

# Improving the Cost Effectiveness and Productivity of Higher Education in the U.S.

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## Introduction

As we move into the second decade of the 21<sup>st</sup> century, we have calls for significant increases in the numbers of college educated Americans. Notable among those who have enunciated goals for the United States are the following people and groups:

- President Obama called for the U.S. to be first in the world again in college attainment by 2020.
- Lumina Foundation for Education set a national goal for 60 percent of Americans to have a high-quality degree or credential by 2025.
- The Bill & Melinda Gates Foundation aims to double the number of low-income adults who earn a postsecondary degree or credential with genuine value in the marketplace by age 26.
- Complete College America, along with their Alliance of 23 states, set a national goal that six out of 10 young adults in the U.S. will have a college degree or credential of value by 2020.

In order for these goals to be met, there will need to be college opportunities at more affordable prices which will require new ways of doing things. American higher education will be challenged to change while preserving those features that have made it the best in the world. In addition, the historical ways of funding American higher education need to be rethought to preserve what is great in American higher education, to increase access to higher education and to rationalize how we support institutions and provide resources to students to attend college.

Beyond the need for new ways of teaching, learning and acquiring credentials, there is significant pressure on our traditional colleges and universities to find more cost effective ways of providing education. Most colleges will be under a great deal of pressure to make changes to the way they are operating; many will realize that they cannot continue operating the way they have in the past for many reasons. The demographics of our country are changing with people of color and Latinos becoming the majority in the next few years. The disparity in income between rich and poor continues to grow which exacerbates the need for affordable education. The need for a college degree becomes more critical as we continue to develop as a knowledge economy and thus the need for college credentials to be provided at lower cost becomes an imperative.

We have new entrants into the higher education market place which are beginning to challenge many of the traditional educational providers and are likely to become much fiercer competition. The new competition comes in the form of the for-profit sector, on-line programs, as well as course aggregators and other ways of getting college credit with the newest being the entrance of the medallion institutions with open courseware initiatives such as MITx. As we move into the next decade, we need a strong, affordable higher education sector which will require changes to the way we have been doing business. These changes will be both macro at the enterprise level and micro at the schools level. At the school level, some institutions will need more significant change than others to maintain their strength and viability but all will need to do business differently while preserving the quality of their programs and some may not continue at all.

This paper is written for members of the higher education community to impress upon them the imperative for change in the way things are being done; to provide information on what is already being done and to provide institutional leaders with some tools to make changes. In parts, this paper is like a laundry list of suggestions which should be reviewed relative to institutional roles and missions. In no way should it be assumed that all ideas and strategies make sense for all institutions. Each college must consider the various suggestions relative to its role and mission, to its vision of the future for its institution and to its assessment of the impact of various changes on quality. In other areas, this paper may motivate institutions to develop new revenue sources and/or develop new lines of business which are consistent with their role and mission.

The difficulty of containing costs and making trade-offs is well understood. Higher education is an industry blessed with many very creative people who have lots of ideas that they want to try. It is challenging to temper this creativity and constrain it by the need to remain economical. Schools need to understand that the goal of remaining affordable and in many instances, becoming more affordable, needs to be kept front and center when making difficult decisions about what not to do or what to give up.

### **Cost and Price**

Cost and price are often confused and the terms are frequently used interchangeably when talking about higher education. Price is what a student pays to attend a college or university and cost is what it takes to produce a college education. There is little correlation between price and cost in the United States because of our system of funding higher education and because of our pricing system.

Acknowledging this, it is still impossible to have significant price reductions without a change in the cost structure of higher education or the addition of new sources of revenue.

The cost of higher education in the United States differs significantly among types of colleges and universities. For example, universities that focus on research have a dramatically different cost structure from that of community colleges, which primarily concentrate on teaching. Their “market basket of goods” differs. The costs of residential colleges differ from those of commuter colleges. Colleges that offer many services and amenities such as counseling, exercise rooms, and an array of cultural events have different cost structures from those of colleges that stick to no-frills teaching. Colleges with large campuses that operate five days a week, eight hours a day, have a cost structure different from those that have relatively small physical facilities and operate seven days a week, 15 hours a day. The cost structure of colleges also differs by location, regional cost of living, academic programs and availability of faculty and staff.

The cost per year per full-time equivalent undergraduate student (FTES) varies from a high of more than \$65,000 per student at research universities to less than \$15,000 per FTES at community colleges according to the Delta Cost projects data ([http://www.deltacostproject.org/resources/pdf/trends\\_in\\_spending-report.pdf](http://www.deltacostproject.org/resources/pdf/trends_in_spending-report.pdf)) while the cost of producing a bachelor’s degree can range from \$60,000 to more than \$110,000 depending on the type of institution. The question of the relationship of quality to cost is difficult to answer because we have so few outcome measures for college graduates that it is impossible to make comparisons among the graduates of one school compared with another in anything but anecdotal ways.

There are several theories of cost associated with higher education, two of which are worth citing to help explain our situation. William Baumol and William Bowen put forth the view that higher education is an industry in which productivity does not increase but in which wages continue to rise. They liken it to a string quartet where the number of players remains fixed, but the cost of operating the quartet continues to increase as the musicians’ compensation grows. (William Baumol and William Bowen, Performing Arts: The Economic Dilemma, New York: Twentieth Century Fund, 1966)

Howard Bowen offers what is known as the revenue theory of higher education’s cost, which is that “we spend all the money we have.” According to Bowen, colleges and universities have an insatiable appetite for spending; they raise all the money they can and spend all they raise. The cumulative effect is toward ever-increasing expenditures. (Howard Bowen, The Costs of Higher Education, San Francisco, Jossey-

Bass Publications, 1980) Bowen's theory has certainly been true historically for the public and non-profit sectors of higher education but we now have a thriving and growing for profit sector which certainly does not conform to this theory. Although the for-profit sector has been exceptional in its ability to grow and to maximize revenues, it does not spend all that it makes on education as this sector generates profit which are only partially plowed back into the enterprise with the rest returned to owners/shareholders.

To most of us, reducing costs should lead to lower prices, but there is no guarantee of this. Businesses usually will lower their prices if it is possible to increase their market share. But many public and not-for-profit colleges and universities are not interested in increasing their market share but rather in enhancing their prestige and quality, which is not necessarily a bad thing. Institutions that manage to reduce costs in some areas often will use these recovered resources to spend more in others, either to begin new activities or enhance existing programs. Further, the common assumption in higher education—that there is a positive relationship between the published tuition price and quality, what is known as the Chivas Regal or Tiffany effect, —has led some institutions to increase tuition even when this was not required for operations.

While incentives for colleges and universities in the public and private non-profit sectors to reduce costs are not always clear, the for-profit sector has clear incentives to reduce their costs as cost savings can go to their owners and shareholders in addition to being reinvested in new initiatives and/or quality improvements. During the recession of 2008 – 2010, colleges in all sectors faced significant revenue challenges which have made most of them take a serious look at their cost structures. Colleges have been faced with large reductions in State and local tax support as well as significant declines in their endowment. This has been coupled with declines in household income which have increased the pressure for additional need-based financial aid. The change in the government support and the drop in endowments were precipitous at many institutions forcing institutions to take immediate measures to reduce costs. These included furloughing staff, salary reductions, freezes on certain operating expenses, reductions in fringe benefits and other measures which are not sustainable in the long-run. As a result of these “emergency” measures and with no prospect of quick recovery, many institutions have undertaken a comprehensive review of their cost structures and have begun making systemic changes. The challenges for colleges have been to reduce costs with as little compromise to quality as possible. The dilemma that many colleges are faced with is that there is no systemic way to measure quality, certainly not in terms of outcomes; most of our quality measures relate to inputs.

## **Purpose of Paper**

This paper is meant as a guide for higher education administrators, board members and policy makers to help them assess the cost effectiveness of their institution's operations. There are no value judgments made in this paper about quality and the relationship of expenditures to quality. In higher education, we have good measures of the quality of our entering students but few measures on the quality of our graduates. Very few schools systematically measure the quality of their graduates. We have follow-up surveys to ascertain what our graduates are doing but these are not routinely done across the industry and the response rate tends to be quite low. We do not have systematic testing or other assessment mechanisms as we have with high school graduates to be able to make any correlations between how an institution operates, what it spends and the quality of its graduates. There is great pressure from the accrediting bodies to change this and to develop assessment measures of our graduates; I think this will happen in the next decade. For now, there is little fact based evidence that relates expenditures to outcomes and thus institutions must make their own assessments of the impact of some of these suggestions on the quality of their education.

In order to approach this complex topic in a systematic way, I have identified seven key areas to examine, raised issues to help institutions make an assessment of the cost effectiveness in each of these areas and provided examples of initiatives that schools have taken to reduce their costs and/or increase their revenues. This structure should allow institutions to key into those areas of interest to them. It is hoped that the examples given will prove helpful and will motivate institutions to take action, relying on strategies proven to be effective in other environments, rather than having to reinvent the wheel. I must note that I do not make any value judgments as to the implications for quality in many of the strategies suggested or examples provided except where there is specific empirical evidence and that is rare. There may be examples which sound enticing but would not work for your institution or which you believe will degrade the quality of the educational experience at your institution and thus should not be considered by you but may work for other institutions which have different values and goals.

All colleges, irrespective of the cost point at which they are operating, should want to be as productive as possible with each dollar they spend and thus this paper will also address ways to reduce the cost of various activities by being as effective and efficient as possible. The experience of the recent past along with other measures that colleges have taken over time provide us with many excellent examples of current changes that colleges and universities are making in the ways in which they are operating which will be incorporated into this paper as models for how colleges can make changes and the expected

impact of these changes. Finally, one should not minimize the difficulty of changing the way things have been done. Most of us cling to the past and the way we have always done things. Change is hard and often takes us into new territory. Change also may mean fewer jobs or a different labor force. It requires outstanding leadership to be able to effectively lead an institution through a change process. The impact on morale and productivity while making changes should not be underestimated. Such processes need to be clearly thought-out and managed.

### **Seven Key Areas for Change**

1. Are you operating activities which are not mission critical?
2. Are you operating at scale? Are your facilities appropriately sized and used efficiently? Are you exploiting areas for collaboration?
3. Is your organization structure efficient; does your institution lend itself to cost effective operation?
4. Do you have activities which are operating at a loss? Are these intentional?
5. Is your academic program efficient and do you optimize the use of faculty?
6. Are you appropriately taking advantage of technology in both administrative and academic support areas?
7. Are you spending inefficiently on financial aid?

### **Data Challenges**

The answers to these questions will differ from institution to institution depending on the norms of the institution but there are certain benchmark guides that institutions can use to assess how they are doing although a dearth of data in many of these areas impedes good decision-making. In a recent survey, less than 40 percent of business officers at public and private institutions said their colleges were very effective at using data to inform decision making, and less than a third said their colleges' budget models were very effective at helping the institution set or reassess their priorities. (From Inside Higher Education – July 6, 2011 [http://www.insidehighered.com/news/survey/business\\_officer\\_2011 - accessed 7/20/11](http://www.insidehighered.com/news/survey/business_officer_2011_-_accessed_7/20/11))

Many schools are unable to get the data they need because their systems lack user friendly front-ends or back-ends to them. This often leads institutions to operate with much less data than they should and

requires great amounts of manual labor to get the data needed to make decisions based on the facts. Investment in data warehouses and similar systems can both get institutions easy access to much, if not all, of their data. The lack of information on which to make reasoned decisions is a serious issue for most schools. Many schools operate in a 'data-lite' way; meaning they make most decisions with far too little in the way of facts. Many schools are unable to answer the following very basic questions:

- How many student credit hours does each faculty teach every term?
- What is the range in faculty teaching productivity?
- What are the operating costs for each department?
- What is the utilization of each space on campus?

There are a plethora of questions that are needed for fact-based decision making and the questions will vary by interested party and over time. All of this data exists at the institution; it is just a matter of its accessibility. Information of this sort will greatly aid an institution's ability to make fact-based decisions relative to cost and productivity.

Being cost effective does not mean operating at a low level of quality although institutions have very different definitions of what quality means to them. There is a wide array of norms among colleges and universities about what they view as critical to their mission and their success. This paper does not address these differences but provides a framework that should be useful to all institutions to apply to their own situations and to their own definition of what quality means to them. Until we have a good system for assessing student learning outcomes, we will often be challenged to show that there will not be a negative impact on quality when changes are made to the way we run the academic enterprise and especially to the way we deliver the academic program.

### **1. Are you operating activities which are not mission critical?**

Among colleges and universities, there are significant differences in the activities and programs that they offer. For institutions that want to operate in as cost effective manner as possible, it is important for them to examine the market basket of goods and services that they are offering to make sure that they are central to the core of the institution and that they make sense for the college to offer. Colleges need to assure themselves that resources are not being allocated to activities which the college does not need to provide or, as we say, to activities which are not mission critical. In addition, colleges need to understand how their mission relates to the appropriate size of their institution. For example, the broader the curriculum and the larger the physical plant, the more students a college will require in

order to be able to operate efficiently. Thus a school with a relatively low enrollment but lots of programs and space will need to decide if the programs are critical to its mission and thus they need to grow or if their size is the more important variable and thus they need to scale back their curriculum and eliminate some facilities. These are basic economic principles that schools need to examine as a part of their review.

Once you move beyond the “basics,” there are a plethora of student services and amenities which many colleges offer. These range from counseling and health services to student clubs to athletics to coffee houses, to dormitories and dining halls. The rationale for the addition of these activities and amenities is that they are necessary for student health and well-being and to providing a complete “college experience”, or to being competitive in order to attract students. Moving beyond these activities, colleges and universities have museums, faculty clubs, both on campus and in other cities, as well as boats and other amenities. All of these activities merit very careful consideration in terms of the costs and benefits of each of them. Each activity should be specified and analyzed; none should be taken for granted as necessary just because they currently exist. An assessment of the utilization of the service or activity should be made. Institutions should ask who benefits from it and is it widely used. Should a fee be charged for the activity?

The following information should be put together for each of these activities:

1. Cost of the activity
2. Revenue associated with it, if any (this may include the additional revenue that will be generated from a change in the demand for the institution based on the provision of the service)
3. Number of students participating
4. Benefits of the activity to the school especially in terms of contribution to the academic program, to student life, to retention, to recruitment and, to alums and fund-raising
5. Impact on the college if the activity was not provided
6. Can students get the service or activity elsewhere in the community?
7. Can the service or activity be provided in a more cost effective way? Can it be outsourced?

These items should each be very carefully analyzed and assessed for each activity which may not be mission critical to make sure that their contribution to the core mission of the institution merits the expenses involved. Most activities require a subsidy and even for those which are self-supporting or

produce a “profit” or surplus, they should still be reviewed to see if there is a more cost effective way in which to provide the activity thus further increasing the surplus that this activity could produce. For those activities which require a subsidy, assessing their centrality to the institution’s mission as well as looking at the number of students who participate in the activity or the broader impact of the activity on the institutional community is critical. There should be no sacred cows when doing this analysis.

In an effort to develop new colleges and universities at much lower cost points, some colleges have “unbundled” all of the components of the college experience and are offering new, lower cost models with stripped down services. Southern New Hampshire University has developed the Advantage Program which it offers at a satellite campus which is actually a floor in an office building about thirty minutes from its main campus. Here students can get the first two years of college for 60 percent less than is charged at the main campus. This campus runs at a significantly lower cost than the main campus; it does not have residential facilities or many of the amenities provided by the main campus but offer all the basics that are necessary for instruction and student success.

([http://www.snhu.edu/files/pdfs/UG\\_Advantage.pdf](http://www.snhu.edu/files/pdfs/UG_Advantage.pdf) - accessed August 30, 2011) There are other examples of schools which offer programs at satellite campuses but most will charge the same tuition as the home campus although they do not offer all of the amenities of the home campus. The Governors of Texas and Arizona have challenged their public systems to offer a degree for \$10,000. This will require the systems to look seriously at what are the critical components of the college degree and how to offer a no frills college education in the most cost effective manner in order to provide a low cost alternative. Many of these lower cost campuses which are associated with comprehensive institutions may benefit from some of the infrastructure of the “mother ship.”

Elements of a low-cost bachelor's degree in Texas would include online classes, open-source electronic textbooks, courses of varying length so students can move at their own pace and a curriculum with few electives. Savings could be realized if students study two years at a community college and transfer to a university for the final two years — a path many are already pursuing. (The Statesman.com April 27, 2011 <http://www.statesman.com/news/texas-politics/agency-embraces-perrys-10-000-degree-plan-1438689.html> accessed 7/25/11)

### **Faculty Teaching Load: Research and Service Expectations**

Another aspect for institutions to review with respect to mission critical activities is the expectations for faculty to do research and service. Just raising the issue of the faculty job description carries with it the

risk of seriously upsetting morale on campus and begs issues fundamental to the role of faculty in the knowledge creation process. Mindful of these challenges and of the fact that we do not have data to support the relationship of the various components of a faculty job to quality outcomes and thus any change may have an unintended negative consequence, I still believe the issue should be addressed. Much funding for research and public service is accomplished in the definition of the teaching load for faculty. For example, at community colleges most faculty teach ten courses a year while at major research universities the teaching load can be as low as two or even one course a year. The teaching loads at other four year institutions will usually range from five to eight courses a year with the differences in teaching load being related, in large part, to expectations for research and public service. Institutions should examine their definitions of faculty research and service and their expectations for the outcomes from these activities. They need to determine if the benefits justify the cost and if the faculty research and service are furthering the goals of the college or if they are just there because everyone else does it. Cleveland State University just reduced its research aspirations in the face of resource constraints and increased the teaching loads of many full-time faculty as well as changing the mix between tenure track and non-tenure track faculty in order to increase the available teaching resources. (Chronicle for Higher Education November 10, 2011 pp.) To some colleges, this would be an unacceptable change in workload as they want to make sure their faculty have ample time to interact with students and to do research; in 2007, these goals motivated Carleton College in Minnesota to reduce the faculty load from six courses to five a year.

([http://apps.carleton.edu/campus/development/campaign/initiatives/teaching/more\\_faculty/](http://apps.carleton.edu/campus/development/campaign/initiatives/teaching/more_faculty/) accessed 12/13/11) Carleton, in response to the current economic conditions is now planning to return the faculty teaching load to six courses a year. ( For Colleges, Small Cuts Add Up to Big Savings by Tamar Lewin, June 19, 2009, NY Times) Most for profit institutions do not have expectations for research and public service and thus look for different attributes in their faculty and have different workload expectations. Some schools are beginning to make distinctions among types of full-time faculty by recognizing that all faculty do not need to be heavily involved in research and service and therefore could have higher teaching loads. Other institutions are getting around this issue by reducing the number of full-time faculty and using more part-time and adjunct faculty who have only teaching requirements.

When we talk about the cost of mission creep, we are often referring to a college that wants to begin offering higher level degrees e.g. a community college moving to four years or a four year college moving to offer masters degrees or a college adding doctorates. Beyond additional infrastructure costs which are often required, the major cost is usually a reduction of faculty teaching load so that the changed institution can now look like its new peers. These faculty costs are significant and worthy of explicit conversation in terms of costs and benefits.

### **Ancillary Facilities**

Museums and art collections are two areas which merit consideration in terms of their centrality to institutional missions. They have recently come under increased scrutiny as institutions have been looking for places to get funds and as they have been doing cost studies and assessing the amount of subsidy that they are providing to them.

Other recent examples where schools have closed ancillary facilities include the closing of the Belmont Conference center by Howard Community College and the closing of the Williams College Club in New York City. Both of these were very nice amenities that the colleges had; in times where colleges do not have the luxury to subsidize activities that are not mission critical nor have any impact on the quality of teaching and learning, the decision to close places of these types becomes relatively easy. Another area which schools need to consider is their athletic programs. These are discussed later in the context of their contributions to the bottom line but consideration needs to be given to them in terms of their cost relative to their contribution to the educational experience at the institution.

### **Expensive Policies**

An exercise which is very useful to conduct annually is to make a list of all of the “expensive” policies which the institution has and assess whether they still make sense given the institution’s financial situation and mission. Examples of expensive policies will differ by institution but can include such items as a dining hall in each dorm, running classes with fewer than eight students, requiring all students to have an internship or a term abroad, etc. Often one finds that some of these policies or traditions have been outgrown or their contribution to the uniqueness of the institution has declined as times have changed while others remain central to the uniqueness of the institution.

**2. Are you operating at scale? Are your facilities appropriately sized and used efficiently? Are you exploiting areas for collaboration?**

What is the appropriate size for your institution? Are you operating at scale? When we talk about economies of scale, we are referring to areas where institutions can use their size to their advantage to minimize their costs. For example, a college which wants to offer a certain curriculum using current instructional methods needs a student body of at least a certain size in order for there to be sufficient enrollment in each program. There are schools which support a curriculum which is too large for their enrollment; these schools need to grow enrollment in order to operate efficiently. There are schools with facilities which are in excess of their enrollment and they need either to grow or to eliminate some space which is not always easy on a campus. There also are schools which are small and are unable to operate at scale; they need to think creatively as to how they can partner with others to realize some of the benefits of size. There also are schools which may be too large in some areas and may be experiencing diseconomies; these schools need to think about how to break up some areas into smaller parts. There has not been much research done in higher education on what size is the most efficient. This section looks at certain areas and tries to offer ways to assess if you are operating efficiently or if there are opportunities for your institution to benefit from increasing the scope of certain areas of operation by doing things in different ways.

### **Size of Facilities**

Does a college have excess capacity? Is the institution the right size for its space? A very significant cost for most colleges and universities is its facilities. It is difficult to quantify what percent of the operating budget supports the institution's facilities as the way we account for these costs in our audits and in the federal data base on college costs is to allocate them to all of the functional activities. Yet, there is no doubt that they account for a significant amount of the total costs and a very substantial amount of the fixed costs associated with any "on the ground" college or university.

Need for space is changing as institutions are automating more of their services and delivering some of their course content and programs on-line. The need for students to be present on campus to conduct their business as well as to attend classes is decreasing; this is having and will continue to have major space implications and will change the historic space per student relationships. Twenty-five percent of U.S. college students now take at least one class on-line. In the extreme, we have institutions such as Western Governor's University, Rio Salado Community College and the American Public University System which only offer their academic program on-line to those institutions where a large proportion of their students attend on-line such as University College of the University of Maryland and the

University of Phoenix and the burgeoning growth of on-line education at very traditional campuses. Today, almost half of all colleges and universities are offering some on-line instruction and more than 5.6 million students are taking on-line courses, almost 30% of all students in higher education.

([http://sloanconsortium.org/publications/survey/pdf/class\\_differences.pdf](http://sloanconsortium.org/publications/survey/pdf/class_differences.pdf) - accessed 9/16/11)

Before assessing the efficiency of the space on campus, it is important to get data on how much space the campus has by type, how it is utilized in terms of frequency of use and what condition it is in.

Unfortunately, we do not have a national data base on higher education space in this country so it is very difficult to benchmark either the amount of space or the utilization of space among institutions thus we do not have any national norms as to space needs or utilization rates. Not only do we not have a national data base on space but many campuses do not have a data base and even among those that do have a data base there is often no means for routinely updating it and for linking it to human resource, registrar and other campus data bases. To exemplify how serious this problem is, Challenge 2010, a program of the National Association of College and University Business Officers to fund changes on college campuses, funded a project at the University of North Texas Health Science Center on facilities.

*“To develop and implement processes to ensure effective communication with the UNTHSC Executive Team, Leadership Team and other key constituents for space planning. The project should establish and maintain processes to collect and provide data to be used in decision making for space allocation, planning, research, formula funding, and space projection models.” (Written Report from the University to NACUBO)*

Data of this sort should be the norm on all campuses and we should have national benchmarks. Given the state of facilities data, institutions are left on their own in making assessments on the efficient use of their space. There are guidelines and formulas which colleges can use which are provided by the Council for Educational Facilities Planners which can be useful as institutions are assessing the sufficiency of their space. (Space Planning for Institutions of Higher Education, Paul Abramson and Edward Burnap, 2006, Council for Educational Facility Planners International)

### **Capacity of Facilities**

A basic question that institutions need to ask relative to their space is whether it can accommodate more activities and people or is it already at capacity. Whether or not an institution has “too much space” is based at many institutions on institutional value structures. In addition, the response to this question may differ depending on the type of space and the institutional norms on space utilization.

For example, does every faculty member need his own office or is sharing of offices an acceptable norm? Is it even acceptable to have common space to be used by faculty with small meeting rooms available for student/faculty conferences?

Could faculty preferences for how they work be taken into account in terms of allocating faculty space? Could dedicated faculty office space be included among a market basket of perks that faculty can choose from? For example, some faculty prefer to work at home at times other than their required office hours whereas others prefer to work on campus all the time. Could those who are using a campus office only for limited hours be provided with dedicated space only for those hours and be provided funds to set up a home office? Many schools give all full-time faculty offices in order to encourage a campus culture where faculty are around most of the time but a walk-through of many campuses will usually include a significant number of vacant offices at all times. Space is expensive and this is a very inefficient use of space and often does not have any value to many faculty.

What about classroom space? At one extreme are the on-line colleges and universities which have no physical classroom space while at the other end of the spectrum are those colleges and universities with classroom space dedicated to specific faculty and/or departments. In this case, the utilization of the space is least efficient. At many institutions, general classroom space is available to all programs while laboratory space is more specialized. Many institutions have no concept of how lab space can be shared. At less well resourced institutions, creative ways have been found to share laboratory space. Some operate a “lab in a box” model where the supplies for their specific lab are kept on portable carts which are moved in and out of the room depending on the course being taught at the time. This model allows much more intensive scheduling of labs. Changing basic assumptions of the way space is utilized can drastically change the adequacy of a campus’ space. Such analysis should be undertaken prior to any construction of new space or major renovation of existing space.

Are residential spaces adequate or is your institution engaging in an “arms race” to have the most desirable dorms among certain sets of colleges.

### **Space Utilization**

It is important to have data on how intensively space is actually utilized on your campus and to develop a set of norms for how space could/should be used. The place to start is to conduct a utilization study which shows, by space, how often it is used each hour of the day, each day of the year. Although rarely done, it would be very useful to assess the utilization of faculty office space as well as that of all

scheduled space. You also would like your study to show the level of utilization e.g. the number of empty seats in each classroom by time of day, the number of double dorm rooms which are operating as singles, etc. The results of this study will give you the data you need to begin to answer this question in an informed way.

When assessing the physical capacity of a campus one will usually find that some types of space are operating at capacity while others could accommodate more students. . At almost all campuses, the enrollment is highest in the fall and lowest in the summer. For campuses which are at capacity in the fall, however defined; they will be operating with more space available, at least for students, in the spring and summer.

For classroom space, beyond the issue of dedicated classroom space which in any scenario, is quite inefficient in terms of utilization, the question should be how many hours a day and how many days a year are the classrooms used? At most institutions, there are one or two peak periods during the week. These are often between 10 and 2 Monday through Thursday and at some institutions, they also operate at capacity between 5 and 10 in the evening Monday through Thursday. Most schools are significantly underutilized on weekends and in the summer. In order to provide more space at peak times, institutions have moved to offering hybrid classes where, for example, a class which meets twice a week will meet once in person and once on-line thus allowing two classes to use the same classroom. Other institutions have moved to renting space off campus rather than building their own additional space but this tends to be difficult for those full-time students who are taking classes on campus during the middle of the day; it does often work well if the peak times are in the evening for commuter students. Space constraints have motivated schools to offer more on-line programs and to change their rules about students living in residence halls.

What to do about summer use of facilities? This is among the greatest inefficiencies in higher education. Schools, for the most part, have been unable to develop programs or to persuade students that they should attend college in the summer. There are some recent examples of schools working to develop full summer terms. In response to this situation, the University of Florida will begin accepting a cohort of up to 2,000 students in the spring of 2012. These students will only be allowed to attend classes in the spring and summer although they will be able to participate in campus activities and play sports in the fall. This is a very creative way to bring up the student count in the spring where schools have lower enrollment because of attrition between terms and to much more productively use the campus in the summer. (May 18, 2011 Chronicle May 18, 2011 <http://chronicle.com/article/U-of-Florida-Plans-to->

[Offer-a/127582/?sid=pm&utm\\_source=pm&utm\\_medium=en](http://www.byui.edu/AboutBYUIIdaho/academics.htm) accessed 7/24/11) Brigham Young Idaho has three equal trimesters and students must attend two of the three; they are accepted for fall/ spring, winter/spring, or fall/winter in order to utilize the campus more appropriately (<http://www.byui.edu/AboutBYUIIdaho/academics.htm> - accessed August 30, 2011). The spring session goes through the end of July. The college also has a two week Christmas session and a five week summer session primarily in August; thus the college goes year round. George Washington University developed a comprehensive proposal to offer year round schooling that would efficiently use the physical plant, allow for expansion of the faculty and give the faculty choice in terms of which semesters they wanted to teach. The proposal was soundly defeated by the faculty who didn't want change.

Most schools scramble to fill up their classrooms, dormitories and fields in the summer largely through attracting camps and other outside activities to their campus. Many would find that it might be more economical to close the facilities and not pay the utility and maintenance costs for the summer use but the analysis is usually done considering that the facility cost will be there all summer and that the outside activity will provide marginal revenue to apply against college costs. Few colleges actually analyze the costs of keeping many of their facilities open in the summer. This in part relates to the fact that there are often a few staff or faculty with offices in each building so the concept of closing the building down for the summer is never considered which is perhaps appropriate but as resources become scarcer, all things should be put on the table for consideration.

The cost of filling empty space is usually very low. For example, the marginal or additional cost of filling extra seats in classes which are already being taught is zero while the marginal cost of filling an entirely empty classroom will be more as an instructor will be required for the class. The cost of adding a class will vary depending on whether there are existing faculty who are underutilized or if the course will be taught by an adjunct faculty or if it requires the addition of a new full-time faculty. The analysis of the value of using this extra space will depend on the marginal or additional costs associated with using the space and all the additional costs, if any, that go with filling up the space compared with the marginal or additional revenue that will be received from the additional students who will be served. Many institutions are very cognizant of this inefficiency and would love to fill their excess space but for them the problem centers around their inability to attract sufficient students to fill their space.

## **Collaborations**

There are numerous areas where collaboration can increase efficiency, improve quality, lower costs and increase choices. Collaboration can provide economies of scale for institutions. The unit for collaboration can be as local as departments cooperating with each other within the same institution, to schools within a university, to campuses within a system to separate colleges and universities which may be related by geography, religious affiliation, mission or just enlightened self-interest. Collaborations can offer great benefits but they require trust among all involved, the willingness to relinquish some autonomy, and the time to effectively negotiate a win-win for all involved. It is very difficult to have all these in place.

Collaborations can range from the informal to very structured consortia. Among the oldest consortia are the Claremont Colleges in California dating to 1925. These eight colleges share library and athletic facilities and provide cross registration among all the schools for the students. The Five Colleges in Massachusetts began cooperating in the 1950's and were incorporated in 1965. The Five Colleges are a consortium which brings together four liberal arts colleges with a major research university. The schools collaborate in a variety of areas ranging from a shared transportation system to shared faculty and departments in select areas to cross registration of students. The benefits of these consortia are both pecuniary and non-pecuniary in nature. Three of the five schools, Smith, Mt. Holyoke and Hampshire, have merged their public safety departments to save money and increase security coverage. According to Ruth Constantine, vice president of finance at Smith, "the most significant portion of the savings for all of us was in sharing the 24/7 dispatch operation, but well beyond that we have gained strength and quality in the consolidated force. "

More recently, groups of schools have banded together to achieve economies in the purchasing of goods and services and in the sharing of best practices. The Boston Consortium, which includes 15 colleges in the Boston area including Harvard, MIT, Emerson and Berklee College, is a good example of this. Among the services that it offers to its members are a co-sourced risk management program and a co-sourced internal audit program. The risk management program provides savings on annual insurance premiums, collaborative risk assessments, collaborative risk mitigation strategies and comprehensive insurance coverage. The institutions which participate in the internal audit program share one internal audit staff among them and benefit from the expertise that they can gain from having several internal auditors and one experienced manager. The Consortium also values the best practices that its members share with each other and the collaborations that they have which provide financial benefits to the institutions. They do collaborative staff development and are currently offering a program for new

faculty chairs. The value of the savings from the Consortium varies by institution but all who belong value its services. ([http://www.boston-consortium.org/about/what\\_is\\_tbc.asp](http://www.boston-consortium.org/about/what_is_tbc.asp) - accessed 9/11/2011) There is an Association of Consortium Leadership which holds an annual conference and works to help consortia with best practices and new ideas. (<http://national-acl.com/> - accessed 9/11/2011) In September, 2010, twelve private colleges in Virginia formed a health insurance group. These schools have realized a savings of 4% over their projected health insurance costs in their first year of operation. (The Associated Press © September 16, 2010)

The 11 universities from the Big Ten Conference plus the University of Chicago have worked together for years; recently, they built out a fiber optic network on their campuses and connected all 11 universities. *"In addition to an estimated \$23 million saved jointly in the purchase of the network...each university saves \$600,000 in annual maintenance costs."* (<http://chronicle.com/article/Sharing-Ideas-Tough-Times/29882/> - accessed 9/12/2011). The newest collaboration among this group is in language offerings. Among the 12 universities, 120 languages are taught but the most any single university teaches is 30 languages. Video conferencing has been the typical means to reach students at other universities.

Libraries have been among the leaders in forming consortia. Today, there is the International Coalition of Library Consortia which is an informal, self-organized group representing more than 200 consortia from around the world. The group began in 1997 (<http://www.library.yale.edu/consortia/> - accessed 9/17/11). Library consortia share electronic journals, do cooperative purchasing, have reciprocal privileges for library usage, work together on digitization projects and in some cases, work to collaboratively build collections. There are places where schools share a single library such as Loyola and the College of Notre Dame of Maryland. In many areas, the consortia include public libraries as well as university libraries.

Other groups of schools have joined together to improve student life in an area, to foster the recruiting of students and to promote early intervention initiatives. The motivation for joining with other schools involves not only economies of scale and cost savings but increased effectiveness by working together. On early intervention initiatives, many prospective students are much more willing to deal with a group of schools which are promoting preparation for college rather than one school which is recruiting them.

### **Two Year – Four Year and Four Year – Four Year Institutional Academic Collaborations**

Recently, there has been a move among colleges to develop collaborative agreements to increase efficiency and to help boost enrollment and student choice. There are numerous examples of agreements between community colleges and four year institutions to offer the four year degree on the community college campus. One was recently signed between Gloucester County College and Rowan University whereby Rowan would offer the bachelor's degree in Nursing on the Community College's campus to Gloucester students who have received their Associates degree in nursing. This provides for the addition of a program using the existing infrastructure. ([http://www.nj.com/gloucester-county/index.ssf/2011/06/gloucester\\_county\\_college\\_sign\\_1.html](http://www.nj.com/gloucester-county/index.ssf/2011/06/gloucester_county_college_sign_1.html) - accessed July 19, 2011) This provides a cost effective use of facilities as well as a significant benefit to the community college students who can remain on their home campus for their four year degree.

Beginning in fall, 2009, three very different neighboring colleges in Massachusetts, Wellesley, Olin and Babson launched a new partnership *"where faculty will jointly develop programs designed to equip students to tackle major world problems, such as energy supply and national security, from different academic perspectives, said Wellesley's president, Kim Bottomly. The triumvirate will give undergraduates expanded educational opportunities through new academic programs that none of the schools could afford on its own."* (Wellesley, Olin and Babson Team Up by Tracy Jan, Globe Staff, August 24, 2009)

### **3. Is your organization structure efficient; does your institution lend itself to cost effective operation?**

There is no one organizational structure which works for all of higher education or which is considered the model structure. Higher education in the U.S. is composed of thousands of institutions. Some are stand - alone, some are branch campuses and some are part of multi – institution systems. The size of our institutions and systems, in terms of student enrollment and operating budgets differs significantly ranging from schools with only a few hundred students to institutions with more than 40,000 students to systems with several hundred thousand students. Little research has been done to consider whether, at least in terms of efficiency and cost effectiveness, there is an optimal size for an institution or whether there are significant advantages or disadvantages of larger versus smaller institutions or for institutions which are part of systems versus stand alone institutions. There has been no comprehensive exploration of where there are economies of scale and where there are diseconomies of scale given different institutional sizes and structures. Over the last few years, the average size of most institutions, in terms of enrollment, has increased implicitly, indicating that operations can be more cost effective.

Finally, within institutions, there are a significant variety of organizational structures and a range in the amount of hierarchy within institutions. There have been some recent studies which have done work exploring efficiencies and inefficiencies in institutional structure.

Among public institutions, the structures differ significantly by state. For example, in Virginia each public institution has its own governing board while in California there are two very large four year systems. In Maryland, there is one system for all but two of the four year public institutions. Among private institutions, the more common governance structure is that of relatively small stand alone institutions or institutions with branch campuses rather than multiple institutions with one governing board. The University of Phoenix is now the largest university in the country with more than 400,000 students, multiple campuses and on-line and traditional instruction with one governing board. There are some examples in the for profit sector of multiple institutions with one governing board such as the institutions which make up the Laureate system.

University systems have the potential for efficiencies and inefficiencies. Historically, many State University systems have operated as a coordinator for all of their campuses. Recently, many systems have looked carefully at places that the system can operate more efficiently. Many systems have been motivated to look for economies without diminishing quality.

### **Higher Education Systems**

In assessing the efficiency of their operations, systems should ask include the following questions about the way their campuses are operating.

- Do they share common administrative systems and services where reasonable?
- Do they have a common application for students?
- Do they share a central purchasing function and do they pool your purchasing to take best advantage of bulk purchases?
- Do they provide for student mobility among campuses to allow maximum flexibility and course choice?
- Have they articulated all of their academic programs for easy transfer among campuses?
- Have they articulated your programs with those of other institutions in the State?
- Do they minimize program redundancy in their system?

- Do they share specialized resources or are they resident at the system level?
- Do they have joint faculty appointments where appropriate?

The responses to these questions at many systems have involved putting in common administrative systems for all campuses so that there is a single technology infrastructure. Systems still tend to duplicate the human infrastructure in terms of college officers at each campus but some changes are being made, for example, such functions as legal and risk management may no longer be duplicated among campuses. (“Top to Bottom Reengineering: University System of Maryland Enhances Productivity, Improves Accountability, and Maintains Quality” by William Kirwan in **Strategic Financial Challenges for Higher Education: How to Achieve Quality, Accountability and Innovation** edited by Lucie Lapovsky and Donna Klinger, New Directions for Higher Education, Number 140, Jossey Bass, March 2008)

The system question has recently been discussed in Wisconsin and Oregon where the flagship campuses in both states have proposed separating from their systems in order to free themselves from many system rules and regulations. The argument has been made often that significant resources will be saved if institutions are subject to fewer State regulations. More freedom will give institutions more flexibility and will allow them the ability to more easily take advantage of opportunities which present themselves. In North Carolina, there is a move to merge 22 community colleges in order to save an estimated \$5 million. Schools with enrollments of less than 3,000 students would become satellite campuses of larger community colleges and their back office and administrative functions would be consolidated. (<http://hamptonroads.com/2011/06/report-nc-community-college-mergers-would-save-millions> - accessed 9/12/2011)

*“The University of California plans to reduce its administrative, purchasing and energy costs about \$500 million a year by 2015 in an attempt to shield its teaching and research missions from further cuts in state funding, officials said Wednesday. The push for efficiencies could shift UC's institutional culture somewhat, from a relatively loose system of 10 campuses to a more centralized university, UC leaders said. But they emphasized that campuses and academic departments will maintain independence in the classrooms and labs.”* (By Larry Gordon, Los Angeles Times, May 20, 2010)

*“The State University of New York system recently grouped its 64 campuses – both four-year institutions and community colleges – into regional “[Campus Alliance Networks](#)” to develop regional shared services plans. The idea is for institutions to begin sharing administrative services, such as leadership, human resources, and information technology, to save money that can be redirected to education. The system has gone a step further at six institutions, placing three presidents in charge of two campuses each. The*

*35-campus University of Georgia system consolidated administrative functions such as payroll and accounts receivable into a single service center.”*

[http://www.insidehighered.com/news/2011/09/16/unc\\_berkeley\\_cornell\\_experience\\_show\\_where\\_administrative\\_cuts\\_can\\_be\\_made](http://www.insidehighered.com/news/2011/09/16/unc_berkeley_cornell_experience_show_where_administrative_cuts_can_be_made) - accessed 9/18/11) (Note: the NY legislature has passed a bill requiring each campus of the SUNY system to have its own president thus negating the plan to have multiple campuses lead by one president – December 7, 2011)

### **Institutional Organizational Structure**

At the institutional level, it is important to look at organizational structure and to ask if its structure contributes to accomplishing the institution’s objectives. Does it foster the success of its students? Does it accomplish this in a cost effective manner? These are not easy questions to answer and it is often difficult to separate structure from person.

Many organizational structures grow up around the needs of the staff that are in place rather than the needs of the students or considerations of efficiency. Institutions should step back and evaluate their structures. An oft cited area of major change over the last several years at many institutions has been the development of “one-stop” shops for student administrative services. Historically, campuses had offices for the registrar, the bursar and financial aid. Students would have to go to each office to get their business done and were frequently required to go back and forth among the offices. For example, if a student went to register they might find that their bill had not been paid and had to go to the bursar to take care of that before they could register. When at the bursar’s office, they often found that the billing problem was related to a financial aid issue and they were then sent over to financial aid. They often had to return to the bursar before they could finally register. Each of these offices usually reports to a different vice president – registrar to the provost, bursar to the vp for finance and financial aid to the vp for enrollment management. Each office could be in a different building on campus. Where campuses have merged these three functions into one office they have not only significantly improved the student experience but have also found economies in their ability to cross train many of the people in these functions thus providing both better service and often saving in the required numbers of personnel. This is just one example of the benefits that can accrue to a college or university that steps back and reviews its operations from a student service perspective.

### **Are there unnecessary layers of reporting?**

There have recently been studies done by Bain at Cornell, the University of North Carolina at Chapel Hill and at the University of California at Berkeley. These studies have reviewed the organizational structure

of these campuses by mapping the institutional hierarchy. They look at the complexity of the organization and at how many direct reports each manager has. They found that extra layers of administrative personnel are very expensive to support and usually quite unproductive. At UNC Chapel Hill, Bain estimated that a flattened organization would save between \$3 million and \$12 million a year and would take one to two years to implement. A mapping of this type can easily be undertaken by an institution and if there is a will, changes can be made to provide a more rational structure. A benchmark to use would be the average number of direct reports per manager and then each department can compare its numbers to the range and average for the institution.

A further metric in terms of organizational efficiency would be to compute the numbers of staff to students and staff to faculty. These ratios can be benchmarked by department, division and among peer institutions as this data, at the institutional level, is a part of the IPEDS data collection.

The University of Southern Maine facing a deficit and a low graduation rate found that many of their student services were not well coordinated. *“On its three campuses, the university eliminated offices of academic advising, career services, and early student success, and laid off 21 employees. At the same time, it created a student-success center on each campus, in Gorham, Lewiston, and Portland, rehiring 11 people to run the one-stop shops... The university has saved almost \$370,000 in base salaries over all.* (University of Southern Maine - April 5, 2010 – Chronicle of Higher Education)

### **Operational Efficiencies**

There are many areas where operations can be made more efficient. Energy is one where institutions have experienced major cost savings with no negative implications for institutional quality. *“The University of Colorado's Boulder campus has shrunk its energy use by 23 percent and kept its carbon emissions stable since 2005, even though the campus has grown by about 14 percent during that same time, the school announced today.”* ([Cu-Boulder Report: Energy Use Has Shrunk 23 Percent Despite A Growing Campus, The Daily Camera, Sept. 23, 2010](#)) Many colleges are turning down thermostats as part of sustainability programs such as the “Chill-Out” program at Davidson College (<http://www3.davidson.edu/cms/x31822.xml> - accessed 9/12/2011)

Communications is an area where major savings can be realized. A reassessment of what needs to be printed versus shared electronically should be undertaken by all colleges and universities. The University of Florida saved nearly \$1 million by changing 160 print publications to web-based delivery. (University

Business, "More with Less" February, 2009) Targeted marketing can make a significant difference in your return on investment. Using students to assess your website can be very effective in making the most effective changes prior to embarking on a website redesign project. Many schools are rethinking the need for paper catalogues and handbooks and putting them up online.

Many colleges and universities have significant internal inefficiencies. Purchasing is often an area where substantial savings can be accrued through the establishment of a centralized purchasing function. About 25% of all institutional budgets involve services or commodities which purchasing can impact. Most studies assume that by giving appropriate attention to purchasing at least 10 percent of the cost of the goods and services can be saved.

([http://www.insidehighered.com/news/2011/09/16/unc\\_berkeley\\_cornell\\_experience\\_show\\_where\\_administrative\\_cuts\\_can\\_be\\_made](http://www.insidehighered.com/news/2011/09/16/unc_berkeley_cornell_experience_show_where_administrative_cuts_can_be_made) - accessed 9/18/11)

Florida State University had four different organizations working to raise funds. They used similar but separate databases which did not communicate; thus donors often got multiple solicitations and fundraisers were far less effective than they might have been because they did not share information. Not only were there cost savings from merging the systems but also improvements in the University's fundraising success. (<http://www.universitybusiness.com/article/share-and-share-alike> accessed 9/12/2011)

In comments in the NY Times in response to an article by Tamar Lewin (For Colleges, Small Cuts Add Up to Big Savings June 19, 2009, NY Times) the following list of cost savings was reported. Several of these reductions reduced service but obviously schools did an analysis of the costs vs. the benefits which is critical to doing before making these changes.

- The University of Washington communications department did away with land lines in faculty offices for a savings of \$1,100 a month
- Dickinson College's women's swim team had a virtual swim meet with Bryn Mawr which is 112 miles away for a saving of \$900 in travel costs as well as time
- Many schools are reducing housekeeping – Oberlin saved \$22,300 by scaling back on window washing, Pitzer is only power washing its sidewalks once a year instead of twice and Carleton College has reduced office trash pick-up from daily to once a week which resulted in the elimination of three custodial positions.
- Whittier College cut one day from its student orientation saving \$50,000

- Whitman College put a limit on free printing (\$60 per semester in 2010 and \$50 in 2011); Bridgewater eliminated all free printing by students
- Dickinson College began charging for student laundry and premium television channel.
- Savings are being realized on water with low flow shower heads
- Another 'green' initiative has lead many colleges to eliminate the use of bottled water at most events; Davidson saved \$1,000 from this move
- Reducing travel by scheduling more videoconferences

Relooking at many processes that have long been taken for granted can also result in cost savings. These include trayless dining which significantly reduces food waste and half flush and full flush toilet which reduces water use along with new shower heads. The University of Kansas *"reduced food waste by 38 percent and beverage waste by 54 percent and saved 230,000 gallons of water in the first year."* (<http://chronicle.com/campusViewpointArticle/KU-takes-the-LEED-in/434/> - accessed 9/12/2012) Whittier saved \$30,000 in one term on food after going trayless.

There have been significant savings realized by colleges that have moved all of their e-mail off of their own servers to Google mail. In addition to the cost savings, the schools receive unlimited storage which allows their students to keep their college e-mail accounts for life. The Community College System in Virginia has moved to a cloud strategy for its enterprise system which includes accounting and human resources among other applications; this has saved the system \$20 million annually (<http://campustechnology.com/articles/2011/09/08/a-community-cloud-strategy-for-the-education-enterprise.aspx> - accessed 9/16/11). They are now looking at adding financial aid processing and document management to the cloud.

#### **4. Do you have activities which are operating at a loss? Are these intentional?**

It is important for institutions to understand their cost structures and the cost of their various activities. More and more institutions are trying to understand the costs of each of their activities. These are not easy exercises as they require allocation of costs down to the program level. Robert Dickeson's book provides excellent guidance to colleges and universities on how to do this. **(Prioritizing Academic Programs and Services: Reallocating Resources to Achieve Strategic Balance, Revised and Updated January 2010 Jossey Bass Higher and Adult Education)** Beyond measuring the direct and indirect costs of each activity, an allocation of the revenues associated with the activity also needs to occur and then a

comparison made to see which activities are self-supporting, which are breaking even and which require a subsidy. The result of such an activity should then lead to a set of questions which include the following:

1. Can the activity be operated more cost effectively?
  - a. Can it be combined with other programs to make it more efficient?
  - b. Are there other ways to operate the program to make it more cost effective?
2. Can the activity generate more revenue?
  - a. Can it be strengthened to attract more students?
  - b. Can there be fees or charges levied for some of the activities?
  - c. Can there be new activities performed with the resources already allocated to this program which can generate revenue?
3. For activities which are operating at a loss, are these activities “mission critical?”

Such a cost exercise will often lend itself to dividing the results by the number of students served by the activity so that a comparison can be made of the average cost and average revenue of each activity/program enabling an institution to benchmark among programs and sometimes against those at other schools if comparable data exist. The results of such an exercise will not always result in the elimination of programs that are operating at a loss but will lead to the discussion of their centrality to the institution’s mission and a clear recognition that there are programs worthy of institutional subsidy.

A further and relevant analysis is to look at the marginal costs and marginal revenues associated with each activity/program. The above analysis looks at the total and average costs of each activity. When we look at costs at the margin, we ask what will be the impact, both in terms of expenditures and revenues of additional students or additional resources devoted to a program. For example, we will usually find that programs that are operating below full capacity can add students, up to a certain number, with no additional costs thus reducing the cost per student and reducing the deficit or increasing the surplus generated by that program. On the other hand, we may have programs which are generating healthy surpluses which are operating at capacity and we will experience significant additional costs if even one additional student were added because significant additions to faculty, staff and/or facilities will be required if the quality is to be maintained. Such a program may not again generate a surplus until a significant number of additional students are added.

The marginal analysis needs to be performed along with an assessment of the growth potential for the institution and for the program. Such an analysis will not only inform the areas and ways in which new programs are developed and existing programs are expanded or contracted but can also inform the costs and benefits of growth for the institution as a whole. Marginal and average cost analysis can give very different answers and thus both need to be reviewed when making programmatic decisions. When looking at the margin, one needs to ask what the impact of one more or one less dollar will be to that program.

### **Co-curricular Programs**

I will leave academic programs to a section by itself but will consider what institutions are doing relative to cost saving in many of their co-curricular and support programs. Athletic programs are one of the areas which often come under the microscope in this regard. There are major differences in the resources that various schools allocate to athletics ranging from no resources at schools with limited student services which do not offer athletic programs and devote no space to these activities to schools which participate in major intercollegiate leagues with power house athletic programs which have significant facilities, many teams and big budgets. In between, there are schools which provide space for individual fitness, schools which have intramural sports programs and then there are those which participate in intercollegiate leagues where there are no scholarships offered and a few sports are played among colleges which are relatively near each other. Athletics is a program which does not exist at most for-profit colleges and at many community colleges and commuter campuses or if it is supported it is usually done on a relatively small budget. For those schools which have large intercollegiate programs, there are significant differences among these programs in terms of numbers of sports offered and the way in which students are aided and recruited to these sports. During the recent recession, many schools have looked more closely at their athletic programs.

*“According to a new study which the Knight Commission is about to release, institutional subsidies for intercollegiate athletics increased 34% between 2005 and 2009 and student fees have increased significantly to support the athletic programs; the Chronicle reports that the median budget deficit at less-elite programs tops \$9 million.”* (Chronicle of Higher Education June 26, 2011 [http://chronicle.com/article/In-Athletics-Ambitions/128033/?sid=at&utm\\_source=at&utm\\_medium=en](http://chronicle.com/article/In-Athletics-Ambitions/128033/?sid=at&utm_source=at&utm_medium=en))

The lore among many is that intercollegiate athletics generates great profits for colleges and universities. The press touts the big contracts schools get for the broadcast rights to their games and the support that they receive from sponsorships. In reality, as the Knight Commission has noted, there are very few athletic programs which break even let alone generate a profit. There are many reasons to have sports programs on campuses including their impact on student recruitment and retention, the positive spirit generated by the programs, the name recognition it adds to the college, enhanced fundraising potential, the impact on alumni connections, etc. Thus, the fact that intercollegiate athletics requires an institutional subsidy at almost all institutions is not a reason by itself to reduce or eliminate the activity but it certainly should trigger further analysis of the benefits provided by the programs and a review of whether there are less costly ways of providing these benefits than the configuration of the current athletic program. A recent NCAA study reports that in 2010, 22 elite sports programs turned a profit, up from 14 the year before, but the other 98 reported deficits with the median deficit totaling \$11.6 million. ([http://chronicle.com/article/22-Elite-College-Sports/127921/?sid=at&utm\\_source=at&utm\\_medium=en](http://chronicle.com/article/22-Elite-College-Sports/127921/?sid=at&utm_source=at&utm_medium=en) accessed 7/24/11) While in recent years many schools have been eliminating some of the teams which they support there are other examples of schools which have added sports primarily in order to increase enrollment and to improve student life at the school.

### **Ancillary Facilities**

For schools which are thinking about expanding their residence hall facilities, it is wise to consider whether they should build them themselves or involve a third party to develop and/or manage the new facility. Outsourcing dorm construction and operation can put the risk of the dorm on the balance sheet of another entity; on the down side, it reduces the institution's control over the dorm.

Dining halls are outsourced on 61 percent of campuses. (*Is Outsourcing Right for You* – University Business, 2006 (<http://universitybusiness.ccsct.com/page.cfm?p=722> - accessed July 16, 2011)

Motivations to outsource dining halls include removing institutional risk for the bottom line and increasing the quality of the food at lower cost. The rationale for lower cost and higher quality through outsourced food service is that an institution benefits from the economies of scale a large vendor has in getting supplies and the access to a large talent base. The best contracts which schools negotiate provide that the school allocates space to an outside vendor to run the school's food service. The vendor renovates and maintains the space and the equipment and pays the school a fixed rent for the space plus a percent of the profits. The school defines expectations for the food service in terms of hours of

operation, menu diversification, pricing of meals and catering, and quality often measured by student surveys or other means. This provides the school with no financial risk and only an upside. In addition, food service contracts usually are for a fixed duration so that they are periodically rebid which gives the institution a market test of pricing and services. The downside of an outsourced food service is that the institution is dealing with a big company with many customers and thus may not receive the attention it wants or the customization of approach that it seeks.

Bookstores are another example of an activity which is outsourced by more than 50% of the colleges in the country. This also is not an area where colleges and universities are known to have expertise. Most institutions which run their own bookstores find that they have to subsidize them. In this era of rapid change in the way we use books and the changes to digital media; it has become even more difficult for colleges to stay current with all the changes. Many schools have arrangements with bookstores similar to the arrangements they have for their food service. Some schools now have all on-line bookstores with only convenience stores operating on campus. This whole area is changing quickly and those schools which have the ability to change vendors when necessary and who are allied with vendors who are able to keep up with the changes which are taking place are best positioned to not have to subsidize this activity and to continue to receive a stream of revenue from bookstore operations. In addition, large companies which run dining halls and bookstores for colleges and universities have the advantage of economies of scale in their buying power. Also, they are able to provide much more upward mobility to their employees than an individual institution can which can help them attract and retain better talent in these areas.

Beyond major activities, schools need to review things they implemented for a variety of reasons which may no longer be needed or which once may have generated revenue for the school but which no longer do because of changes in the way people operate. A good example of this is telephones. Many schools added telephones to all of their residence halls and many made significant profits especially from the long distance calls that students made from these phones. Today, almost no students use these phones as they all have cell phones which they rely on for all of their telecommunication needs. Schools can now remove these phones and cancel the phone service that they are providing. Many schools also put in blue light security phones throughout their campuses. Recently, the University of California at Davis removed its emergency phones as they were rarely being used because students were using their own cellphones in the case of an emergency. Removing the phones cost \$70,000 but will save \$36,000 a year. (<http://www.sacbee.com/2011/06/20/3714623/uc-davis-pulls-plug-on->

[emergency.html#ixzz1T25AiwGd](#) accessed 7/24/11) These are just two examples to show that schools need to periodically reexamine decisions they have made; circumstances can change which can turn a good idea into an unnecessary expense for the college.

### **5. Is your academic program efficient and do you optimize the use of faculty?**

Two surveys (July 2011) of Chief Business Officers (CBOs) were just published, one by Inside Higher Education (<file:///C:/Users/Lucie/Documents/Costs/InsideHigherEdCFOsurveyfinal.pdf> - July 6, 2011) and one by the Chronicle of Higher Education (<http://chronicle.com/article/Economic-Conditions-in-Higher/128129/> - July 6, 2011) found that the CBOs feel that more reductions could be made in the academic programs at their institutions. In the Inside Higher Education survey, 93% of the respondents disagreed or strongly disagreed that budget cuts over the last three years have done serious damage to the academic program. In the Chronicle survey, the strategies most cited by CBOs for operational changes are increasing teaching loads, eliminating tenure and hiring more adjuncts. The responses in the Inside Higher Education survey noted that underperforming academic programs have been cut at only 31% of the institutions (40% of the public institutions and 20% of the private institutions).

Clearly, these are the responses as seen through the lens of only one senior officer at the institution and the view from the academic side of the house is likely to be somewhat different but it is surprising how strong the sentiments were on the ability to make reductions in the academic side of the house. If one looks at the areas where reductions have been made at institutions over the last few years, most institutions worked to make reductions in all areas except academics. Thus, it is not unreasonable that that area has been protected while cuts have been made to staff and most other areas of the academic enterprise. Protecting an area to preserve its quality and treating an area as a sacred cow are two different things. Some institutions, although not nearly enough, have looked at various aspects of their academic enterprise to see if there are areas where efficiencies can be made without negative quality implications. The dilemma for institutions, as has been mentioned before, is they do not have good measures of student learning outcomes and therefore it is very difficult to assess what the implications to changes in the academic area will be on student learning outcomes. Most institutions do not want to risk negatively impacting the student learning experience by making untested changes to faculty workload or to the curriculum; on the other hand, there are institutional experiments and new models which are evolving which merit consideration.

### **Academic Program Analysis**

In order to approach this issue in a systematic way, institutions should do a comprehensive analysis of their academic programs. This should involve reviewing the following for each program:

1. Cost of the program
2. Revenues generated by the program
3. Net surplus or deficit generated by the program
4. Number of full time faculty in the program
5. Enrollment in the program of both majors and total credit hours generated by the program
6. Number of degrees awarded
7. Number of courses per major
8. Number of prerequisites
9. Number of courses added and deleted in the last 20 years
10. Number of credit hours taught per faculty
11. Are courses duplicated in different majors?
12. Can programs be combined?
13. Are there other ways to offer the program?
14. Student – faculty ratio in the program
15. Demand by new students for the program
16. Demand in the marketplace for the program
17. Assessment of quality of the program
18. Assessment of centrality of the program to the core mission of the institution

A compilation of this data, which is both qualitative and quantitative in nature, will provide colleges and universities with a good indication of which programs are generating revenue and which programs are being subsidized by others. The data provides valuable information to make decisions about programs which should be discontinued, strengthened, combined, offered in a different way or left just as they are. Such a review of the academic side of the house should be done periodically to make sure that resources are being used most effectively, that programs are as strong as they can be and that they are all contributing appropriately to the mission and the health of the college or university. ( See [Prioritizing Academic Programs and Services: Reallocating Resources to Achieve Strategic Balance. Revised and Updated \(Jossey Bass Higher and Adult Education](#) by Robert C. Dickeson and Stanley O. Ikenberry Jan 26, 2010) Many colleges and universities have undertaken such comprehensive studies of their academic programs in the last few years; some have done it by themselves and others have relied heavily on

consultants to work through the process with them. The results of the process differ and in part depend on the courage the institution has to make difficult decisions. At some institutions, the process has proceeded collegially with faculty fully involved and at others; it has been done in a less than transparent way by the administration and has resulted in much turmoil on the campus.

### **Examples of Recent Curricular Changes**

*“A faculty committee at the University of Minnesota-Twin Cities has recommended a series of ideas -- some radical -- for rethinking the College of Liberal Arts, the largest division at the institution, [The Star Tribune](#) reported. Some of the recommendations are typical of those being made at many institutions, with a call to eliminate some small majors and programs to bolster stronger departments. But other recommendations are bolder, such as a call to consider year-round instruction and replacing faculty lectures with lectures given by graduate students, while allowing faculty members to meet students in small groups.”*

(<http://www.startribune.com/local/106934848.html?elr=KArksi8cyaiUncacyi8cyaiUiD3aPc: Yy c:aU7DYaGEP7vDEh7P:DiUs> – accessed 9/16/11)

Washington State University eliminated its theater, dance, and community and rural sociology departments. In total it has decided to phase out 16 degree programs and reduce or consolidate eight more while the State University at New York at Albany is also eliminating many courses and majors. ([http://www.insidehighered.com/news/2011/09/16/unc\\_berkeley\\_cornell\\_experience\\_show\\_where\\_administrative\\_cuts\\_can\\_be\\_made](http://www.insidehighered.com/news/2011/09/16/unc_berkeley_cornell_experience_show_where_administrative_cuts_can_be_made) - accessed 9/18/11) Program cuts are happening at many institutions but more pervasively at public than at private institutions.

Kean University in New Jersey will eliminate nearly all academic departments; eliminate several majors with low enrollment and several graduate programs. The restructuring — which university administrators say will save nearly \$2 million — will remove 38 department chairs from their posts and return them to the classroom. Under the plan, they will be replaced with executive directors and program coordinators who will manage 18 newly-consolidated schools. The restructuring is also expected to allow the campus to increase enrollment and to increase retention rates. (“Kean University to eliminate departments, majors to deal with budget shortfall” By [Kelly Heyboer/ The Star-Ledger](#) May 26, 2010, 5:10AM)

Berea College which was seriously impacted by the decline in its endowment in 2008 gutted its traditional departments, such as biology and statistics, in favor of larger thematic "clusters" (like World

Issues). This change in department structure along with a decision to increase the student/faculty ratio from 10:1 to 12:1, will allow it to eliminate 13 to 15 teaching positions. (**Fortune** April 28, 2010)

### **Demand Considerations**

When talking about program demand, one should consider both demand by new students for the program and demand by employers for graduates of the program. There are many professional programs which are cyclical and the demand for graduates ebbs and flows over time. Engineering is subject to major cycles. When the demand for graduates is low, schools need to be nimble and able to cut back the size of the program without decimating it if they believe that demand will increase again in a reasonable period of time. When demand for graduates declines significantly, some schools do decide that the overall production of students for this profession is just too high and that their program is not among their best and they make the difficult decision to eliminate it. Demand for program graduates is often correlated with demand by new students for the program.

There also are programs which have little student demand but may be on the books because they are considered core to the college's mission or they provide required courses for other programs. These two assumptions need to be periodically reexamined. What is core to an institution's mission can change over time. For example, years ago most liberal arts colleges had a classics department and today few have one. Classics may be important to a liberal arts education but as faculty reexamined general education requirements, many removed classics from being a required course. This, of course, had a very negative effect on its enrollment and few students over time have ever chosen classics as a major thus many schools no longer support a classics department. Language programs have also come under scrutiny. Many schools in efforts to reduce numbers of required courses have removed language requirements and thus this area has had significant problems maintaining enrollment and justifying its existence. In the language area, the demand for certain languages has changed. Whereas thirty years ago, most colleges offered French and Spanish as their languages as well as perhaps a few others, now the demand is for Chinese and other languages so many schools have looked to shift their language offerings. The existence of tenured faculty in departments with low enrollments makes it difficult to eliminate these departments. Some colleges which are in serious financial difficulty will declare fiscal exigency which will allow them to close a department and lay-off tenured faculty. This is not a route that schools choose to take if they can avoid it. Schools will often see if there are other subjects that tenured faculty can teach. This also provides a caution to schools to be careful about how many faculty they

tenure. Language is an area which lends itself to creative approaches and consortial activity as few, if any; schools can offer all the languages their students demand.

*“To help reconcile budget cuts and new policies aimed at producing more graduates prepared for good jobs, the Tennessee Board of Regents on Friday approved a plan by Tennessee State University to eliminate “low producing” programs, notably undergraduate majors in physics and Africana studies. Both programs, along with a bachelor’s program in foreign languages, several master’s programs, and two education degrees, graduate only a few students each year. The university will go from offering 67 majors to 61, and will consolidate eight schools into seven.*

*Administrators said the reorganization comes after six months of consultation with faculty, students, and other interest groups, and will save the university \$700,000 annually... Discontinuing the programs will not eliminate courses, no faculty jobs will be eliminated, and both physics and Africana studies will continue to be offered as minors. The only change, administrators say, will be consolidation of administrative units and elimination of the major programs.”*

[http://www.insidehighered.com/news/2011/06/27/tennessee\\_state\\_cuts\\_under\\_producing\\_programs\\_to\\_cope\\_with\\_state\\_laws](http://www.insidehighered.com/news/2011/06/27/tennessee_state_cuts_under_producing_programs_to_cope_with_state_laws) accessed July 24, 2011)

### **Other Curricular Considerations**

After getting all the specific program data, there are other issues which relate to the academic program as a whole as well as to changes to specific areas. Can you provide students at your institution with more programs in different ways than directly employing your own faculty and providing the program on your campus? This is a question that many schools face when making challenging decisions about cutting back offerings on their campus or trying to appeal to a broader swath of the student market. For example, some schools are offering languages using Rosetta Stone which provides students with access to an almost unlimited number of languages other schools are using Poynters to provide journalism programs (discussed more later in the paper). Still other schools are participating in consortia to jointly offer low demand programs or to coordinate their program offerings while other schools are exploring providing academic content from other institutions on-line to their students.

### **Ways to Increase Student Success and Lower Costs**

Institutions need to look at a variety of areas to see if there are changes in the way they are operating that would increase student success at the same or even reduced costs and that would allow for greater efficiencies in the delivery of their programs. Below is a list of areas which will be examined and following the list, each question is reviewed and some examples of what colleges and universities have done as they responded to these questions.

- A. Are your students efficiently moving towards graduation?
- B. Can you offer a three year degree?
- C. How do you use faculty?
- D. Do you facilitate student's transferring among colleges?
- E. If you have off-campus requirements, are you operating efficiently – filling in where students are out of residence?
- F. Are you using on-line programs? Are you using open courseware?

**A. Are your students efficiently moving towards graduation?**

It is important for schools and systems to look at their retention and graduation rates and to understand why students are not progressing in a satisfactory manner and why so many do not complete college at all. The graduation rates of first time full-time students entering in 2002 are:

4 year – 36%

5 year – 52%

6 year – 57%

Source: NCES Figure 2 6a, 2008b

**Basic Data Needs**

To begin with, we find that many institutions do not have the basic data that they need in order to clearly understand their retention and graduation rates nor do they share the data they have with those people who are in a position to influence the outcomes. Here are a list of questions that could help in student success but which most institutions cannot answer without a great deal of effort if at all:

- How do student characteristics on admissions – academic, social and financial – relate to their graduation rates?
- For each faculty, what percent of their advisees return the next term or year?
- For each faculty, what percent of the students who were in one of their classes return the next term or year?
- What is the graduation rate of students from each of your key feeder high schools?
- What is the graduation rate of students who participate in co-curricular activities versus students who do not?

## **Retention Issues**

We all talk about retention being a responsibility of everyone at the institution yet we never personalize the data so that faculty don't know what impact they have had on their students. What if we gave faculty reports on the retention rates of each of their advisees and of the students in their classes? What if we used student return rates as part of our assessment of faculty?

We do know that some students are not ready for college either because of maturity and /or preparation and we need to get better at assessing students on intake so that they do not waste resources on activities where they will not be successful. On the other hand, we need to look at how efficiently our students are moving through our institution and what support we can give them to increase their success. Colleges and universities spend a great deal of money on attracting and recruiting students and if they can keep them for four years it is much more efficient and cost effective than to "churn" students which requires the addition of significant numbers of new students each year. There is lots of work going on to help schools achieve better retention rates so they will not be addressed in this paper.

## **Required Credit Hours for Graduation**

An important question to ask is how many credit hours are required to graduate. Many institutions find that different majors require varying numbers of credit hours to graduate and that over time; the number of required credit hours has tended to increase. More credit hours will cost the school and often the student more to complete college and contribute to the growing number of students who do not complete college in four years. The standard metric is 120 credit hours but you will find programs that may require in excess of 150 credit hours.

When the University of Maryland began looking at all aspects of its operations, it noticed that there was great variability in the number of required credits hours across majors. As a part of its Efficiency and Effectiveness project (<http://www.usmd.edu/usm/workgroups/EEWorkGroup/eeproject/index> - accessed July 6, 2011), it asked all programs which required more than 120 credit hours to review this requirement and to justify the need for all of these credit hours. Board of Regents approval was required for all majors requiring more than 120 credit hours to graduate ("Top to Bottom Reengineering: University System of Maryland Enhances Productivity, Improves Accountability, and Maintains Quality" by William Kirwan in **Strategic Financial Challenges for Higher Education: How to Achieve Quality, Accountability and Innovation** edited with Donna Klinger, New Directions for Higher Education, Number

140, Jossey Bass, March 2008). Credit creep comes in two forms: increases in the number of credit hours required in the general education curriculum and credit hours required in the major. When schools reevaluate their general education curriculum, programs usually try to protect all of the required courses and then choose to add courses if there are other areas which need to be included. The result is a growing number of credit hours required by the general education curriculum because frequently new courses are added without any courses being eliminated. Having a required general education course guarantees an academic program enrollment. Credit creep occurs in the major when faculty want to add boutique courses to the major and guarantee that the course will have sufficient enrollment to justify its existence. The maintenance of department enrollments is most frequently the cause of credit creep. Decisions on which courses are most important both for the major and for the general education curriculum require hard academic decisions and a student rather than faculty centered point of view. Because most faculty have great difficulty in deciding what to include in the general education requirements, students are often provided with a long list of choices that will serve to meet these requirements.

### **General Education Programs**

General education programs differ significantly among institutions. The accrediting agencies all require that baccalaureate programs have a general education component. Below are the standards from two of the associations – Middle States and the Southern Association.

#### ***Middle States - Standard 12: General Education***

*The institution's curricula are designed so that students acquire and demonstrate college-level proficiency in general education and essential skills, including at least oral and written communication, scientific and quantitative reasoning, critical analysis and reasoning, and technological competency.*

*(<http://www.msche.org/publications/SelfStudy07070925104848.pdf> - assessed July 11, 2011)*

#### **Southern Association of Colleges Standard 2.7.3 General Education**

*In each undergraduate degree program, the institution requires the successful completion of a general education component at the collegiate level that (1) is a substantial component of each undergraduate degree, (2) ensures breadth of knowledge, and (3) is based on a coherent rationale. For degree completion in associate programs, the component constitutes a minimum of 15 semester hours or the equivalent; for baccalaureate programs, a minimum of 30 semester hours or the equivalent. These credit hours are to be drawn from/and include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics. The courses do not narrowly focus on those skills, techniques, and procedures specific to a particular occupation or profession. (<http://sacscoc.org/pdf/2010principlesofaccreditation.pdf> accessed July 11, 2011)*

The Middle States Association just specifies the required components while the Southern Association specifies that baccalaureate programs have at least 30 credit hours devoted to the General Education component of the undergraduate curriculum. (It does allow schools to justify requiring fewer credit hours.) Many schools find when they examine their curriculum that the general education component requires significantly more credit hours than 30. Significant general education requirements accompanied by the requirements of the major and other requirements that a college has will lead to the need for students to have more than 120 credit hours to graduate. Schools approach definition of the general education requirements in a variety of ways with the range being complete specification of the courses to be taken to a wide range of choice with a variety of courses which satisfy the core requirements in various disciplines. The more choices provided, the more expensive the general education curriculum will usually be as it will be much more difficult to fill up all the seats in each room. *“At Colorado University, 73 classes meet the "literature and arts" requirement. That's far fewer than the number of courses satisfying a similar requirement at peer universities. For example, the University of Illinois offers nearly 400 courses for the same requirement, and the University of California's Berkeley campus offers 785 core literature and arts courses.”* ([CU reviewing, trimming core curriculum - Boulder Daily Camera](http://www.dailycamera.com/ci_15654664#ixzz0vXh7jWVZ) [http://www.dailycamera.com/ci\\_15654664#ixzz0vXh7jWVZ](http://www.dailycamera.com/ci_15654664#ixzz0vXh7jWVZ) August 1, 2010 accessed 7/26/11)

The City University of New York just implemented requirements to make transfer of credits among campuses easier and more efficient so that more students could graduate without excess credits.

#### **RESOLUTION ON CREATING AN EFFICIENT TRANSFER SYSTEM from CUNY June 2011**

*“The new system requires that all two and four year institutions in the CUNY system have a common core of 30 credit hours that will transfer among all campuses and that the general education requirement will include an additional 12 credit hours which are considered the “college option” and may differ among four year campuses. It further specifies that students who transfer into a four year CUNY school with an AA degree from a two-year CUNY campus will only have to take six of the 12 college option credits. This is a radical departure from past practices where both the number of credit hours in the general education core differed significantly among CUNY campuses and where general education credit hours from one campus often did not transfer to another campus thus requiring students to take additional credit hours and leading to the need for more than the minimum specified number of credit hours required by a CUNY campus to graduate because often the student had the “wrong” credit hours.”*

(<http://cuny.edu/about/administration/offices/ue/degreepathways/resolution0511.pdf> )  
assessed July 8, 2011)

CUNY has a task force operating now which has been charged with determining which courses will make up the 30 credit common core across all campuses.

There are serious philosophical and pedagogical differences in the way the general education curriculum is composed. At many of the for profit institutions, the general education requirements are very specific with few, if any, choices provided. This leads to a far more efficient curriculum as all seats can easily be filled up and campuses can readily predict how many spaces they need in each course based on enrollment. In schools where students have lots of choices, it is hard to predict how many sections of each course are required and it is often difficult to fill up some courses. Empty seats in a course represent lost revenue as there are no additional costs associated with filling up all of the seats in a classroom. Decisions on the composition of the general education core should be based on a variety of factors beyond cost effectiveness. Many schools want to provide students with choices while others want to be sure that students take certain very specific courses and thus provide much more specificity as to what makes up the general education requirements

### **Curricular Efficiencies**

Beyond the general education requirements, there are questions about the efficiency of the entire curriculum. The more majors and the more courses within a major the less likely a college is to be able to operate efficiently as the likelihood of empty seats in classrooms multiplies. The more structured and defined the curriculum, the easier it is to plan and to fill up each class. This is one of the strategies that many of the for profit colleges have used in designing their programs. They tend to operate with very streamlined curricula which allow them much greater efficiency. Each department has costs associated with it which may not be at all justified by the student enrollment in that program. Joni Finney and Bob Zemsky writing in **CrossTalk** (May 2010) addressing the issue of efficiency of the entire curriculum noted that to increase the productivity of the curriculum, colleges need to

*“constrain both student and faculty choice. We would start by having students choose not among an expanding menu of courses, but among a much shorter list of curricular pathways—that is, an ordered sequence of courses linked together by faculty design. This curricular structure would yield a much more efficient match between student needs and institutional resources. There would be fewer underenrolled courses.”* (**CrossTalk**, May 2010 <http://www.highereducation.org/crosstalk/ct0510/voices0510-zemfin.shtml> accessed 7/21/2011)

Some schools require that departments eliminate a course every time they want to add a new course and some even operate where two courses must be eliminated for every new course. This is a way to

control curriculum creep in the short run. Periodically, colleges ought to review their entire curriculum to assess its efficiency. Some schools try to control the problem of underenrolled courses by requiring that there be a certain number of students enrolled in a course before it can operate. This is a short-term solution to this problem and has a negative effect on students who had planned to take the course.

A review of college catalogues will frequently find certain courses duplicated across majors. For example, one will often find several majors offering statistics courses each with its own label on it e.g. statistics for economists, statistics for engineers, etc. Statistics is similar for all disciplines and the offering of separate courses in different disciplines may exacerbate inefficiencies in filling up all seats in a class. This issue can also often be found in writing courses where each discipline wants a writing course e.g. for business majors, for engineers, etc. If programs want specific aspects of statistics or writing for their disciplines, alternative approaches to offering unique courses would be to consider adding a one credit addendum to a general course in that area or explicitly applying the subject matter in regular disciplinary courses. Duplication of courses may occur more often in universities which operate in quite decentralized ways often known as “each tub on its own bottom” because the incentive structure requires each department or school to maximize its enrollment rather than to work together for what is best for the university as a whole.

### **Awarding of College Credit for Alternate Experiences**

In efforts to move students through the system more quickly, schools are looking at awarding more credit for tests and life experience. Among the tests that are often used are the Advanced Placement (AP) exams and College Level Examination Program (CLEP) as well as courses from the International Baccalaureate degree. In addition, some schools award students credit for portfolios which they have completed. Arizona’s public universities are expanding the number of exams they accept to allow students to test out of introductory courses

<http://www.azcentral.com/news/articles/2009/11/16/20091116collegecredits1116.html> - accessed 9/12/2012)

Giving credit for work that students have taken prior to entering college allows them to complete college more quickly and allows schools to serve more students. We need to be cautious that we do not compromise the efficacy of a college degree in getting carried away with awarding credit for life experience; we need to translate it into equivalencies to college coursework. There are now services which will opine on the life experience you have and translate it into college credit. These organizations

include Learning Counts (<http://www.learningcounts.org/Pages/Default.aspx> - accessed 9/12/2011) and the Open Badges Project (<https://wiki.mozilla.org/images/6/64/OpenBadges> -- one-pager -- [DRAFT ONLY -- version 1.4.pdf](#) - accessed 9/12/2011)

#### **B. Can you offer a three year degree program?**

*“A three year degree which is common in England and has been accepted across Europe as a part of the Bologna process, would increase efficiency and save costs in many ways...The European degree is based on college outcomes rather than seat time or credit hours which are used as the basis for degrees in the United States. In 2009 at the annual meeting of the American Council on Higher Education, Lamar Alexander, former secretary of education, urged colleges to adopt a three year degree as a way for students to save time and money.”* (Feb. 17, 2009 – Inside Higher Education (<http://www.insidehighered.com/news/2009/02/17/three> accessed July 8, 2011)

Beyond the specifically designed three year programs which are beginning to proliferate, there have always been students who have accelerated the pace of their college time to degree. As the data indicate, only 36% of students actually complete college in four years or less but it is clearly an option for students at most colleges to accelerate their movement through the curriculum by taking a combination of heavy course loads during traditional terms and when necessary or, if preferred, attending summer and special terms to get additional credit hours. In addition, students do not have to take all of the courses at their home institution so that some students will supplement the regular courses they are taking at their institution with additional courses, often on-line, from other colleges and universities and then transfer them into their home institution.

In addition to the three year degree, the University of Texas plans to experiment with reducing the time to a medical degree by articulating undergraduate and medical education to reduce the time to the MD by one to two years. (<http://www.statesman.com/news/local/ut-system-plans-a-fast-track-through-medical-1553857.html> accessed 7/24/2011). Texas Tech is starting a three year MD program and Northwestern and the University of Dayton have two year law degrees. (Inside Higher Education March 25, 2010) Two Canadian Universities, McMaster and the University of Calgary offer three year M.D. options and Lake Erie College of Osteopathic Medicine in the U.S. offers a three-year D.O. degree. The Carnegie Commission on the Advancement of Teaching is expected to come out with a new study on medical education which will recommend that consideration be given to three year medical degrees. (<http://www.carnegiefoundation.org/carnegie-perspectives/in-the-news/carnegie-medical-study-cited> accessed 7/25/11) Many schools have articulated their undergraduate degree programs with some of

their graduate degrees. For example, Mills College in California has an articulated undergraduate business program with its MBA program; in five years a student can get both a bachelor's degree and an MBA. Many more schools ought to consider articulating undergraduate and graduate degrees especially for transfer students. As a recent NY Times article questioned whether the masters degree was the new bachelor's degree, the more efficiently students can get from the start of college through their masters degree, if they want to, the more we should facilitate that. Programs like this should be able to save both institutions and students money by making the curriculum more efficient and reducing the number of years of tuition a student will have to pay.

### **C. How do you use faculty in teaching?**

Today, most faculty design their own class, construct their own syllabus and evaluation measures and deliver the course material. This has been the role of faculty for decades if not centuries. We need to consider whether this model deserves to be rethought. What if we were to unbundle the faculty teaching roles; can we separate the course design, from the course delivery from the course assessment? Many schools with large introductory classes and many for profit schools use faculty in somewhat different ways than having each faculty member develop her own course; they have course designers who develop courses which can be used multiple times and they provide the course content to course deliverers who interact with the students and guide them in learning the material that has been developed by others. The faculty job is being "unbundled," and divided into its component parts with the ability to outsource or divide the job up among a variety of people.

There are several motivations for rethinking the faculty teaching model:

- the need to assess learning outcomes consistently across the curriculum,
- the need to insure that there is consistency from one class to the next within a discipline,
- the need to operate more efficiently, and
- the recognition that faculty have different skills.

Even bringing up this topic on many campuses is a risky venture that will impact the morale of the faculty and lead to concerns that the administration does not understand faculty. It is a brave president that raises this subject and one with great political skills who can successfully have the conversation on campus. Many faculty believe that they can only excel when they are teaching a course with the material that they feel are most relevant to the topic and that this legitimately differs among faculty.

Many for profit schools are using a model where they have faculty who primarily devote their time to course design and others who deliver the content. Course design is now available from many sources including book publishers and open courseware. For example, MIT has put on-line most of its courses and this material is available at no charge to anyone.

Further unbundling of the faculty role includes standardizing the class assessments and outsourcing the grading of these exercises. Some faculty and some programs are using on-line homework with built-in tutorials and on-line grading of homework and exams.

There are some schools which use software to do their grading. SAGrader which is made by Idea Works is used at the University of Central Florida, Park University and University of Missouri at Columbia to grade work. The software can grade thousands of essays in just a few minutes. The advantages of using software to grade essays according to the faculty that are using it is that it allows them to teach large classes and give essay assignments to the class; they also find that this method of grading has a consistency to it and removes bias because the robots do not know the students. WGU, with its graders, also believes it benefits from a lack of bias by the graders. ([http://chronicle.com/article/To-Justify-Every-A-Some/128528/?sid=at&utm\\_source=at&utm\\_medium=en](http://chronicle.com/article/To-Justify-Every-A-Some/128528/?sid=at&utm_source=at&utm_medium=en) – accessed 9/12/2012)

There are other products available for grading of papers; these include Virtual TA by Edumetric and eAssessor by Pearsons. Unbundling the faculty role will not be translated into institutional savings until they are reflected in a redefinition of faculty workload acknowledging that the time involved in teaching a course has been reduced because some of the parts of it are now being done by others rather than the faculty member.

Clearly, these ideas are not for all colleges and would certainly be anathema to many faculty at our colleges today. They need to be evaluated in the context of your institution to see if they make sense in any areas of your instructional program. There is no doubt that implementation of some or all of these ideas would require significant change on the part of today's faculty. The perspective that should be used in assessing whether this makes sense for your institution is what will be the advantages and disadvantages of adopting some or all of these ways of operating on the student learning experience.

### **Increasing Productivity in Learning Outcomes**

There has been much work recently in studying how most effectively to teach students and seeing if there can be productivity improvements in the way we teach while also increasing learning outcomes.

Two major innovators in this area are Carol Twigg, President of the National Center for Academic Transformation (NCAT) and Candace Thille, Director of the Open Learning Initiative at Carnegie Mellon. Both projects are working on ways to improve student learning by using technology with artificial intelligence thus freeing up faculty to be reallocated to other activities. Carol Twigg has done major course redesign projects across the country and has data to show that learning outcomes can be significantly increased while saving large amounts of money. Her results are stunning and include cost savings of 53% in a redesigned introductory biology course at the University of Maryland which serves more than 1,000 students a year

([http://www.thencat.org/States/USM/Abstracts/SU%20Biology\\_Abstract.htm](http://www.thencat.org/States/USM/Abstracts/SU%20Biology_Abstract.htm) – accessed September 1, 2011) to a cost saving of 47% at Eastern Washington University in their Introductory Psychology course which also serves more than 1,000 students a year

([http://www.thencat.org/R2R/Abstracts/EWU\\_Abstract.htm](http://www.thencat.org/R2R/Abstracts/EWU_Abstract.htm) - accessed September 1, 2011) to a 25% saving in the redesign of introductory Spanish courses at the University of Alabama. In all cases, the learning outcomes from the redesigned courses were equal to or better than in the traditional courses almost always with reduced expenditures.

Candace Thille, Director of the Open Learning Initiative at Carnegie Mellon, has had impressive results with replacing many of the rote parts of teaching and assessment in courses with technology which both aid students in learning more effectively and provide faculty with significant information about what students are understanding in their courses so that they can fine-tune their course as the term progresses.

- *Students using a OLI course at **Carnegie Mellon University** in hybrid mode successfully learned as much material in less than half the time (i.e., they completed the course in 8 weeks with 2 class meeting per week, while traditional students completed the course in 15 weeks with 4 class meetings per week), and the OLI students demonstrated learning outcomes that were as good as or better than those of traditional students. Further, there was no significant difference in information retention between OLI students and traditional students in tests given over a semester later (Lovett, Meyer & Thille 2008).*
- *Students using OLI in the fully online mode at a **large public university** with a high proportion of English-as-a-second language learners achieved the same learning outcomes as students in traditional classes, and many more successfully completed the course. In this study of over 300 students, only 41 percent of the students in the traditional sections completed the course, while 99 percent of the students in the OLI version did so (Schunn & Patchan 2009).*
- *In a **community-college** accelerated-learning study, students in the OLI Logic and Proofs course taught by an instructor with minimal experience in teaching logic learned more material (~33*

*percent more) than students in traditional instruction and performed at higher levels on shared material (Schunn & Patchan 2009).*

<http://www.changemag.org/Archives/Back%20Issues/2011/March-April%202011/cold-rolled-steel-full.html> - accessed September 1, 2011)

The challenge with both of these initiatives is that they have not proven scalable. Each course redesign requires significant development time and resources. Once the redesign is complete, the project more than pays for itself but schools still must have the resources to devote at the front-end to the project which is a challenge for many of the most under-resourced institutions.

The fact that computer aided learning can produce better results than the traditional learning and evaluation mechanisms further reinforces the idea that the traditional faculty role ought to be reevaluated to see how to parse it both to work to the expertise of the individual as well as to best meet student needs. Twigg and Thille's initiatives challenge Baumol's cost theory of higher education. They have shown that the addition of technology can increase productivity just like in manufacturing.

### **Faculty Compensation**

Finally, there is the issue of faculty compensation. Most full-time faculty are paid a flat salary and required to teach a certain number of courses and are usually required to do some research and public service. The courses may have a few or many students in them but the pay will rarely vary based on the number of student credit hours that a faculty actually produces. If schools started looking at faculty teaching productivity in terms of numbers of student credit hours produced, there would be incentives for senior faculty to teach large introductory courses and for most faculty to dispense with the boutique courses they often favor which rarely attract many students. Some schools have gone to more innovative payment schemes. At the Business School at the University of Massachusetts at Amherst, faculty who teach on-line are provided with a base salary and then are given additional compensation if their classes have more than certain numbers of students. Relating faculty compensation to numbers of students taught can certainly have an impact on faculty productivity. This is not to imply that there is not a place for small classes but rather that overall faculty productivity in terms of numbers of students taught rather than just number of courses taught should also be considered.

Another area related to faculty compensation is the issue of faculty sabbaticals. Many schools postponed them during the recent recession. The rationale for sabbaticals is to give faculty time to refresh and work on their research projects. As many faculty do not do significant research, the need for

sabbaticals should be reevaluated. These are very expensive to provide and are a unique fringe benefit for higher education.

#### **D. Do you facilitate students transferring among colleges?**

More than 60% of first-time bachelor degree recipients attend more than one institution. (Katherine Peters and Emily Forrest Cataldi, *The Road Less Traveled? Students Who Enroll in Multiple Institutions*, NCES 2005 – 157 Washington, DC NCES U.S Govt. Printing Office) Many credits are lost in the transfer among colleges as schools often do not accept each other's credits. The reasons for this are many but basically come down to a lack of trust in the industry by one institution for another institution's work. (See paper *Promising Practices in Statewide Articulation and Transfer* by Hezel and Associates, Lumina and WICHE, July, 2010) The loss of credit is costly to students who have to purchase additional credit hours to graduate and who have to spend more time in school and for schools who have to educate more students often having students repeat work that they have already taken. Furthermore, the additional credits required of students often discourage them from continuing their studies.

A regular point of transfer is between community college and four year institutions. Students who begin their college experience at a community college and then transfer to a public four year institution can often minimize their out-of-pocket cost as the community colleges charge the lowest tuition among the segments of higher education. The cost savings can be negated if many of the student's credit hours do not count toward the bachelor's degree when they transfer. There are two main problems in insuring that the credit hours will transfer: the student must take the right courses and the college to which they transfer must accept those courses for the bachelor's degree. Students often take the 'wrong' courses because they are ill-informed about what the requirements are for the bachelor's degree. This is the role of articulation agreements whereby community colleges and four year institutions get together to agree on what a student can take at another institution in order not to lose credit when he/she transfers in to the four-year institution.

More than 20 years ago, the University of Maryland recognized this problem and worked out articulation agreements between all of the community colleges in Maryland and each of its campuses. It moved on and automated all of these agreements so that a student at any community college could go on-line and see what courses were required to transfer into any major at the University. Many of the private colleges in Maryland also joined this system which is called ARTSYS (<http://artweb.usmd.edu/> - accessed September 2, 2011)

In many states, legislation has been required so that four year institutions will accept the 60 credits from an associates degree when a student transfers to a four year institution. Even with this requirement, students often find that they need more than the required number of credit hours to graduate in their chosen major because they will be lacking courses required by the institution to which they have transferred. This is why there is also the need for articulation agreements. One of the last acts of Governor Whitman before she left office in New Jersey in 2001 was to allocate funds to implement the ARTSYS system in New Jersey. ([www.nhtransfer.org](http://www.nhtransfer.org) accessed 7/21/11)

In an effort to help increase graduation rates, Federal education officials in March, 2011 sent a “College Completion Tool Kit” to state leaders. One recommendation was called “Making it Easier for Students to Transfer Among Colleges,” which implored educators to develop general education curricula accepted by all two- and four-year institutions.

As noted previously, the City University of New York (CUNY) has mandated that all of their colleges limit the general education requirements to 42 credit hours and require that they are accepted by all the colleges in the system. Not only have there been issues of acceptance of credit hours between unrelated institutions but even institutions within the same system do not always accept each other’s credit hours and often have requirements that lead to inefficient transfer among and between institutions for the students in the system. Today, many for-profit institutions are developing articulation agreements with community colleges so that they can make it easy and efficient for these students to transfer in to their institution. Students are known to ‘shop around’ to find the institution that will accept their credits so that they do not have to repeat any work and can graduate with the minimum number of credits.

An interesting new model for transfer of credits or articulation agreements, depending on how you categorize this innovative company, is offered by StraighterLine ([www.straighterline.com](http://www.straighterline.com)). This company was founded in 2008 and offers students a range of lower division courses on-line. Students can enroll in these courses using one of three payment plans: pay by the course at \$399 a course, pay \$99 a month and take as many courses as you are able or pay \$999 for ten courses. Straighterline has articulation agreements with several colleges including Western Governor’s, Thomas Edison State and Fort Hays State among public colleges and many for profit colleges including DeVry and Capella. In addition, 23 of its courses have been evaluated by the American Council on Education credit service and recommended for college credit. This is a very economical way for students to get general education courses at their own pace and on their own schedule. It also is a very good way for colleges to accept

students who have already proven that they can do college level work so that it reduces much of the retention risk that colleges face.

Students who begin at a community college and transfer to a four year institution usually have to pay a higher tuition at the four year institution. The price difference is often a disincentive for students to continue on for their bachelor's degree. Illinois has begun a pilot program called the MAP 2+2 program. In Illinois, the State grants awarded to students at community colleges are smaller than if they were to attend a four year institution in the State. The State began a pilot program in fall 2011 whereby they will allow students at community colleges to bank the difference between what they would have received in State grant aid if they had attended a four year college and apply that additional money to the tuition at the four year institution when they transfer. The State is hoping that this will increase transfer rates as it will reduce the total cost of four years of college to the students.

(<http://www.collegeillinois.org/home/monetary-award-program-pilot.html> accessed 7/22/11)

**E. If you have off-campus requirements, are you operating efficiently – filling in where students are out of residence?**

Many schools have added a variety of requirements such as required experiences abroad, internship experiences and other activities which often take a student off-campus for a term. Most schools charge the student the home school's tuition and then pay for the student to attend the school of his or her choice. Some institutions are able to benefit from some of these arrangements when their students attend low cost programs internationally and when they do not take a lot of financial aid with them but this tends to be the exception rather than the rule. Schools also face the issue of currency risk which has become more of a problem as the dollar's value has declined in recent years. The negotiation of these arrangements and the direct financial risks to the home college can be great. Some colleges have most of the international experiences provided by another U.S. college and there are some U.S. colleges which have made this a business and welcome students from other colleges into the study abroad programs that they run.

Schools where significant numbers of upper division students spend a term away from the campus find that they are operating under capacity and need to reevaluate the size of their freshman class and their policies toward transfer students. Some institutions have gone to increasing the size of the freshman class or have looked to increase their intake of transfer students in order to compensate for the students who leave for a term. These are disequilibrium effects that many schools did not model well

when the new curricular requirements were put into place and now need to be worked through. The financial consequences of significant numbers of upper classmen being off the home campus for a term or even a year are leading some institutions to rethink these options especially where they are facing challenges in replacing these students with additional freshmen or transfer students.

These disequilibrium issues are also motivating some traditional liberal arts colleges to consider putting some of their courses on-line so that their students, while abroad, can still take courses from the home campus. This keeps the tuition revenue at the home campus and also does not diminish the enrollment as much in upper division courses.

**F. Are you offering on-line programs? Are you using open courseware?**

In the last few years, on-line programs are becoming relatively routine. Where previously they were primarily offered by the for-profit sector and some community colleges, many traditional colleges and universities have begun to offer academic programming on-line. There were some major high profile failures in this area at NYU and Columbia a few years ago where they were trying to offer branded on-line programs at high prices. This does not seem to be where the market for this product is.

According to the latest data, more than 5.6 million students which is more than 25% of all students take at least one on-line course ([http://sloanconsortium.org/publications/survey/pdf/class\\_differences.pdf](http://sloanconsortium.org/publications/survey/pdf/class_differences.pdf) accessed 9/16/11). The rationale for on-line offerings includes making sure that students are ready for the digital world, allowing institutions to use their facilities more effectively, responding to student demand, making it easier for students to take a term overseas, to reach new markets and to make money. On-line learning is usually more cost effective than in person learning because it does not require a classroom facility. On-line teaching does require a technology infrastructure but most schools already have much of that in place in order to support their on the ground courses which use chat rooms and other methods of sharing information among students and between faculty and students. Adding on-line courses often allows for greater utilization of an infrastructure that is already in place.

Many schools offer what are called hybrid courses. These are courses which typically will meet one day a week in the traditional classroom and the second class meeting is replaced by work that is done on-line. Mercy College began doing this more than ten years ago in part to free up scarce classroom space especially at the most popular hours. For example, a course which traditionally met at 10:00 on Tuesday and Thursday would only meet one day in person thus freeing up that classroom for another course on Thursday. Additional advantages of hybrid courses are that students with different learning styles often

thrive in different learning environments. The hybrid course better accommodates various learning styles.

Students in many programs with fairly structured curriculum find it very difficult to take a term abroad or off campus because it is usually difficult to be able to get the appropriate courses. When schools begin offering many of their courses on-line as well as in person, students are provided with a great deal more flexibility.

The most common motivator for going into on-line learning is to increase enrollment through reaching new markets. The motivation for this is clearly to diversify and increase institutional revenue. There are many ways that schools are doing this. Several realize they do not have the marketing expertise to do this well and are concerned about the risks such a new venture can pose to their balance sheet. A whole industry of firms which will provide a variety of the components of an on-line program to institutions has developed.

### **Partnerships for On-line Programs**

Academic Partnerships ([www.academicpartnerships.com](http://www.academicpartnerships.com)) is a company which works exclusively with State Colleges to help them convert traditional programs to on-line programs. The company does the student recruiting and works to enhance the on-line experience for students so that student retention is increased while the school provides the faculty and the curriculum and sets the admissions standards.

*“In 2008, we launched an RN to BSN program with the University of Texas in Arlington and increased its enrollment from 137 students to more than 4,000 in 20 months. In approximately the same time period, we increased enrollment from 226 to more than 4,100 in two graduate education programs for Lamar University. Since these initial efforts, we have helped public universities achieve similar results with undergraduate and graduate enrollments across the country.”*

*(<http://www.academicpartnerships.com/Trackrecord/TrackRecord.aspx> - accessed 12/14/11)*

There are many other for-profit companies which are partnering with traditional universities to help them put their programs on-line and one new not-for-profit company coming out of Excelsior University, Educators Serving Educators.

The New York Times has teamed up with several colleges and universities to offer a wide variety of continuing education and certificate programs all online ([www.nytimes.com/knowledge](http://www.nytimes.com/knowledge) - accessed

[9/12/2011](#)). These programs will usually be taught by the faculty of the respective institution or NY Times reporters and staff on the NY Times platform. They will operate on a revenue share model between the NY Times and the institution. The schools involved include the University of Southern California, Stanford, Rio Salado College, Rosemont College to name a few. Each course has its own fee. Some courses are offered for credit. Schools benefit from being a part of the NY Times website and catalogue. Schools are leveraging their accreditation with private companies to provide college courses for credit for students who can access financial aid.

### **Leveraging Strengths for New Revenue Opportunities**

Colleges and universities in their quest for more revenue are leveraging their strengths and looking for new sources of revenue. Middlebury College has formed a partnership with K12 to offer language instruction online (<http://middleburyinteractive.com/index.php> - accessed 9/12/2011). Middlebury hopes that the new venture will help more high school students learn languages, and will provide the college with more revenue (Inside Higher Education April 14, 2010).

There are some schools which have developed extensive study abroad programs and they have leveraged their expertise in this area by selling these programs to other schools and to students at other schools thus making a business out of an area of strength. Harvard for many years has commoditized its cases and sold them to others to use in teaching.

### **New Models**

Western Governor's University presents an interesting model. WGU was begun by the Governors of 19 states in 1997. It has no classes and all work is done on-line. WGU determines what competencies are required for a degree and tests for those competencies. It licenses materials and courses and course modules from others and uses available open courseware. Students have personalized degree plans and each student works with a mentor. Students pay a flat rate every six months irrespective of the number of competency units attempted and completed.

Another interesting development is the creation of the University of the People by Shai Rashef. He opened this tuition free on-line university in 2009. NYU Abu Dhabi has recently agreed to identify students from the University of the People who are eligible for admissions to this NYU campus.

Another innovative use of available curriculum is open courseware. MIT led this movement dating its beginning back to 2001. Today many universities in the U.S. and abroad are making a great deal of their curriculum accessible to anyone who wants to use it.

(<http://onlineuniversityrankings2010.com/2010/open-edu-top-50-university-open-courseware-collections/> accessed 7/18/11) On MIT's website, they encourage educators to use their curriculum in the development of their own instructional materials as well as encouraging self-learners to use the material. (<http://web.mit.edu/facts/ocw.html> accessed 7/18/11) According to MIT's last survey of site visitors (May 2010), 9.6% of all visitors were educators and 11.9% of these are incorporating OCW materials into their own materials, 18.3% are learning new teaching methods, 16.3% are finding reference materials for students and 8.9% are developing curriculum. (Source: Steve Carson, External Director MIT Open Courseware) This means that faculty are taking advantage of these free resources which MIT is providing on the web.

The potential for both faculty and student use of these resources is unlimited. Why shouldn't faculty consider using the syllabus from a course designed by world class experts? Not everyone needs to develop his own syllabus or homework assignments. "Borrowing" from others and gleaning information from others can certainly help improve the quality of what is taught. Given the existence of freely available syllabi, further begs the question of unbundling the role of faculty or at least reassessing how long each part of the job of a teaching faculty should take.

Assessing student learning in terms of outcomes and knowledge, rather than seat time, will allow students to learn through open courseware courses, life experience, independent learning and any other relevant method and then test out of these courses at their home institution. This would/could allow students to progress much more economically through their college careers.

### **7. Are you spending inefficiently on financial aid?**

One of the fastest growing and largest areas of institutional expenditure is institutional financial aid. Today, colleges and universities spend more than \$33 billion on financial aid financed from their own resources, an increase of 69% in ten years

([http://trends.collegeboard.org/downloads/Student\\_Aid\\_2010.pdf](http://trends.collegeboard.org/downloads/Student_Aid_2010.pdf) - accessed 9/11/2011). This is more than public and private institutions spend on academic support and equal to more than one third of their instructional expenditures.

## **Tuition Discounting**

Institutional aid can be financed by institutional general revenues as well as from endowment and gift income. According to the latest study by the National Association of College and University Business Officers (NACUBO), the discount rate for first-time full-time freshmen at private, non-profit colleges and universities in fall 2009 was 42.4% compared with 37.7% in 2000

([http://www.nacubo.org/Business\\_Officer\\_Magazine/Magazine\\_Archives/June\\_2010/Tuition\\_Discount\\_Shake-Up\\_.html](http://www.nacubo.org/Business_Officer_Magazine/Magazine_Archives/June_2010/Tuition_Discount_Shake-Up_.html) - accessed 9/11/2011). According to the College Board which measures the discount rate for all undergraduate students, the rate in 2008 – 09 was 33% at private, non-profit institutions and 18% at public institutions. The NACUBO data indicate that the net tuition revenue per student at the private institutions fell 2.5 percent in 2008 as compared with 2007 and only increased 1.9 percent in 2009. Between 2000 and 2007, net tuition per student had been increasing at about 5% a year which was similar to the increase in tuition. With the recent significant increases in tuition discounting, many colleges and universities are receiving little if any benefits from their tuition increases other than a great deal of negative publicity. Thus it is clear why the efficient use of financial aid is critical to the financial health of colleges and universities.

Institutional financial aid is awarded to serve multiple purposes: provide access to students who are unable to afford the published price, to shape the class with students with certain academic, athletic and other characteristics who would otherwise not choose the institution at the published price and to provide benefits to certain populations e.g. discounts to senior citizens, tuition waivers to certain populations of people, etc. According to the latest NACUBO data, 36.7% of all aid awarded at the private colleges and universities is based entirely on student financial need while 41.5% is awarded with no relationship to student need and 22.5% of awards consider both need and other student characteristics. The College Board data indicate that at the private colleges 64% of the aid awarded meets need while 24% of the awarded aid is in excess of student need and for the remaining 12% of awarded aid the relationship to student need cannot be determined. The comparable figures for the public four year institutions are 37% meeting need, 32% in excess of need and 31% cannot be determined.

## **Relationship of Student Aid to Access and Institutional Choice**

The first question to ask at the macro level is what would the result be if all aid were distributed based on student need. If the goal of increasing access and choice was the one that all institutions wanted to

maximize, what would be the implications for the number of students attending colleges and universities and what would be the implications for the distribution of students among institutions? What would happen if schools did not spend the \$8B to \$12B which do not help students meet their unmet need for college either on additional need-based aid or on support for other institutional priorities? How would the college going rate of students be affected if this aid were reallocated to need-based aid? How would institutions be able to improve their programs and services if they had these additional funds to support their activities or how much lower could the published price for college be if there were not this reallocation of money among students? Would a lower published price by itself have a positive impact on college going rates? These are all questions worthy of speculation.

Only a handful of very elite colleges award their aid entirely on the basis of need and most other colleges do not have the market position to abandon the awarding of aid based only on need if they want to fill up their institutions with the quantity and quality of students that they need. For many institutions, institutional aid is required because many students are unwilling, even if able, to pay the published price because they are not persuaded of the value proposition. From time to time, a college will significantly reduce its price and its discount rate to reposition itself but the examples of this are few and in the long-run, the schools again increase their price and their discount rate along with the price increases.

In order for the higher education system in the United States to move to a system which only provides need-based aid, institutions would have to collectively agree on this strategy. No single college or group of colleges has the market power to move such an initiative forward. Unfortunately, because of a Supreme Court ruling several years ago, colleges and universities are unable to work together to bring about such a change as it would be viewed as colluding on price setting.

Thus, given the realities of the systems we have in place and a society which values discounts, we must challenge institutions to ask if they are giving more in aid than is warranted to attract and retain their students. A large industry of consultants has grown up to help schools strategically award their aid. Many schools blindly follow the recommendations of their consultants with little or no understanding of how they are making their awards. Schools need to understand how much they are discounting to the various types of students that they are enrolling and they need to understand the yields that they are getting for different types of students given their discount rates. A simple matrix which has the key types of student characteristics that are important to the institution such as grade point average and/or SAT or ACT score along one axis and family contribution along the other axis with the cells filled in with

the average net price that the students in each of those cells is paying along with the yield of students in each of those cells. An analysis of this data, which is just the results of the institution's awarding strategy, can be very enlightening and can help an institution understand where they have chosen to put their money. Such an analysis can lead a school to reallocate some aid from groups that are less desirable to those who are more desirable and where a slightly higher discount rate for the more desirable group could have a significant impact on yield. Beyond improving on the strategic outcomes, such a process will allow institutions to reevaluate the consistency of their financial aid awarding with their values.

### **Packaging Financial Aid to Maximize Impact**

Schools often do not think through how they package their awards in terms of non-pecuniary things that can go along with the dollar award. For example, for your scholarships for high ability students, prestigious activities can make the award much more enticing. These begin with putting a name on the award which gives it prestige. Beyond naming a scholarship, a school can include invitations to special programs, dinner with the president or guests to the institution or board members, etc. Any things which will set the recipients of the scholarship apart from other students and make them feel special. Program enhancements like these can increase yield on these students without requiring an increase in the discount rate.

Other areas where schools need to review their processes deal with how and when they inform students of their awards. Many schools are less than timely in their awarding of aid and many separate out need-based from characteristic based awards so that students get their awards in pieces. Students and their families care most about the total amount of the award and are much less sensitive to the various components of the grant aid. Schools like awarding scholarships based on merit/characteristics because these awards can be made before the institution has the student's financial information and can thus be made earlier in the process. Schools often establish a two stage awarding process but they should change this process for those students who are accepted after financial aid information has been received so that all their aid can be incorporated into one letter. The aid letter is also important; it needs to make the student and his family feel special and make it clear that this student is valued and wanted by the institution. There is a lot of psychology with how students and their families relate to their acceptance and award letter. Too many schools make the financial aid award look like a bill with aid just netted out without accompanying this information with an affirming letter as to the amount of aid being provided the student.

Schools also need to think about how they inform students about the aid they may receive. Many schools will make awards to all students with certain academic characteristics. If these are easily quantified, there is a significant advantage in making this known to all potential applicants as it can have the positive effect of increasing the applicant pool by letting students know before they apply how much less than the published price they will have to pay. If you do not announce your awards until after the student is accepted, you will only be able to impact student yield rather than both applicant pool and yield.

Recently, parents have begun calling institutions to negotiate to try and get their financial aid award increased. *“By tracking data related to financial aid appeals, the financial aid office at [Nazareth College](#) found that students enrolled at the same rates (or even slightly higher rates) when their appeals were denied as when the appeals were accepted. That finding has emboldened the office to reject certain appeals and reallocate money to students whose decisions really do hinge on financial questions. It also highlights a trend of "frivolous" appeals by families who don't actually need the money. For fall 2009, students whose appeals were rejected were just as likely to enroll -- 66.7 percent -- as students whose appeals were granted. A year later, 65 percent of students whose appeals were approved enrolled, while 67.2 percent of students with denied appeals enrolled. For this fall's incoming freshman class, the gap is even wider. Only 62 percent of students whose financial aid appeals were approved ended up enrolling. For students whose appeals were denied, the number was 69.4 percent.* ( July 22, 2011 – Inside Higher Education [http://www.insidehighered.com/news/2011/07/22/nazareth\\_college\\_sees\\_higher\\_enrollment\\_rates\\_when\\_it\\_rejects\\_financial\\_aid\\_appeals](http://www.insidehighered.com/news/2011/07/22/nazareth_college_sees_higher_enrollment_rates_when_it_rejects_financial_aid_appeals) accessed 7/22/11) At many institutions there is lots of money to be saved in the presentation and awarding of financial aid with no adverse impact on the cost and shape of the class.

### **Conclusion and Recommendations**

This paper has discussed many initiatives that colleges and universities are taking to change the way they operate to reduce costs and to increase revenue. The ideas discussed range from small changes in the way business is done to transformational changes. Different schools have paid attention to different aspects of their operation while some, especially those experiencing significant financial stress, have tried to take a more comprehensive view of the changes that are possible. Several major universities have used large consulting firms to review their non-academic operations and all have concluded that there are major savings possible through streamlining of the organizational structure by reducing levels

of management, eliminating redundancies in systems and significantly changing the way procurement is done.

Below, I have listed the recommendations that I think will have the most potential for institutions in the future in terms of the efficiency of their operations as well as promoting student success.

1. Year round schooling
2. Enhancing the possibility to get a bachelor's degree in 3 years and a bachelors and master degree in 4 years
3. Enhance the efficiency of the curriculum – fewer choices and boutique courses
4. Incorporate artificial intelligence into all courses where appropriate
5. Base degrees on competency rather than seat time
6. Support course aggregators and work on developing better systems for transferring credits and for providing credit for life experience and non-traditional courses
7. Automate all student, faculty and staff service “work” processes to make them more accessible to all constituents, to decrease unnecessary labor and to make them accessible from a distance
8. Unbundle the role of faculty –teaching, research and public service and unbundle the teaching role to play to faculty strengths, to realize economies of scale and to acknowledge differences in skill sets of faculty
9. Increase operational efficiency by reducing excess reporting layers and system redundancies, improve purchasing systems and automate and integrate all processes
10. Improve facility utilization and operational efficiency including energy utilization
11. Strategically collaborate with others where outcomes will be improved and money will be saved through economies of scale

Some of these recommendations can be done by individual institutions while many will benefit from changes at the national, state, system and local levels. According to the National Governor's Association, increasing productivity in higher education will depend in part on building strong accountability systems that move away from the ones primarily in use today, which tend to emphasize inputs over outcomes and the collection and reporting of data as opposed to using the information in decision-making. (Complete to Compete from Information to Action” NGA July, 2011). This is also

echoed by the surveys of Business Officers who note that most institutions operate with insufficient information to make wise decisions. The future will see a changed world for higher education where access will be increased; there will be more choices and we hope that student success will also increase while the system becomes more productive.

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