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ABSTRACT

This paper takes a look at the role and function of faculty in higher education from a public policy/public higher education perspective, focusing on the view of faculty not just as an institutional asset but also one for the public good. The paper examines major external challenges currently facing public higher education, faculty activities and productivity, public perceptions of the role of faculty, and faculty's perception of their role. Faculty are viewed as a long-term institutional investment to be developed, maintained, and effectively utilized. In viewing faculty as a state asset, the focus is on such outcomes of faculty activity as: college graduates who can get jobs and advance in given careers, an education comparable to the tuition charged, and solutions to state social and economic concerns. A model is proposed in which institutions are held accountable for achieving identified state objectives and, upon agreement of higher education's responsibilities for meeting state goals, state government leaders retreat and allow campus administrators and faculty to determine new assignments. Community colleges, which have developed close, sometimes symbiotic, relationships with their communities, may serve as a model for this new paradigm. An appendix outlines some caveats to defining and measuring faculty productivity. (Contains 15 references.) (JDD)

# DEVELOPING AND VIEWING FACULTY AS AN ASSET FOR INSTITUTIONS AND STATES

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# DEVELOPING AND VIEWING FACULTY AS AN ASSET FOR INSTITUTIONS AND STATES

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## Introduction

Higher education, and especially public higher education, is facing some significant challenges as it approaches the 21st century. Funding constraints, addressing the needs of increasingly diverse student populations, and concerns over access to higher education; coupled with increased skepticism of the public toward the academy have created a very uncertain future for public colleges and universities.

If we turn the lens outward for a minute, however, it becomes evident that the problems confronting public higher education are but a small piece of the patchwork of issues confronting states in the 1990s. Social issues such as health care and welfare reform, and public concerns about crime, K-12 education, taxes, and government spending all appear to have greater political and policy salience at the moment than those pressures faced by higher education.

Higher education, most prominently the faculty, could (and should) play a significant role in meeting the challenges facing state and local governments. Without a doubt, higher education's ability to meet its own challenges hinges on the abilities and dedication of the faculty. These concepts have historical precedence beginning with the establishment of the land grant institutions and their emphasis on service to the community.

However, these historical linkages with faculty have been weakened over time by a number of forces to the point where some of our external stakeholders feel that the faculty are more interested in perpetuating the status quo instead of as actively trying to fashion solutions for change. To be fair, there are as many in the faculty ranks across the country who feel alienated and frustrated by this criticism and the apparent lack of understanding about who they are and what they do.

We should note up front that because of our backgrounds and experience we take an almost exclusively public policy/public higher education bent in addressing this issue. As suggested previously, we view faculty not just as an institutional asset, but also one for the public good. Thus, the purpose of this paper is to take a fresh look at the role and function of faculty in higher education - that is as an asset for institutions and states in addressing important issues. In this paper, we address the following questions:

- What are the major external challenges currently facing public higher education?
- What do we know about faculty activities and productivity?
- What are the public perceptions of the role of faculty in higher education? What are the faculty's perception of their role?

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- How do we begin to address the issue of faculty as an institutional and state asset?

## Public Higher Education In a Period of Change and Uncertainty

Public higher education is currently in a period where some tremendous external forces are creating an uncertain future. This period is marked by at least three interrelated trends:

1. ***Stagnating or declining state financial support.*** For public higher education in many states, state support for higher education has waned in recent years after a period of relative growth in the 1980s. Data from the Center for Higher Education at Illinois State University indicate that nationally, state tax appropriations for higher education declined one percent between FY 1991 and FY 1993 (approximately $400 million). This was the first two-year decline ever recorded by the Center in its 35 year history of reporting this information. Data for FY 1994 suggest some improvement in the national trend, although several states, notably California, remain in poor fiscal condition.

   This absolute decline in state appropriations has been paired with a declining share of state funding for higher education. Data from the National Conference of State Legislatures indicate that, nationally, higher education as a percent of state general fund spending declined from 14.6 percent in FY 1988 to 12.2 percent in FY 1993.

2. ***Increased interest at the state level in "accountability".*** At the same time, public higher education is being called upon to justify itself to state policymakers. Accountability itself has become an umbrella for several subissues: e.g., the quality of and access to undergraduate education, administrative costs, affordability, contributions to state economic and social needs. While the issues vary somewhat from state to state, the common thread running throughout is an increased emphasis on outcomes and products benefitting the state. Put another way, states are asking the question, "what are the citizens of this state receiving from their investment in higher education?"

3. ***Concerns about faculty productivity.*** Increasingly, state policymakers and citizens are asking questions about what faculty do, how much they work, and what they accomplish. According to the Chronicle for Higher Education (1994), 24 states conducted faculty workload studies in 1993-94. The development of this issue is clearly a logical extension of the previous two trends. Faculty salaries constitute a major portion of institutional budgets. Likewise, concerns about the quality of undergraduate education have at their core a concern about the degree of faculty involvement and interest in undergraduate instruction.

## Research on Faculty Activities and Productivity

While this is not a paper on faculty productivity per se, we need to address what is known about the topic because this is the issue currently framing the debate among our external stakeholders over the role of faculty. While the definition and measurement of faculty activities and productivity in higher education have their limitations, the empirical research in this area should

be explored.[2] Most empirical research on faculty productivity covers three broad categories: "workload" studies; instructional productivity; and noninstructional productivity.

**BOX 1: "The Ratchet"**

There is little empirical basis for determining if and how the internal dynamics of faculty workload have changed. A 1991 report by the State Council of Higher Education for Virginia (SCHEV), which compared faculty survey results from 1975 and 1991, however, found the distribution of time spent in teaching, research, and service did change for faculty members at public institutions in Virginia. Generally, this report found that faculty at all types of institutions, four-year and two-year, were spending proportionately more time in research in 1991 than in 1975. William Massy has developed an explanation for this phenomenon termed simply, "the Ratchet." In short, Massy argues that "the Ratchet" works as follows for any given academic department (assuming constant or declining enrollments):

- Increases in the number of faculty in a department or in the leveraging of faculty time with lower cost part-time instructional staff or teaching assistants lead to a broader and more specialized curricular array for the department. They also lead to smaller classes because existing enrollments are spread out over a larger number of course offerings.
- Instruction under this scenario takes less time because smaller, more specialized courses are easier to teach for the faculty member, resulting in a reduced "effective" teaching load.
- The lowered "effective" faculty teaching load leads to increased time spent in other activities, namely research and other scholarship (Massy 1990).

**Faculty workload studies.** Faculty workload analyses are not new. One source notes that the first study of faculty workloads occurred in 1919 (Yuker 1984). Subsequent studies of this issue have shown a fairly consistent pattern of faculty workload within the traditional tripartite workload model (instruction, research, and public service). While there are variations among different types of institutions, disciplines, and instructional staff types, faculty generally report working 50-60 hours per week, with approximately one-half of the time devoted to teaching and other instructional activities. The issue of internal shifts in faculty workload over time is discussed in Box 1 above.

The results of the 1988 National Survey of Postsecondary Faculty (NSOPF-88) were consistent with these past studies. Full-time faculty at all institutions (public and private) reported working 53 hours per week in Fall 1987. Among the various types of public institutions, this average ranged from 57 hours per week at research universities to 47 hours per week at two-year institutions. Data from this survey on the allocation of faculty time among the different workload categories indicate that for all institutions, faculty spend an average of 56 percent of their time in teaching activities, 16 percent in research, 13 percent in administration, and the remainder in community service and other activities. This distribution varied predictably among the various types of public institutions with faculty at research universities spending more time than average in research and faculty at comprehensive and two year institutions spending more time than average in instructional activities.

[2]See Appendix for discussion of caveats to defining and measuring faculty productivity.

**Instructional productivity analyses.** Another type of productivity analysis focuses on the instructional activity of faculty. Typically such studies focus on average course loads, contact hours, and credit loads. Yuker's (1984) analysis of the literature found the following patterns:

- **Type of institution:** Faculty at research universities tend to have lighter teaching loads than faculty at comprehensive institutions and community colleges.
- **Discipline:** Faculty in the "soft" disciplines (e.g., humanities) tend to devote more time to instruction than faculty in the "hard" disciplines (e.g., sciences).
- **Faculty rank:** There is an inverse relationship between rank and teaching load. Full professors tend to have the lightest teaching load while assistant professors and instructors tend to have the heaviest teaching loads.

NSOPF-88 examined two measures of instructional productivity: classroom contact hours and student contact hours.[3] In Fall 1987, faculty at all institutions reported an average of 9.8 classroom contact hours and an average of 302 student contact hours. Among public institutions, average classroom contact hours ranged from 6.6 at research universities to 15.2 at two-year institutions. Average student contact hours ranged from 259 at research universities to 427 at two-year institutions. Evidence on trends in instructional productivity remain largely at the institutional level, given that NSOPF-88 was baseline data. For example, Middaugh and Hollowell (1992) found in their study of instructional productivity at the University of Delaware that between 1985 and 1991, average faculty courseloads, classroom contact hours, and student/faculty ratios all declined.

**Productivity in noninstructional activities.** Much of what is known about faculty productivity in non-instructional activities is descriptive and is confined to research activities. For example, NSOPF-88 found that faculty in research and doctoral institutions produced greater than average numbers of journal articles; books/book chapters and monographs than did faculty in comprehensive and two-year institutions. There was also variance across discipline areas that was attributable to differences in modes of publication among disciplines. For example, faculty in the health sciences and natural sciences had above average numbers of journal articles while faculty in agriculture/home economics and engineering produced above average numbers of technical reports and nonrefereed articles.

## Perceptions of the Role of Faculty in Higher Education

Increased interest in faculty accountability and productivity reveal an uncertainty about the role of higher education in society and the role of faculty in higher education. Likewise, anecdotal evidence about shifts in faculty priorities indicate some dissonance between faculty goals and the expectations of faculty by higher education stakeholders.

[3] "Classroom contact hours" are the number of hours spent teaching group instruction courses. "Student contact hours" are the number of hours spent teaching group instruction courses multiplied by the numbers of students in those courses.

**The role of faculty: public expectations.** For many, a college education is seen as the way to improve one's economic standing. A national survey of new freshmen at all types of institutions in Fall 1992 found that 78.5 percent noted "getting a better job" as a very important factor in deciding to go to college (Dey, et. al. 1992). Thus, the public see faculty as teachers, first and foremost. Other activities - e.g., research and service - are seen by those outside of the academy as tangential to the "true" mission of public colleges and universities and not really understood by some. For example, when asked about faculty research activities, a Virginia legislator recently stated, "... the vast majority of people aren't aware that research goes on" (Pratt 1993, p. 16). Unfortunately, much of the blame for the public's indifference to or misunderstanding of these non-instructional missions must rest with those within the academy. Higher education in general has been extremely ineffective in providing insight into what and how it does what it does outside of the classroom.

Of greatest interest, of course, is the amount of time that faculty spend in the classroom. A California legislator was quoted as saying, "for years, universities faced with decreasing budgets would rather get rid of students than increase faculty workload. They all want to be like Harvard and lessen the teaching load. That can't continue" (State Policy Reports, March 1992, p. 20). The concern of state policy makers can be stated simply: faculty are paid primarily to teach and reducing that commitment is unacceptable. Both policymakers and the general public increasingly perceive faculty at public colleges and universities as concerned more with their professional advancement through research and publication than the education of undergraduate students.

**The role of faculty: faculty expectations.** Faculty expectations of their role are largely shaped by the cultures of their institution and field of study. These expectations are reinforced by institutional reward structures. Increasingly, we hear that research and publications are the coin of the realm, not teaching. The 1989-90 UCLA Higher Education Research Institute Survey of Faculty found that in public four-year institutions, less than ten percent of faculty believed that they were definitely rewarded for being good teachers at their institutions (Astin, et. al., 1991). As noted by James Mingle, Executive Director of the State Higher Education Executive Officers, "teaching credentials aren't very portable, while research credentials can carry one from institution to institution" (1993, p. 5). There is evidence that the rewards do go to those who do research. A recent study by the National Center on Postsecondary Teaching, Learning, and Assessment found that for full-time tenure track faculty, generally:

- The more time spent on teaching and instruction, the lower the salary;
- The more time spent in the classroom, the lower the salary;
- The more time spent doing research, the higher the salary; and
- The more publications one had, the higher the salary (Fairweather 1993).

These findings would suggest that the rational faculty member would want to spend more time conducting research and less time in instructional activities. Again, there is evidence that this is the case. NSOPF-88 posed the question, "if you changed jobs, would you want to do less, the same, or more teaching and research?" For all institutions, 50 percent of full-time faculty responding to that question would want to do more research compared with 11 percent wanting to do more teaching. On the other hand, only 8 percent would want to do less research while 30 percent would want to less teaching.

**The dissonance of public and faculty goals.** The available evidence suggests that there is a great division between what state policymakers and the public want from higher education and what higher education wants for itself. This leads us back to the renewed interest in accountability for higher education at the state level. There is no doubt that this interest is directly related to state-level perceptions that higher education is out of sync with state needs and goals. Part of this gap is attributable to the basic differences between the external political and institutional cultures. However, there should be no doubt that if public higher education does not work to improve the gap between institutional/faculty goals and state goals, there will be further state studies of faculty workload and ultimately, legislative solutions will be fashioned to "fix" the situation (e.g., mandated faculty teaching loads).

In the end, we are left with the question of whether traditional views of faculty activities (both internal and external) are still valid and if quick fix solutions to external concerns about faculty productivity are the right thing to do. It is doubtful that further studies of faculty workload or instructional productivity will provide any greater insight into these issues. It is also highly likely that legislative actions such as mandated teaching loads would further alienate the faculty from their external stakeholders with no resulting benefit for students. The core issue in our eyes is not how many hours a faculty member spends in the classroom, but instead how the activities of an institution's faculty fit within the context of the institutional mission and ultimately how the role and mission of that institution meet the needs of the state. Viewing faculty in this context quickly changes the focus from a faculty member as a service-provider to that of an asset, both at an institutional and state level.

## Faculty as an Institutional Asset

For years, colleges and universities have counted facilities, equipment, library and computer resources as assets on their books. Yet, little to no attention has been given to its greatest asset: its faculty. Faculty salaries constitute a major portion of the total institutional budget and is one of the biggest investments institutions make.

The concept of viewing the faculty as an institutional asset was recently proposed by Jones and Lovell in The Handbook on Human Assets: Recording-Keeping and Analysis (December, 1993). They suggest that accepting the notion that our human resources (faculty and staff) are institutional assets requires a paradigm shift. This shift begins by viewing faculty as a long-term institutional investment to be developed and maintained instead of just service providers. In turn, this results in drastic changes in our human resources management practices. The perspective of simply "purchasing services" then shifts to the perspective of "investing in capacity" which puts the management of human assets within a different decisionmaking context.

For example, institutional managers who embrace the human asset perspective must now contemplate questions of what is necessary to create and maintain the asset and what must be done to continue the on-going management and cost effective utilization of this asset. This paradigm shift forces more of the institution's efforts to be spent on the selective acquisition and effective utilization of the institutional assets and less on merely accomplishing the tasks at hand (providing the educational services).

To accept the view that faculty are assets and to maximize the institution's acquisition and utilization efforts assumes a clear understanding and widespread commitment to the institution's mission. Identifying potential new assets is predicated on the assumption that the institution first knows who and what it purports to be and is able to determine whether the prospective asset can contribute to the existing environment.

A broader question of appropriate and desirable staffing patterns must be addressed to fully realize the asset concept. Therefore, questions of fit between the faculty member and the institutional culture become paramount. A closer look at the experiences of new faculty and a solid sense that previous experiences are appropriate for specific institutional environments are necessary. Moreover, since most faculty today tend to have a stronger allegiance to their professional disciplines, it would be in the institution's best interest to discuss whether the prospective faculty member's personal and professional priorities are consistent with those of the institution.

This paradigm shift also requires the institution to address its commitment to creating and maintaining the asset. What level of investment will the institution make to create the asset and at what level will the institution continue to provide adequate compensation to maintain the asset? Salaries are not necessarily the only consideration; investments in laboratory spaces, graduate students, and equipment often become negotiating tools.

Additionally, effective utilization is critical. Institutions must be as concerned with the utilization of the collective assets' skills and experiences as they are with their creation and maintenance. With limited financial conditions, the allocation of the asset in the most cost-effective manner must be a top institutional priority. Again, the institution's mission provides the framework for allocating scarce assets to important functions of the institution. Finally, as with any investment, care and attention must be given to make sure the asset does not depreciate. With the human asset concept, on-going renewal is critical.

Periodic staff development activities in the form of sabbaticals, faculty development, professional travel opportunities increase the institution's investment in the human asset and help ensure that faculty continue to provide significant contributions to the institution.

**Institutional mission and faculty activities.** Viewing faculty as an institutional asset must be made within the context of the institutional mission. The missions of public institutions have often been developed within the broader context of the overall system of higher education in a state. While the issue of faculty as a state asset will be addressed in the next section, it is appropriate here to briefly touch on faculty activities as they relate to different institutional missions within state systems of higher education. Given the significant role of faculty within the academy, it is understandable that external stakeholders are increasingly interested in what faculty do. However, a more appropriate question rarely addressed by state policymakers is whether the distribution of effort by the faculty, as a whole, is appropriate given the institutional mission. Focusing on this question may lead to more useful and productive discussions for state policymakers (See Box 2).

To have this type of discussion both the higher education community and the State must develop a relationship that begins with clear expectations and pointed conversations about the responsibilities of both in providing postsecondary education opportunities for the State's citizens and in meeting state needs. A new discussion will provide a chance for both sides to achieve their goals.

**BOX 2: Institutional Mission and Faculty Workload**

Questions relating to institutional mission and faculty workloads were addressed in a recent study conducted by NCHEMS. The study set out to determine how a state's public institutions defined, measured, and monitored faculty workload and productivity. In the investigation of the policies relating to faculty workload, several significant observations were made. First, it was clear given the different statutory missions, faculty workloads did vary according to institutional mission. Second, an abundance of data about faculty workloads and productivity are available. Third, almost all activity relating to the assignment of and monitoring of faculty occurred at the department level. If there was a review, it occurred at the Dean's level (Dean of the academic school/college). Fourth, policies and data collected about faculty focused on the individual as the unit of analysis. Lastly, faculty workload was not reviewed on a campus-wide basis.

The state's initial interests focused on increasing faculty workload and productivity; however, it became clear that the greater interests and gains for the state were not questions relating to the amount of productivity but questions about the appropriateness of that effort given a particular institution's mission. Additionally, sharpened distinctions and expectation among institutions with different missions seemed to be a way the State could achieve its objectives without "micromanaging."

## Faculty as a State Asset

The debate about the role of faculty at the state-level is not one of whether faculty work hard, but one of what they do. Therefore, a discussion of faculty as a state asset should not focus on faculty productivity, but on faculty activities that promote the achievement of the public's objectives and needs for higher education.

Tying faculty activities and responsibilities to the achievement of state and public needs requires a fairly significant shift in the way we think about higher education, especially academic programs and faculty research on four-year campuses. However, it is only with this paradigm shift that faculty may come to be seen as a state asset and that higher education may regain the public's support and confidence.

As illustrated earlier in this paper, at most four-year campuses, the greatest rewards are given for research. Frequently this research is in areas that neither the general public nor state legislators find truly meritorious (or even know about!). Instead, the public's interest is focused on other outcomes of faculty activity. These outcomes include:

- College graduates who can get jobs and advance in given careers;
- An education comparable to the tuition charged; and
- Solutions to state, social, and economic concerns, including improved public school systems and meeting workforce training needs.

Faculty activities and accomplishments in these arenas will promote an acceptance of faculty as a state asset. But how do we get there from here?

First, faculty and higher education leaders must accept the need for change. During the past four years of declining appropriations and public claims of dissatisfaction, the stated antidote was the need for improved communications between higher education and the public. There is an increasing awareness, however, that greater support will require new behavior, not better public relations (WICHE 1993).

Change is needed not only because of limited finances, but because the issues encompassing the economy and society are enormously complex. If we are to achieve a comprehensive understanding of these issues and develop a direction and possible answers for the challenges we face, there must be greater collaboration among higher education leaders and stakeholders. Change will come only with an infusion of interest and resources from higher education's external constituents. These collaborative relationships are also needed because higher education is a self-referencing institution. Public institutions of higher education, while financially dependent on state governments, tend to be significantly more autonomous than other state agencies, campus perceptions to the contrary. Because of this, the focus of public colleges and universities tends to be inward not outward. Collaborative relationships would help to temper the self-referencing nature of higher education.

The coalition must include higher education leaders -- presidents, chancellors, SHEEOs, campus board members, administrators, faculty, and students -- and its stakeholders -- the governor, state legislators, local officials, business and industry, elementary and secondary education, the media, and the public. This coalition must identify and achieve consensus on higher education's role in meeting state goals. Given finite state resources and increasing competition for state funds, higher education's ability to meet state goals will, in most states, require readjustments to campus roles and missions. And with this must come a renegotiation of faculty roles and responsibilities.

Most frequently, the answer for change and more efficient use of resources has been to "increase faculty productivity" which, in some states, has been translated as mandating faculty contact hours. The rationale behind this argument is that if faculty teach more hours, campuses can do more without additional resources; students will not be closed out of required courses; and the public's demand for a greater emphasis on teaching will be answered.

However, mandating teaching loads is an approach that assures the continuation of a traditional higher education system, and does not enable an exploration of new service delivery approaches, especially the use of telecommunications and other methods of instruction. Faculty contact hours equate with "seat time" and provide little opportunity for creativity. Finally, and importantly, mandated contact hours bring us no closer to a view of faculty as a state asset.

On the other hand, holding faculty accountable for a "product" (e.g., instruction) may promote this new view. Logically, there is a greater sense of analogy between product and asset then between number of hours and asset.

**Faculty as a state asset: a new model.** The concept of state government's voice in the assignment of faculty responsibilities produces many a raised eyebrow on college campuses. While faculty accept the legal mandates of role and mission, linking teaching, research, and public service responsibilities to state objectives raise concerns of intrusion into academic freedom.

Therefore, a new model is needed in which institutions will be held accountable for achieving identified state objectives. Upon agreement of higher education's responsibilities for meeting state goals, state government leaders must retreat, and campus administrators and faculty should determine new assignments. Higher education must have the flexibility to reorganize and renegotiate faculty roles and responsibilities, and this must be done with the full participation of the faculty.

The bottom line of this new model is a significant change in academic culture. It means a new faculty orientation to state not discipline needs, and it also requires a change in the campus approach to faculty development, rewards, and incentives. In this new model a premium is placed on faculty activities and products that align with identified state objectives.

### BOX 3: Perspectives on State Involvement in Faculty Activities

State Senator Lyle Hillyard, Chairman of Utah's Senate subcommittee on higher education appropriations, argues that discussions on faculty workload and productivity are driven by state funding limitations and legislators' interest in higher education's more effective use of state funds. Senator Hillyard, however, strongly supports the doctrine that state government must take a hands off approach to higher education management including issues related to faculty productivity. Because higher education's budget request cannot be met, the Senator believes that the appropriate route is to allocate higher education its fair share and then remove any budgetary restrictions that might preclude administrators from making the wisest use of these dollars. But he is quick to add that any move to decrease enrollments because faculty teaching responsibilities are not increased will force a change in Utah's higher education-state government relationship. A final comment from the Senator is that Utah has developed a strongly collaborative system of higher education, and, therefore in the absence of "foolish or embarrassing conduct" the Utah legislature is comfortable in providing the higher education system with significant autonomy.

Another perspective on state involvement in faculty activities is provided by Terry Roark, President of the University of Wyoming. Dr. Roark believes that one approach to avoiding legislative involvement in faculty activities is a sensitivity to legislative concerns. As a discerning observer of state legislative warning signs, Dr. Roark went before his faculty senate in Fall 1993, to announce the need for a university policy on faculty productivity. He discussed the climate in the state capital and the opportunity for the university's faculty to develop a policy that would permit distinctions to be made among the several colleges and faculty groups. The harsh, but realistic, bottom line was that in the absence of a university policy that, in time, can demonstrate a reorientation of faculty activity toward state objectives, the legislature would mandate faculty teaching loads.

**State government's role in faculty issues.** The role of state government in faculty issues is somewhat problematic for most higher education leaders and stakeholders. Despite cries of "legislative efforts to micromanage higher education," few legislators want to play such a role and most legislators respect the importance of higher education's unique status in the state's budget. The difficulty for state legislators is that funding is no longer available to supoort higher education in the manner to which it has become accustomed. If higher education is to be responsive to this new fiscal climate, then change must come on the part of individuals who collectively receive the largest share of the budget -- the faculty (see Box 3).

State governments can assume a proactive and positive role in the reorientation of higher education in meeting state objectives. For example, the Illinois Board of Higher Education (a

coordinating board) recently sponsored two workshops to explore issues and questions related to faculty roles and responsibilities (IBHE 1994). Discussions focused on three broad areas: faculty development; breadth of faculty contributions; and incentives and rewards. The purpose of this initiative is to support and stimulate related institutional activities within the context of an ongoing statewide initiative being led by the IBHE regarding "priorities, quality, and productivity."

There are other potential approaches as well. If funding is available, state dollars might be used more efficiently to develop a grant program enabling faculty members to apply, on a competitive basis, for funds that would be given to state agencies and used for the research and development of projects focused on state problems.

An excellent example of this concept at work happened a few years ago in Wyoming. In the late 1980s, the state was concerned about declining oil revenues and wanted to know if it were possible to more effectively utilize the reserves. The legislature, in cooperation with the University of Wyoming, develop and funded "institutes" designed to address the specific concerns identified by the legislature. The faculty were awarded research dollars in a competitive process for their applied research. This kind of program sends a very clear message to faculty members that the state values their work and is interested in cooperative ventures that support their work and support the state's interests.

Another approach might be the establishment of research centers to study state and regional problems. States and higher education institutions need to spend considerable time and energy selecting investment targets, and identifying a small number of problems to be tackled. One way to crystallize this discussion is to identify or establish problem-oriented research centers in which the state invests for an extended period of time. Each center would have a clearly defined mission, and provide an environment in which faculty interested in addressing important issues can pursue applied research within a supportive work context. It should be noted that such centers need not be solely within the purview of major research universities. There are many important issues -- such as workforce literacy -- that can be addressed effectively by faculty.

**An existing model: Community colleges.** Most of the concerns regarding faculty activities have involved faculty at baccalaureate degree-granting institutions. As we move forward toward our new paradigm of faculty as an asset, there is much to learn from faculty at community colleges. The reason for this is that these institutions, by their very nature, have developed close, sometimes symbiotic, relationships with their communities and have tailored their instructional and other activities to the needs of their communities.

In 1992, staff from the Western Interstate Commission for Higher Education (WICHE) conducted interviews with 22 "Frontier Thinkers" whose insights were sought on issues that must be addressed if higher education is to be responsive to the economic needs of the 1990s and beyond. Interviews with Dr. Clark Kerr, President Emeritus, University of California and Dr. Ernest Boyer, President of the Carnegie Foundation for the Advancement of Teaching contribute to our understanding of faculty as an asset.

Dr. Kerr stated that faculty activities and programs at community colleges demonstrate that these colleges have "inherited" the role and mission of the land-grant institutions. The meaning of this dramatic statement is that by their nature, community colleges are integral parts of their locales, much as the original land grant institutions were in their infancy. Much of this is due to the

growth in the community college movement over the past few decades. These institutions serve both the educational and economic needs of their regions, fostering an intimate relationship between institution and community.

Dr. Boyer's comments pay the same high tribute to the community college faculty. He states that before long, community colleges will be awarded the status of higher education's "favored nation." In short, the lessons to be learned from community colleges lie in their responsiveness to the needs of their stakeholders.

## Conclusion

Clearly, higher education is at a critical juncture. Signals from our stakeholders are too loud and too consistent to misinterpret their meaning. We think that viewing faculty as institutional and state assets are first steps toward addressing these concerns.

Without a doubt, this change in paradigm will require significant cooperation, commitment and mutual trust on the part of all concerned. Institutions will need to make clear the mission of the institution and the resulting faculty expectations. As well, institutions and faculty will need to honestly assess whether their needs and goals are mutually beneficial. Institutions will also need to treat faculty as a strategic asset, requiring continuous maintenance and reinvestment.

States must take a strong leadership role in forging this change. As such, state policy makers will need to develop clear and reasonable expectations and objectives for their institutions of higher education with the involvement of the higher education community. Higher education may have to "do more with less," but it will not be able to do everything, and certainly not everything equally well. This will require a reexamination of institutional missions and the setting of clear priorities for higher education (and a clear articulation of the opportunity costs involved in such decisions).

In the end, however, it is the faculty that remain the key to this change in viewpoint. Without a reorientation of faculty thinking about their relationship to their institution and the needs of the public, all efforts to change are meaningless. However, with faculty interest and involvement in the process, creative initiatives can be developed to promote a change in how this significant asset is viewed and utilized.

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## APPENDIX: Some Caveats to Defining and Measuring Faculty Productivity

At its most aggregate level, productivity refers to the measure of output per unit of input. In the classic economic sense, the basic inputs to production are *land, labor, and capital*. Outputs, of course, are the items being produced. In industrial settings, productivity is relatively easy to define and measure. One need only to take a selected output for a firm and divide by the input of choice (e.g., per worker). For institutions of higher education, however, "outcomes are diffuse, and difficult to measure" (Mingle and Lenth 1989, p. 13).

There are various reasons why the definition and measurement of productivity in higher education is challenging to say the least.[4] One reason is related to the types of higher education inputs and outputs. Hopkins (1990) points out that for institutions of higher education there are both *tangible and intangible* inputs and outputs. Tangible inputs include such things as the number of new students, faculty time and effort, library holdings, and equipment. Intangible inputs include the quality of new students, the quality of the faculty, and so on. Tangible outputs include student enrollment in courses, the number of degrees awarded, and the number of scholarly works produced by the faculty. Intangible outputs include the quality of instruction provided in courses, the knowledge gained by students over their college career, and the quality of faculty scholarship. Hopkins notes that "all efforts to date at specifying and estimating the higher education production function have provided only partial results" (1990, p. 13). Thus, while we may be able to identify certain inputs and outputs in higher education (i.e., the "tangible"), capturing productivity in its entirety is unlikely at this point.

Another one of the challenges in defining and measuring productivity in higher education is that the primary activities of most institutions of higher education (instruction, research, and service) are often jointly produced by faculty. Thus, evaluating one specific aspect of production (e.g., undergraduate instruction) without controlling for the other aspects engaged in by the faculty provides an inaccurate picture. Further, increasing the production of one of these activities may come at the expense of another. For example, increasing faculty productivity in undergraduate education may result in decreased productivity in graduate education and research activities. Gilmore and To (1992) found in their analysis that there was a tradeoff between teaching productivity and research productivity.[5]

**Weaknesses of past productivity analyses.** Traditional ways of analyzing faculty productivity have a number of drawbacks. A significant drawback, as noted by Hopkins (1990) and others, is the failure of most studies to account for "quality" in quantifying both inputs and outputs. Measuring the hours spent in a classroom or the number of journal articles produced tells us little about the quality of instruction provided or the quality of the scholarship. Unfortunately, while many have attempted to develop theoretical frameworks incorporating these "intangible" aspects of academic productivity, there have been no empirical studies (Gilmore and To 1992).

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[4]In this context, the term "productivity" refers to academic productivity only (i.e., faculty). Productivity in other aspects of higher education (e.g., administrative) is not addressed here.

[5]Some economists have hypothesized that if the production of one service supports another, then the joint production of each may be more efficient than producing each one separately - "economies of scope" (Halstead 1991). Brinkman (1990) notes that there have been few studies of this issue, although there is some evidence that economies of scope do exist for instruction and research.

A related but more minor flaw has been the misrepresentation of certain inputs as "productivity" measures. For example, while we included such studies in our previous discussion of productivity, it is conceptually inaccurate to equate "workload" with productivity. The time spent by faculty in their various activities is only an input and does not reflect any outcome. Thus, workload studies should be viewed in the context of specific outcomes in those activities if one is truly attempting to measure productivity.

Another flaw, related to measures of instructional productivity is the fact that such measures as average classroom contact hours do not account for the time spent by faculty in preparing for that class, time spent with students outside of the classroom, or other instruction-related activities.

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