An Innovative Use of WWW for Enhancing Student Learning

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ABSTRACT

This paper discusses the experience gained from an innovative use of World Wide Web (WWW) for enhancing the student learning. WWW offers an unique opportunity for displaying audio-visual material relating to any course offered. The access is fast and without barrier as a student can access the web from the home, dorm, labs, library or workplace. Also, there is no time constraint while the network is on. The author has put a General Education course called “Total Quality and Continuous Improvement” on the web. Many timely reminders such as *important dates, assignments, projects, class schedules* and *daily agenda* are available for students to see on the web. As a result, they are better prepared when they come to the classroom. Other important features such as the *grading policy, texts and bibliography, course outline, class supplies*, and *student profiles* are also displayed. *Many web links* to other websites and home pages on subjects of interests provide a very useful tool for research and, helping students gain a broader understanding of the subject matter. As a part of a set of exercises the students are encouraged to design their own web pages covering topics related to the course. It makes learning *fun*, the students can *surf-the-net* around the globe to gain knowledge about TQM topics and the students can put the internet to serious use.

INTRODUCTION

This paper will discuss some of the advantages of using a webpage for facilitating and augmenting student learning. The title of the course on the web is “ENGR 375I: Total Quality and Continuous Improvement”. It has been designed to offer insight to students on salient and practical issues and upon successful completion of the course, the student will be able to:

- A. Define the Total Quality concepts and their implications.
- B. Identify the major components of Total Quality Management (TQM).
- C. Appreciate mission and goal setting through the strategic planning approach.
- D. Use simple statistical tools to evaluate and monitor progress of quality and other variables.
- E. Use the Variability Reduction approach to reduce or eliminate waste.
- F. Acquire and use skills related to TQM methodologies such as Quality Function Deployment (QFD) to carry out a *situation analysis*.
- G. Articulate and integrate the Total Quality concepts such as Continuous Improvement to improve their own life and work environment.
- H. Better understand and appreciate *global competitiveness* issues.

THE WEB PAGE LAYOUT

The layout of the web page is shown below. It is button driven and the students can navigate the material with ease. The students enter the website by using the following URL:

<http://www.engr.csulb.edu/~mdas>

and click the “TQM CLASS” button to get to the above screen.

THE BUTTONS

ENGR 375I: This button presents an overview of the course organization using the following format: Abstract, Introduction, Valuable Insight, GE Category & IC (Inter-disciplinary) Status, Textbook and Supplemental Bibliography.

BOOKS: This button provides a comprehensive list of books on TQM and related subjects along with complete references.

IMPORTANT DATES: All important dates during the current semester are listed along with detailed descriptions of assignments due, examinations, project calendar and holidays.

STUDENT PROFILES: The profiles of the students enrolled in the current semester are provided on the web for students to see their work experience, hardware/software knowledge, major, year in college and job objective. The list is replaced every semester.

TEAMS: Teamwork is a very valuable concept in TQM. The class is divided into teams of four students each and this page displays the members in each team with their phone/fax/e-mail addresses. This helps them to communicate regarding team-projects. This list is also replaced semester.

CLASS SUPPLIES: This page provides a list of the class supplies and tools a student must have in his/her possession by the second week of the semester.

SCHEDULE: This is the most important button listing the dates of each class. By clicking on a particular date, students get the exact agenda for that day: topics to be covered, in-class assignments, group discussion subjects and any item due for submission.

BIBLIOGRAPHY: This bibliography is provided to supplement a mandatory “Electronic Library Search” exercise after a specialized lecture/demo by an experienced library staff.

ASSIGNMENTS: This page describes the details and specifications of each assignment so that students precisely know what to do.

GENERAL INFORMATION: This page is only activated when the instructor wants to provide some hand-outs, e.g. Internet log-in procedures, how to use e-mail and newsgroups for the class, etc.

TQM CONNECTIONS: The students enrolled in the class are encouraged to visit websites developed by other institutions on different topics related to TQM (for examples, ISO 9000, Deming’s Contributions, Malcolm-Baldrige National Quality Award, etc.). The web links are provided here so that the students can visit these websites as desired.

GRADING POLICY: This page describes the grading policy with detailed break down of points to earn letter grades in the course.

CONCLUSIONS

It has been fun developing this website although it is a major task to upgrade the contents almost continuously. The students like the website as they can access it from the home, dorm, library, labs or workplace. It helps them to be better prepared for class and provides them with reminders for submitting assignments on time. In addition to the website, each student has a class account for e-mail and for participation in the class bulletin board or newsgroup. The students also take advantage of e-mail to submit assignments files provided they are equipped with proper software. In the author’s experience, the students enjoyed the high-tech teaching tool through the World Wide Web (WWW). Overall, it has a positive effect on student’s learning.

RECOMMENDATIONS

Instructors should embrace this new technology to facilitate student learning by providing *just-in-time* information for students. Further, students can be directed to do valuable research using the related websites across the globe. Additionally, it moves academic institutions towards a paperless environment which can result in considerable savings as the hard-copy distribution of class material is reduced or eliminated.

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