted or patented, if at all, in its name.
- c. In those instances where materials, process or inventions are produced by an academic employee with college support by way or use of significant personnel, time, facilities, or other college resources, the ownership of the materials, processes or college resources, the ownership of the materials, process or inventions shall vest in (and be copyrighted or patented by, if at all) the person designated by written agreement between the parties entered into prior to the production.

In the event there is no such written agreement entered into, the ownership shall be apportioned between the parties utilizing the binding arbitration procedures."

IMPACT OF TECHNOLOGY

It is clear from some of the contract language, that campuses are attempting to grapple with the new technology and its impact on the campus. Several contracts have interim provisions to develop technology on a class by class basis until the parties can fully negotiate provisions on the use of technology. From an analysis of the contract provisions that exist in the sample, it appears that the unions are concerned about technology replacing workers, workload, training, and evaluation.

The Florida State University System contract article titled, "Instructional Technology," which defines the broad scope of technology issues and concerns. It also moves towards establishing a philosophical basis for the use of technology:

- (a) The parties recognize the increasing use of new technology, such as video tapes and computer software, to support teaching and learning and to enhance the fundamental relationship between employee and student. Furthermore, the parties also recognize that this technology should be used to the maximum benefit of the university and the employee.
- (b) Instructional technology material includes video and audio recordings, motion pictures, film strips, photographic and other similar visual materials, live video and audio transmissions, computer programs, computer assisted instructional courseware, programmed instructional materials, three dimensional materials and exhibits, and combinations of the above materials, which were prepared or produced in whole or in part by an employee, and which are used to assist or enhance instruction. (Article 9.8)

The contract goes on to provide that if the Instructional Technology is done without University resources then the employee owns the product. If the work is done with University resources, then the employee and the university "shall share in the proceeds." (Article 18.3)

Gogebic Community College in Michigan has an article on Telecommunications which addresses a very important issue for the unions -- the potential for job loss. The contract states:

The telecommunications education system is an electronic educational network designed to provide an alternative means of instructional delivery to provide education resources to students in a cost

effective and efficient manner. A telecommunications education system shall not cause the layoff, replacement, displacement, or reduction of any faculty member's work hours. . . . Class schedules utilizing Telecommunication as a delivery system will be determined as part of the normal scheduling process. . . . faculty will be offered first opportunity to instruct Telecommunications activities based on seniority. Pay shall be determined in accordance with the credit/contact value of the course, whichever is appropriate. (Article XVII)

Technology and jobs is also the subject of a contract provision at Grand Valley State University in Michigan. The contract covers support personnel and states:

. . . the University and the Association recognize the introduction and expansion of electronic technology at Grand Valley State, including CRT's, work processing machines and other electronic devices. The University hereby confirms that such equipment introduced to date was not procured for the purpose of eliminating bargaining unit work. In the event that the expansion of new technological devices makes skills obsolete, the University agrees to make reasonable efforts to make available training opportunities to employees to improve existing skills or develop new skills so that employees may better serve the needs of the University. Nothing in this Agreement shall be construed to limit the University [sic] right to introduce new electronic technology.

The parties to the agreement at Oakland University (Michigan) determined they did not have enough experience to bargain in the technology area although they agreed on the intent to bargain in future contracts. "Therefore, during the term of this Agreement, Oakland and individual faculty members may enter into written agreements for experimentation with these new media. Said agreements may delineate such items as form of compensation, recapture by Oakland of production costs, royalties to be paid, ownership of copyrights, and preparation of accompanying materials." Further, the association will be provided copies of the agreements and notified about the credit hours used by media courses.

The contract for the Pennsylvania State System of Higher Education recognizes that "technology allows methods of instruction different from traditional instruction in-the-classroom including, but not limited to, long distance education which involves teaching students by technological link-ups." Methods of instruction may include "instruction utilizing satellites, fiber optics transmission, full-motion video, cable TV, microwave transmission, audio-graphics/computer, and videotapes." Like the prior contract, the parties recognized that the technology was changing so rapidly it was not possible to bargain all the specifics. So they determined the technology courses would be approved by local and state "Meet and Discuss" (a union/management

committee). The new courses would also need the approval of the University curriculum process. Other provisions in this article provide that "technology shall NOT be used to reduce, eliminate or consolidate FACULTY positions." The article also provides for additional compensation for the development and delivery of technology courses and the development of evaluation guidelines. It concludes: "Due to the constantly changing technologies, this Article will be reviewed and/or revised at the time of the contract negotiations."

The contract for Schoolcraft College in Michigan has extensive provisions for television classes. Prior to receiving an assignment of a television course the faculty member must attend an orientation session. "Due to the unique requirement of distance education courses coupled with the varied needs of adult learners," the instructor is responsible for several duties: viewing the course videos prior to the beginning of class, preparing a special format syllabus which is distributed to students at the first class session, communicating with students by phone or mail at least two times a month at college expense, a minimum of three review sessions for the students, and tests. No faculty member is "required to teach a television course unless it is necessary to make a basic load." Most television courses are taught as supplemental classes and there is a class size limit specified in the agreement.

Eighteen of the contracts address workload and technology. Youngstown State University provides that: "Up to three (3) computer-based and/or medial-based courses may be developed and/or taught on an experimental basis during each academic year of this Agreement, providing the faculty member who teaches each course receives regular workload credit for it the first time it is offered, and providing further that the Administration and the Association reach agreement on workload credit for the course prior to it being offered a second time." The parties further agree to negotiate provisions for these courses in the next contract. The Salem Community College contract in New Jersey specifies that Computer-Assisted Instruction will be compensated at a per student rate of \$26.80 in 1993-94. The Barstow Community College Contract in California provides that, "hours for television courses are the units assigned to the individual class." The Spoon River College in Illinois states that "the utilization of new technology that results in different or innovative class or schedule arrangements that have the mutual approval of the college and the employee may be assigned as requested by either a faculty member or the college." The contract for North Central Voc-Tech in Wisconsin provides that "Telecourses shall have a value of three and one-half percent (3.5%) per credit and a maximum enrollment of 32 students." The parties agreed to assign this provision to a "Labor/Management Work Load Committee" for study.

The agreement for Ferris State University in Michigan has an article, "Courses taught by non-traditional methodology" which provides:

- a. Credit-bearing courses taught by non-traditional methods (television, computer

aided instruction, video tape lecture, or any other electronic or other media) will be offered consistent with department procedures.

- b. Courses offered by any of the above methods will be assigned an instructor (s). The department head/supervisor and instructor(s) shall mutually determine, in advance and in writing, the contact hours required by the assignment which shall be considered part of the instructor's (s') class load.

Whatcom Community College in Washington divides technology-assisted courses into three categories for calculation of contract hours. "Mediated Instruction System Facilitation" (MISF) requires the least amount of work by a faculty member, and therefore requires no adjustment in workload. MISF involves instruction "wherein coursework is totally packaged and faculty are not required to do curriculum development/revision, preparation, grading, or consultation beyond contracted hours." Where the faculty member is required to "do some curriculum development/revision, diagnosis, planning, evaluation, and outside consultation," adjustments in contract hours are made. Further adjustments are made for telecourses which "do not require, beyond the norm, curriculum development or faculty/student interaction (including evaluation)."

In California, at Coast Community College District there is a unit of part-time faculty which provides extra pay for activities directly related to teaching. "These activities shall include but not be limited to substituting; telecourse design and development; alternative learning services; open laboratory classrooms with one-on-one tutoring (basic skills, language labs, ESL labs, and computer labs). The rate is \$215 per day (\$26.88 per hour)." Clark College in Washington has a provision that "telecourses are paid at the lecture rate with no bonus for enrollment. However, if enrollment exceeds standard capacity by 15 a second section will be opened and paid. If double capacity is reached plus 15, a third section will be opened and paid, etc."

The use of technology also brings up issues of evaluation/monitoring. The Pensacola Junior College contract in Florida has a provision for administrative evaluation of faculty which prohibits the use of "any electronic recording device in the process of evaluating faculty." The contract for Mt. San Antonio Community College in California states the following: "In the evaluation process, faculty shall be free from any and all forms of electronic or other listening or recording devices, except with his/her express and non-continuing consent." At Monterey Peninsula Community College in California faculty may choose to be evaluated by "electronic recording devices."

It is clear from the above discussion that the use of technology in higher education is multifaceted and a complex issue. The number of agreements that have provisions to approve the use of technology on a case by case basis and bargain full provisions in the next contract indicates that

this is an arena of great uncertainty. The parties do not have enough information to negotiate contract provisions so they agree to work through labor/management committees until they can bargain all the implications. It is also clear that the parties are not resistant to using technology and non-traditional ways of teaching, but they are proceeding with caution as it relates to the impact of technology on the more traditional areas of compensation, workload, and evaluation. This is an area of contract negotiations that will be developing over the next five to ten years as institutions turn to increased use of technology as a means to maintain or increase productivity in light of continuing fiscal restraints.

ENDNOTES

1. The NEA Higher Education Research Center selected a nationwide sample of approximately 200 contracts balanced for factors such as two-year and four-year campuses, geography, and type of employees. The texts for these contracts were scanned into a computer and then analyzed using software that can search for specific words or phrases. The Higher Education Contract Analysis System (HECAS) enables users to query items commonly found in contracts and to analyze the language.

2. Figures for this section were presented at the 1993 Baruch College Collective Bargaining in Higher Education Conference by Lawrence A. Poltrock, General Counsel for the AFT, in a session titled, "Campus Bargaining and the Law" April 20, 1993.

3. Enghagen, Linda K. "Intellectual Property Concerns for Faculty," paper presented to the NTU Faculty Forum Series, sponsored by the U.S. Department of Energy, December 7, 1993.