

*Now, Tomorrow and Yesterday: A
Structured Technique for
Providing a Laboratory Setting for
Courses in Technology and
Society*

Karl Perusich & Beverly Davis
Purdue University

Teaching the “Soft” concepts

- Not easily replicated in a laboratory setting
- Difficulty in reproducing complex interactions between the coupling of technology and society
- Students must be given the opportunity to solve real-world, unpredictable, socio-technical problems
- But How?

Now, Tomorrow, and Yesterday

- Framework is modified version of the Day After methodology developed by the RAND corporation to educate key defense department personnel about major security issues and elicit information about these problems

Proposed Tech Course: Technology and Human Behavior

Beverly Davis

- **Course Description**

This course examines the relationship between technology and human behavior by investigating the intended and unintended consequences of technology utilization. Emphasis will be placed on technology and social and contemporary issues and the impact on present and future human behavior. The course encourages socio-technological analysis and student assessment of technology strategy in the workplace and our society.

A Piece of the Course.....

- A student group project will require student groups to create a future technology and evaluate, analyze and critically assess the “day after” market saturation. This will be accomplished by thorough consideration of intended utilization of said technology and the “day after” unintended consequences. Prescriptive assessment strategies will be explored.
- The capstone project for this course (35% of grade) will be devoted to investigating the technology assessment movements in the United States and other countries. **Student’s final project will be to create a valid technology assessment instrument for technological assessment.** This capstone project will be presented to the class at the end of the semester.

NOW: Socio-Technical Problem introduced

- Step One: Students provided a variety of information about a particular problem. For example a memo from an administrative authority outlining particular circumstances of developing problem. Students asked to prepare an action plan in the form of formal documentation to administrative authority

Step Two: Tomorrow

- Students asked to revise recommendations for action in light of new information offered

Yesterday: Step Three

- Students asked to place themselves in a timeframe sufficiently in the past so that actions might be taken to prevent or mitigate the problem outlined in the scenario obviating the need for the actions proposed in the first two steps
- Students required to develop alternate infrastructure or policies that would prevent the problems from occurring in the first place

Now, Tomorrow, and Yesterday

- Scenario: Fictional university decision to change current antiquated library system to an all-electronic library system eliminating all hard copies of materials



March 10, 2004

Minutes of Techno-Institute meeting on new on-line library system

Present: President Darling, Chancellor Billings, Susan Jose: Director of Library Systems, and Jordan Wallaby: Department Chair Information Technology.

- **Discussion Centered on the benefits of transference of all library information to an on-line system. The Trustees of the Techno-Institute have approved the process and the state of Kansas has earmarked \$15 million dollars towards this monumental task.**
- **A committee will be formed to determine strategic goals of the library archival process.**
- **President Darling wants to begin the process immediately and the transformation completed by Fall, 2005 semester.**
- **Committee will present a 3-4 page white paper sharing research and benchmarking efforts, and stating strategic goals, project objectives, and operational process in achieving said goals.**
- **This committee will present this paper at our meeting in May, 2004.**



MEMORANDUM FROM THE PRESIDENT'S OFFICE: TECHNO- INSTITUTE

**To: Library Archival Process Committee Member
From: President Darling**

During the next several months, transference of all library materials to our new on-line system will begin. As you know, the Trustees of the Techno-Institute have approved the process and the state of Kansas has earmarked \$15 million dollars towards this monumental task. On May 20, 2004, there will be another meeting on this important task and your committee will present your progress to that date. It is our wish that you share the following information:

- Strategic goals of the library archival process**
 - Research and Benchmarking findings**
 - Project objectives**
 - Operational process and time frame of said activities and goals**
- We look forward to your presentation at the meeting.**



May 20, 2004

Minutes of Techno-Institute meeting on new on-line library system

Present: President Darling, Chancellor Billings, Susan Jose: Director of Library Systems, and Jordan Wallaby: Department Chair Information Technology and Library Archival Committee Members

- **Discussion Centered on the benefits of transference of all library information to the on-line system. A reminder that The Trustees of the Techno-Institute have approved the process and the state of Kansas has earmarked \$15 million dollars towards this monumental task.**
- **President Darling reminded everyone that he wants the transformation completed by Fall, 2005 semester.**
- **Committee shared a 3-4 page white paper sharing related research and benchmarking examples. The committee shared strategic goals, project objectives, and operational process in achieving said goals. The process will begin immediately. By the Fall of 2004 the system will be up and running with older materials migrated last. The plan is for the entire system to be on-line by Fall, 2005 semester.**
- **This committee will update the group at the next meeting in September, 2004.**



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- **Date: September 13, 2004**
 - **From: Dr. Jerald Livingston, Department Chair: Department of English**
 - **International Hall**
 - **Techno-Institute**
 - **Toto, Kansas**
 - **To: Committee for Archiving Library Resources**

It has come to my attention that the new on-line library system is not meeting the needs of my department. Many of our students are unable to access the system and there has been no training for my faculty or students. If you were to review library statistics and the former system, you would find that the Department of English faculty and students checked out an estimated one-third of all materials. However, as it is the new system is not customer friendly and our faculty and students are left with no alternative resource for research and coursework. I would appreciate your immediate attention to this matter.



Techno-Institute

Inter-institutional memorandum

- **TO: Jonathan Weedon, Head of Personnel Services**
- **FROM: Susan Jose, Director of Library Systems**
- **DATE: September 15, 2004**
- **RE: Lay-offs and Employee Cut-backs**

As you know we recently archived our library system and our system has now migrated entirely to our new on-line system. With that said, we unfortunately have found it necessary to lay-off ten of our employees since our need for personalized services is limited to on-line communications. I would like to meet with you and discuss the details on procedure during this transformation. Please contact me at your earliest convenience.

September 26, 2004

**Lillian R. Flowers
Attorney-at- Law
2333 Suyeras Rd.
Denver, CO 85671**

President Daniel Darling:

I am an attorney representing the IEEE International organization. During the summer of 2004, you archived all library systems and created an on-line library. During the transformational process, we were not contacted about potential copyright issues. It is our contention that when archiving our copyrighted journals and other materials, you failed to seek approval and the required permissions. We would like to meet with the appropriate university representatives and university legal counsel on this matter immediately.

Until this matter is resolved, please remove our copyrighted materials from your on-line system immediately. You can reach me at 675-888-3346 and at the address above.



September 28, 2004

Minutes of Techno-Institute meeting on new on-line library system

Present: President Darling, Chancellor Billings, Susan Jose: Director of Library Systems, and Jordan Wallaby: Department Chair Information Technology, Library Archival Committee Members, Guest: Dr. Jerald Livingston

- **Committee discussed progress of library archival process. Process is nearly complete and most of the materials are on-line and available for semester utilization by faculty and students.**
- **President Darling addressed the copyright issues presented by the IEEE organization. The discussion resulted in a request that the committee investigate other potential legal issues that may surface. The committee will prepare this report and present at the next meeting. President Darling asked Susan Jose and the committee to address the IEEE situation immediately.**
- **Susan Jose informed the group of the lay-offs of ten employees. The group discussed the savings of ten salaries and how this savings could be used within the library system or university. This discussion will continue at the next meeting**
- **Guest attendee Dr. Jerald Livingston was invited as a result of recent memo. Dr. Livingston reported that his department has had no training on the system, passwords distributed to the department do not work, and most students find it difficult to access the system. Dr. Livingston requested an immediate response to this situation. The committee was asked to look into this matter and include this report at the next meeting.**
- **The committee will present a 3-4 page white paper addressing the issues brought forth in this meeting at a special November 20, 2004 meeting.**



November 20, 2004

Minutes of Techno-Institute meeting on new on-line library system

Present: President Darling, Chancellor Billings, Susan Jose: Director of Library Systems, and Jordan Wallaby: Department Chair Information Technology, Library Archival Committee Members.

- **Committee discussed progress of library archival process. Process is nearly complete and most of the materials are on-line and available for semester utilization by faculty and students.**
- **The committee had the floor and shared task results:**
- **There was a request that the committee investigate the IEEE situation and other potential legal issues that may surface:**

RESULTS:

- **The committee was also tasked to investigate the lack of access and other issues for Dr. Livingston and the English department.**

RESULTS:

- **Discussion was open for how the savings of ten employee salaries could be best utilized. This discussion will continue at the next meeting**
- **The committee will update the group at the next meeting January, 2005.**



**INTEROFFICE MEMORANDUM
TECHNO-INSTITUTE**

TO: Susan Jose: Director of Library Systems

FROM: John Purdue, Business office

DATE: December 3, 2004

RE: Exorbitant increases in costs

Recently, a rather disturbing issue has been brought to my attention from office employees. Since implementation of your new “on-line” library system, business costs have skyrocketed. Because faculty and employees have to print all of their materials from your on-line system, our printing costs have increased 150%. In addition printer materials and printer maintenance costs have jumped to \$3000 a month, up from \$1200 a month one year ago, before the archiving of library materials. This is an issue we plan to address with Chancellor Billings. This increase exceeds our yearly allocated budget; therefore the library system may have to shoulder some of the costs.

December 21, 2004

Landon R. Michaels

Attorney-at-Law

456 Bricker Building

Lawrence, Kansas 34678

675-235-8768

Ms. Jose:

I am an attorney representing ten employees that were recently relieved of their duties with your library system at Techno-Institute. We wish to meet with your university leadership, library system leadership, and your chosen university legal counsel on this matter immediately.

It would be in your best interests to schedule a meeting with our office at your earliest convenience. Settling this matter in a swift and sufficient manner will benefit all parties involved with this unfortunate incident.

Landon R. Michaels

Attorney-at-Law

rcm/lrm

ASSIGNMENT

- **Paper and Presentation:**
- **In light of recent and past occurrences, your assignment is now revisit the past and reflect on this project. Using this activity as an example, your final paper will consider the intended and unintended consequences of technology implementation and utilization. Student should critically evaluate the social implications and the institutional implications by comparing the intended and unintended implications and consequences.**
- **Student will conclude by offering a reflective, prescriptive, and theoretically-grounded strategy for technology implementation. Student should place himself/herself back in time, reflect on events and activities and offer suggestions on actions that should have been taken to prevent or mitigate the problem outlined in this scenario. Student will develop an alternate infrastructure and policy that will prevent the problems encountered from occurring in the first place.**
- **This paper and presentation will be due on the last day of the semester as a capstone project for the course.**

Course Development

- Course currently being developed
- RAND Day-After Methodology Utilized in development of this capstone activity
- Examines complex interactions and the “Unintended Consequences” of Technology and Society
- Encourages students to develop mental models and insights in application of basic knowledge and procedures to problems and promotes independent thinking