

INTERNATIONAL JOURNAL



Volume 1 Number 2
January - December 1997



COLLEGE OF EDUCATION

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Leadership, and Technology*

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WHY QUALITY IMPROVEMENT IN HIGHER EDUCATION

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I. QUALITY IMPROVEMENT AND HIGHER EDUCATION

The external environments of all social institutions (business, government, health, the family, and education) are changing. Most institutions are adapting to these changes — most institutions except education and higher education in particular. In many ways education has remained aloof and unchanged while global competition, rapidly developing technology, diversity (sociopolitical and demographic), and increasingly limited funding are stimulating changes in many business practices, redefining health care delivery and realigning government services.

In fact, the delivery of higher learning remains amazingly similar to what was institutional a century ago. The organizational structure is essentially the same, with administrative and academic divisions still distinct and separate. The academy is still comprised of distinct colleges and departments — with little encouragement for collaboration. And the core of the academy, the faculty still reveres the independent scholar with tenure. All this in a world that increasingly stresses systems and process, cross-functional (inter-disciplinary) activities and collaboration and teamwork. In fact, our present institutions of higher education are essentially creatures of the Industrial Revolution (with some incremental adaptations) struggling to survive in the Information Age.

One of the major reasons for our failure to pro-actively respond to the challenges presented by the external environment is the mental models (paradigms) we hold concerning: 1) our relationships to the external environment; 2) the internal management of our institutions — including our beliefs concerning the teaching-learning processes. We believe the principles and practices associated with quality improvement provide a conceptual and operational framework which will allow us to revise our mental models to preserve the best of our past while developing the future (Lewis, 1995; Lewis & Smith, 1994). These principles may be summarized as:

THE FOUNDATION: KNOWLEDGE FOR IMPROVEMENT

1. Knowledge of Systems and Processes — understanding inter-dependencies and the role they play in our lives and the lives of our institutions.
2. Knowledge of Variation — understanding that variation is natural phenomena and the use of this knowledge in dealing with our physical and social worlds.
3. Knowledge of Theory — understanding that theory allows us to predict and that learning and improvement are based on the feedback we receive from prediction.
4. Knowledge of Psychology — understanding individual and social psychology and its role as the decision making basis for our institutions and the teaching learning

process. (The concept of knowledge for improvement, a system of profound knowledge is based on the work of W. Edwards Deming 1990 and 1993)

THE PILLARS

1. Commitment to Continuous Improvement - both breakthrough and incremental improvements.
2. Commitment to Customer Satisfaction - meeting the needs and expectations of our stakeholders.
3. Speaking with Facts — using meaningful data, analysis and synthesis to make—decisions.
4. Respect for People — enabling and empowering people and encouraging cooperation.

We believe the application of quality improvement principles will support a successful transition to the 21st century because they:

- build on the traditional concern for quality and quality improvement that has characterized higher education throughout the centuries and throughout the globe.
- stress an Action research model that encourages change and improvement — experimentation and management by fact. For example, the Shewhart/Deming cycle is a version of the basic scientific model: 1) Plan – analyze, study the situation; 2) Do – experiment; 3) Check – study the results; 4) Act – implement and evaluate.
- emphasize the need for a focus on outcomes (productivity, goal achievement) and understanding the processes through which outcomes are achieved.
- emphasize the continuous development and respect for human resources whether they are students, faculty or administrators.
- encourage active efforts to improve the quality of services provided by and the results achieved by higher education.
- help bridge the gap between traditionally separated (often isolated) parts of the university because they can be applied to administration, research and the teaching-learning process.
- increase our ability to deal with dynamic and complicated problems by emphasizing a “Systems” approach to both the internal activities of the university and its relationship to the external environment — particularly the society for which we are educating students and conducting research projects.

II. CHANGE AND INSTITUTIONAL VULNERABILITY

The world is changing. In fact, change and the increased speed of change may be one of the dominant characteristic of our time. Changes are taking place in all parts of the globe among both developed and third world nations. Moreover these changes involve all aspects of human life: technology, demographics, sociopolitical characteristics of societies, culture and the environment. Because of these changes, universities (at least successful universities) in the 21st Century are going to be different (changed) from their 20th Century ancestors. It is our responsibility as administrators and faculty to be aware of these changes,

to anticipate their implications and to help prepare our institutions, our nations and the planet for the emerging futures.

We can not be sure how exactly colleges/universities will change in the coming decades. That is why we speak of “futures” not the future. But, we can be sure they will be different. There is no reason to believe that these changes will have greater impact on the nature and scope of higher education than any period since the Industrial Revolution.

The basic assumptions on which this paper is based are:

1. Institutions of higher education are part of a system with their external environments — this means the local communities, regions and nations in which they are located and the global society in which we all live all have impact on their actions.
2. Institutions of higher education exist to meet the needs and/or wants of individuals, organizations and other social institutions in their external environment.
3. As part of the system(s), we import resources (students, finances, etc.) from the external environment and we export goods and/services back into the external environment. We are inter-dependent.
4. Because of these inter-dependencies we are vulnerable to changes in the external environment. Being vulnerable to changes in the external environment means that we can be harmed and reworded by these changes because they present both opportunities and threats.

Examples of the types of changes to which institutions of higher education are vulnerable include:

- Changes in the needs and/or wants of society. That is changes in the nature and scope of the goods and/or services society expects us to product
- Changes in the characteristics of individuals Reeking higher education and their expectations for their educational experience.
- Changes in the competitive field in which we operate. This may include increased competition from; 1) traditional sources and/or the emergence of new forms of competition.
- Technological changes that produce new ways to deliver the goods and Services we provide.
- Changes in access to resources and other assets required to produce our goods and services.
- Changes in the degree to which we have and control special goods and/or services.

III. CHALLENGES TO HIGHER EDUCATION IN THE 21ST CENTURY: THE DRIVERS

There are numerous factors that may influence the future of higher education. We have identified eight distinct but interrelated social developments that we believe have implications for all aspects of higher education — administration, research and the teaching-learning process. These are not the only changer likely to impact higher education in the coming decades. In some cases they may not turn out to be the most important factors. We believe, however, that they will be important. That they are drivers of the future. Moreover, we believe that they present challenges to higher education to which the principles of quality improvement can and should be applied.

1. Increasing Importance of Higher Education to Individual and National Economic Development

The first driver is the increased emphasis on the relationship between higher education and both individual economic opportunity and national economic development. The shift to an Information-Knowledge based economy has created a situation in which formal education is increasingly required to attain the competencies (knowledge, attitudes and skills) needed for economic well being. (Berryman & Bailey, 1992; Drucker, 1994; Freeman, 1994) For example, over 20 years ago Bell saw a society divided between a small prosperous technocratic elite and a large population of lower/middle income service workers (Bell, 1973). As pointed out by Snyder from the month Belles study come out, the number of middle class jobs as a share of all jobs in America fell, and has continued to fall to if Bell programmed it (Snyder, 1996). As the nature of this relationship gains recognition more demands will be made to restructure and redefine educational systems to better meet the economic needs of individuals, local communities, and nations.

Total quality principles can be used to help focus attention on meeting customer (students, employers, society) needs and expectations and the use of Profound knowledge (knowledge for Change) and the emphasis on "respect for people" can help overcome resistance to thus- developments.

2. Changes in the Workplace

The shift to an Information-Knowledge economy is generating organizational changes in: structure, employment practices and expectations for employee competencies. The result is an increasing gap between employer expectations for the competencies of college/university graduates and the competencies actually presented by graduates. In short the competencies demanded by the workplace in the 21st Century will require higher level thinking skills and continuous learning. In fact, Drucker defines an educated person in the 21st Century as, "somebody who has learned how to learn, and who continues learning especially by formal education, throughout his or her lifetime (Drucker, 1994, p. 66).

At the present time questions are being raised about the ability of higher education to meet this challenge. The question is not just the concern that we are not producing graduates with the desired competencies. There is also a growing belief that we are either unwilling or unable to produce them. One indicator of this concern is the fact that in 1995 U.S. corporations spent over 52 billion dollars on employee training programs with much of the training focused on the development of higher level competencies (Gordon, 1995). A second indicator is that some corporations are developing accredited college level degree granting academic programs of their own (Hoister, 1994). Given these conditions, universities in the 21st Century will either meet the educational expectations of employers or face increased direct competition from them for resources and students.

The total quality orientation encourages a focus on meeting customer needs and expectations and the emphasis on management by fact encourages the assessment of how well the university meets the outcome expectations of students, parents, employers and society.

3. Increased Diversity in Student Characteristics and Kinds

There is an increasing diversity in student characteristics of the higher education educational system as more women, minorities and older persons attend. Historically higher

education served a limited section of society and developed delivery systems to meet the needs of an "elite" group and the administrative needs of the institution. Meeting the needs of the 21st Century student body (the economy and the society) will require new approaches to what, how and when we deliver our educational services. The successful colleges and universities in the coming century will be those that move from a mass production model primarily driven by the needs of the institution to one that provides a variety of alternatives (customized) and is learner driven and provide a variety of alternative (customized) programs and services. The emphasis which total quality management places on principles of meeting customer needs/expectations and on using the knowledge of systems — process, variation and psychology can provide significant assistance to university administrators and faculty in satisfying these transitions.

4. Stakeholder Expectations: Consumerism and Accountability

Major stakeholders (students, parents, employers, society) are increasingly applying the principles of consumerism to their assessment of their educational experiences and the results produced by these experiences. Traditionally, academia has been the primary arbitrator of quality education. Unfortunately, we have often used this position to meet institutional and disciplinary needs rather than the needs of our stakeholders whether they be students, potential employers or even the sponsors of research activities. This was easy when the academy was the primary (in some cases exclusive) repository, transmitter and generator of knowledge. However, this is no longer the reality. We now have significant competition in all three areas. Whether we like it or not successful universities in the 21st Century will be those that do in fact add value (as determined by our stakeholder) to the lives of individuals and to the welfare of society in general.

Adopting the customer focus and systems/process orientation of total quality management can facilitate the achievement of these expectations.

5. Decreasing Confidence in Colleges and Universities

Related to the fourth trend is a decrease a decrease in the esteem (confidence, trust, etc.) given to institutions of higher education. In brief, colleges and universities are no longer held in the high (almost sacred) confidence and respect of previous generations.

The reasons for this loss of confidence are complex. In part colleges and universities suffer from the general decrease in trust in our social institutions that is associated with events such as Vietnam and Watergate. According to critics specific factors contributing to diminishing confidence include: 1) increased numbers of graduates who know the inner workings and the limitations of colleges and universities (educated consumers); 2) the lack of adequate employable skills resulting in over-educated but under-employed graduates; 3) increased recognition that colleges and universities are not the only repositories, transmitters or generators of knowledge. In fact, many stakeholders now believe the primary focus of most colleges and universities is protecting our academic disciplines and institutions rather than educating students, serving the society or generating new knowledge (some would say, usable knowledge).

Total quality management with its emphasis on customer needs/expectations and on systems-processes creates an orientation to achieving and improving outcomes that will help overcome the existing disillusionment with institutions of higher education.

6. Market Forces and Competition

The Market forces driving the increase in competition include:

- Consumers who demand clear indicators of value added for the educational dollars spent. This is reinforced by increased emphasis on institutional outcomes assessments.
- The reality of technological developments such as distance education which will effectively eliminate time and space as constraints on the teaching-learning process. (See 8 below)
- Economic conditions that exert pressure on educational institutions because of increased competition for dollars that have traditionally been available for education.
- Increased competition from the private sector in the form of corporate universities and certification and degree programs on the internet (Meister, 1994). Thus, educational institutions will have to compete for students and faculty on a national and even an international basis.

The contribution that total quality management can make to us meeting the emerging competition is reflected in Deming's "chain reaction" model for quality improvement.

1. Improve Quality
2. Costs decrease because of less rework fewer mistakes, fewer delays, snags; better use of machine-time and materials
3. Productivity Improves
4. Capture the market with better quality and lower price
5. Stay in Business
6. Provide Jobs and More Jobs (Deming, 1986, p. 3)

This model can be adapted to higher education — not just administration and research but also the teaching-learning process.

7. Decreasing Finances

The seventh challenge stems from a continuing decrease in funding for higher education at the federal, state, and local levels. Some individuals feel this is a temporary aberration primarily associated with a short-term drop in the economy and that we can look forward to increased funding in the future. Others believe that economic conditions will not get substantially better and that our funding problems will not go away.

Whatever the future, at the present time it seems reasonable to conclude that: 1) economic growth will be sorely limited than in previous decades; 2) there will be fewer funds — available for human services — including education; 3) there will be greater competition among service sectors for funding; 4) there will be greater competition among educational institutions for the available funding. In short, institutions of higher education are going to face an increasing demand to do more with less — both on the administrative and the academic side of our institutions.

There may be other ways to approach doing more with less but total quality management we reflected in the dosing quality chain reaction model presented above provides the greatest assurance of ongoing success and survival.

8. Technology and Technological Advances

The eighth force driving education into the 21st Century technology. Technological advances are bombarding all of our social institutions including higher education. For higher education a major result is that time and space are becoming less relevant as constraints on the teaching-learning process. At some point the virtual university with access anywhere and anytime will be a reality. Examples of emerging technology include:

- Computer and video technology makes it possible to develop libraries of instructional and research material that can be broadcast and/or accessed by individual students and faculty at any time from any place.
- Multi-media technology can be used to develop materials (including simulations) that can be used to customize large portions of the instructional process and even some forms of research activities.
- We can now conduct courses between any points on the globe through two-way interactive television or computers at a reasonable cost that is continually decreasing. As this technology develops it will allow colleges and universities to offer courses, training programs and even degree programs anywhere on planet earth and even space.
- We have the ability to develop simulated experiments and virtual reality laboratories.

Each of these developments and many others have major implications for how we manage the university: how and where we deliver our goods and services; the cost of our goods and services. They also have implications for who (and perhaps what) may emerge as our competition in the delivery of goods and services. How we respond to these opportunities — unfortunately some may see them as threats — will determine the level of our success in the 21st century.

The total quality phobia on continuous improvement ends the focus on meeting customer needs and expectations helps: 1) make us aware of changes in the external environment; and, 2) insure that we actively work to respond to the opportunities they present to improve the quality of the goods and services we provide.

Technological advances are also impacting the future university in at least two additional ways. First, the effects of technological advances are breaking down the historical distinctions (barriers) between fields of knowledge. This means that expectations for knowledge bases are becoming more interdisciplinary. Ultimately, these developments will require breaking down the barriers between academic disciplines and the reconfiguration of academic programs to facilitate interdisciplinary activities.

The total quality emphasis on systems/processes and cooperation encourages interdisciplinary (cross-functional) approaches and can be used to facilitate such efforts.

Second, increasing Costs are and will continue to limit the ability of colleges and universities to access advanced technology. In many cases we can not afford the technology that is actually in use outside of the university or that is needed to conduct advanced research activities. This development is and will continue to hinder our ability to be at the operational forefront — both in terms of instructional and research activities

The total quality emphasis on systems/processes and nesting customer needs and expectations can help address this challenge by encouraging the recognition of our inter dependencies with other organizations and society at large. Ultimately, they can be used to

encourage the development of partnerships with other universities, businesses, and governments to help insure that we can deliver the type and quality of goods, service and human resources needed.

IV. WITHER THE ACADEMY

Table 1 provides you with an opportunity to assess the degree to which your university is vulnerable to the trends (driving forces) identified in Section IV of this paper. Complete the form and add up your vulnerability scores. If your total vulnerability score is 16 or below you are lucky because you are either in a stable and secure environment or you are not aware of events around you. If your score is 24 or above it may be time for you to consider what quality improvement can do for you and your institution

Finally, the Chinese symbol for crisis combines the characteristics for “threat” and “opportunity.” We believe the challenges facing higher education are of the magnitude that we can appropriately talk about threat and opportunity. However, we must all be aware that the emerging future will also be characterized by an increase in competition and an increasing demand for quality, quality in the support services we provide and in the teaching-learning processes we deliver.

TABLE 1:
INSTITUTIONAL VULNERABILITY ASSESSMENT – TRENDS AND DRIVING FORCES

For your institution please indicate:

VULNERABILITY: The degree of impact that the trend is likely to have on your university in the next ten years. (Scores: 0 = none; 1 = very light; 2 = light; 3 = moderate; 4 = significant; 5 = very significant)

PROBABILITY: The probability that your university will be influenced by the trend in the next ten years. (Scores: 0 to 100)

INSTITUTIONAL VULNERABILITY ASSESSMENT - TRENDS AND DRIVING FORCES

	VULNERABILITY	PROBABILITY
1. INCREASED LINKAGES WITH ECONOMIC ISSUES	1 2 3 4 5	_____
2. CHANGES IN THE WORKPLACE	1 2 3 4 5	_____
3. INCREASED DIVERSITY IN STUDENT CHARACTERISTICS AND NEEDS	1 2 3 4 5	_____
4. INCREASED CONSUMERISM AND ACCOUNTABILITY	1 2 3 4 5	_____
5. DECREASING CONFIDENCE IN COLLEGES AND UNIVERSITIES	1 2 3 4 5	_____
6. INCREASED COMPETITION	1 2 3 4 5	_____
7. DECREASING FINANCES	1 2 3 4 5	_____
8. TECHNOLOGY AND TECHNOLOGICAL ADVANCES	1 2 3 4 5	_____
9. OTHER	1 2 3 4 5	_____
10. OTHER	1 2 3 4 5	_____

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