I. Introduction

The last few years of the twentieth century have been a period of unprecedented change. The end of the Cold War, economic restructuring, and globalization have remade the planet in ways both unexpected and unplanned. Academic institutions are in many ways at the forefront of these changes in preparing students to join the workforce of the future. Changing faculty roles, a staggering increase in knowledge and the impact of information technology have all generated a need for greater flexibility among academic institutions. Many of the universities and colleges in America have analyzed the changes needed in terms of customer satisfaction and learning effectiveness only \(^4\). Instructional Technology has become an important teaching tool in the classrooms of Colleges and Universities all over the country. Instructional Technology is still a new tool and as such, the benefits, cost of creation, and cost of implementation are still being realized. However, little consideration was given to the impact of these changes on faculty roles and rewards or on the process of applying new technology.

Universities and colleges have naively assumed that whatever modifications in methodology and technology are required would be eagerly adopted by their faculty. This has not been the case in an increasingly large segment of the America. Academic Vice Presidents are increasingly being pressured by their Boards of Regents, funding agencies and state legislatures to adopt new technology to become more efficient and effective as an academic enterprise. Yet the faculty charged with implementing these changes is at best both reluctant and tentative in their adoption. The reason for this divergence in administrative requirements and academic activity is that most faculty, unlike the administrators, have recognized the tremendous impact of these changes on their activities. Vastly increased time requirements, major changes in infrastructure and curriculum needs, coupled with questions about the validity of this learning approach and the present reward structure make widespread adoption of these technologies problematic.

The authors of this paper have been, both directly and indirectly, involved with adoption of web based learning activities to the courses offered by Southeast Missouri State University. Our experiences provide the basis for suggestions which might make this adoption process less stressful and more successful on your campus. Regardless of any advice given, the process of
applying information technology to your organization will require a major effort by all parties involved. This is neither a clean, or simple task. The task is similar to determining which is greater, an immovable object or an unstoppable force.

II. Promotion and Tenure Issues

Nearly every faculty member of every institution has at one time or another has wanted to modify the system under which promotion and tenure are rewarded. Some organizations have recently even taken the drastic step of doing away with the system entirely. Yet for most of us, the procedures and policies involving promotion and tenure are never far from our thoughts and actions. These policies influence and affect nearly every activity which is undertaken by the faculty of an academic enterprise.

The adoption of information technology and adaptation of courses to utilize it are prime examples of areas where changes in promotion and tenure policies are needed to encourage and promote these activities. Yet in a recent study presented at the National Association of Industrial Technology (NAIT) national conference, 71.4% of the respondents indicated that they had not made any changes in their promotion and tenure procedures within the last five years. Of those who had changed their policies, none of the changes had anything to do with the adoption of information technology. A further analysis of information gathered in that study indicates that the faculty activities which are considered the most important in achieving promotion and tenure are, respectively, student evaluation, juried journal articles, books published, peer evaluations and recipient of grants. The nearest category to the adoption of information technology is a item called technology based projects. It placed dead last in a list of 21 items evaluated.

Clearly the question being asked shouldn’t be when this new technology will be adopted but why do you expect the faculty to adopt it at all? Any realistic analysis of the efforts required to utilize the world wide web in a university level course reveals it to be very time intensive. Activities including web page design, web document design, document conversion into HTML format, and file transfer times are all very time consuming. Without even an acknowledgment of this effort at tenure and promotion time or merit pay times, very few faculty members would be inclined to participate.

While there are obstacles to faculty adoption of information technology, many universities and colleges see information technology as the answer to certain long standing problems. Issues involving improving teaching effectiveness, providing greater student accessibility, answering the demands of business and industry to provide graduates familiar with this technology and using information technology to enhance and improve accreditation visits are all seen as important reasons to adopt this technology.

It becomes quite apparent that there is, in many cases, a disconnect between the wishes of the administrators and the activities of the faculty. The authors have been involved in a process of analyzing these conflicting goals and have developed a few suggestions for improving the process.
III. Implementation Suggestions

Attempts to implement information technology in many academic institutions take the form of suggestions by the Provost or Deans to the faculty to update their curriculum to include computers and web based information systems. Increased computing resources and a higher student enrollment are often used as incentives for this effort. Faculty are expected to undertake these tasks as a routine part of their teaching and service responsibilities. Departments and colleges tackle these modifications as resources and time allow. Increasingly this approach is seen by many of our oversight agencies in and out of the government as being inefficient and unproductive. This piecemeal approach to the change process, while being easily implemented, is also very limited in its’ overall results. 

This is because many educators and administrators underestimate the profound impact of information technology on the learning experience. New understandings of how students effectively learn are being created, new teaching approaches have to be tried, new roles for the students, teachers and administrators have to be established. These complex changes can create intense internal stresses within an organization unless a more structured and formalized change procedure is used. Attempting to changing a university or college culture to welcome information technology is not a simple or easy task. It requires a lot of planning, resources, patience and the efforts of a lot of people.

A recent white paper by the National Council for Accreditation of Teacher Education states that in applying information technology to the 21st century classroom, universities and colleges must create a vision, develop a plan, allow experimentation and adopt a comprehensive approach. This approach would include understanding the changes needed in the infrastructure of the university, developing appropriate compensation and incentives and recognition of the effort required during tenure and merit reviews.

A more comprehensive listing of the steps involved in this type of change can be found in the writings of individuals involved with organizational change. One such approach in managing change lists ten steps in the process. These steps are:

1. Analyze the organization and its need for change.
2. Create a shared vision and common direction.
3. Separate from the past.
4. Create a sense of urgency.
5. Develop a strong leader role.
6. Line up political sponsorship.
7. Craft an implementation plan.
8. Develop enabling structures and reinforcements.
9. Communicate, involve people and be honest.
10. Monitor, refine and institutionalize change.
In applying these concepts to the application of information technology to your university or college, the authors make the following suggestions.

1. Don’t underestimate your task or the resistance of the institution to change. Very few people will welcome an increase in their workload without a greater increase in compensation. This will rarely happen. Know your organization intimately and make partnerships with both administrators, faculty and support staff. Generate win win scenarios for everyone involved. This change process will be as much a political exercise as an academic one.

2. Make sure your university or college President, Academic Vice President and computing resources and support officials are committed to this process. Without their active and vocal support, this process will go nowhere fast. You need then to be your high visibility change agents. It can’t be done without their support.

3. Expect resistance from senior faculty, departmental chairs and academic deans to your reorganization. Don’t expect to be appreciated when you upset their plans and increase their workload. They will act as gatekeepers in your change process. Expect to spend a lot of time convincing them that these changes are beneficial for everyone and are needed. Convince them that just because it wasn’t done in the past doesn’t make it any less unnecessary.

4. Develop a shared vision and a common direction for your efforts. Do this by enlisting as many viewpoints as possible from as many departments as you can. Have action groups or committees appointed by the Academic Provost, Faculty Senate, Academic Deans and department chairs as needed. Give these committees a leadership role in the development of any proposed changes that are being considered. Actively recruit anyone interested in this subject and develop them into change agents and program supporters.

5. Develop an implementation plan for applying information technology to your courses. What changes to your university or college computing infrastructure will be necessary and when they can be reliably ready to go are of crucial importance to this process. Don’t forget issues like student availability to workstations and printers on your campus, internet access and speed, and off campus availability to your web courses, web sites and reference library access. It all has to work together flawlessly for this to be a success. Check everything for glitches before you begin the semester.

6. With changing faculty roles and expectations should come changing enabling structures and reinforcements. Provide ways in which your faculty can be trained in the necessary skills needed to participate in these activities. Facilitate their participation in every way possible (training, professional development, and equipment). Reward your faculty for their efforts and activities concerning the implementation of information technology. This reward could take the form of release time or additional money for the development of a web based course. On site courses which are modified to include information technology such as Powerpoint presentations, application software and computer related
activities must have these activities acknowledged and recognized. Changes in promotion and tenure guidelines, and merit pay evaluations must recognize the efforts, time and scholarship involved. Place the application of information technology in course curriculum or the development of a web based course at least on a par with the publication of a juried article(s) or the award of a grant. Academic provosts must communicate with the appropriate academic committees concerned with merit, promotion and tenure that these activities are worthy of recognition and reward and must monitor their decisions to ensure that they haven’t forgotten it.

7. Set up a process to monitor and refine the activities of your faculty to make sure that any new changes in information technology or methodology are adopted as quickly as practicable. The ongoing process should be evaluated and modified as needed. Be honest with people about what works and what hasn’t. Make allowances for experiments that haven’t worked as planned and make sure everyone knows about your successes.

IV. Conclusion

As professional educators, it is our obligation to provide vision and leadership to our university or college. We must be aware of the changes not only in our disciplines but of the changes which can affect our profession. We cannot afford to neglect those changes or we will become obsolete. We have to recognize when existing policies and procedures are an impediment to any change that is needed and be willing to argue for relevant changes. As potential change agents, we have to be able to understand the requirements needed to implement change in our organizations and be willing to start the process. Getting the attention of key managers and presenting a convincing case, retraining ourselves as needed, restructuring our jobs as necessary, understanding that motivation is a key to this process and developing a feedback and monitoring system that makes changes to the change process as needed are all vital steps in our activities 1.

Our roles as faculty members are changing. Universities and colleges will expect us to be more efficient and effective in our teaching. Technology will change where, what and how we instruct our students. It won’t change how we are evaluated, recognized or compensated. We as professional educators must make that case for ourselves. How well we adapt to a changing environment cannot be divorced from how well our organizations also adapt. We are, as they say, all in this together. Our efforts to help universities and colleges adapt to the requirements of the 21st century require us to reevaluate the validity of the reward structure used by them. If this reward structure doesn’t adequately and fairly compensate people for their activities, then they will seek employment elsewhere. When that happens, we all are poorer. We don’t have enough good teachers and leaders to spare. We need everyone we can find to prepare our students for the 21st century.
Bibliography


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