Coaching Quality in the College Classroom

A case study of continuous improvement

by

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Abstract

This case study explains how two faculty members responsible for teaching quality management concepts improved their course design and teaching methods. Using the management functions of planning, organizing, coordinating, and controlling as a framework they explain how they developed student-centered objectives, applied a coaching learning style, incorporated an up-to-date online curriculum, and provided their students an opportunity to obtain professional certification in the field of quality. The overall result is the offering of a course that is more attractive to students and employers, therefore improving their college's ability to compete with other business colleges.

Key words. Education, process improvement, teaching, professional certifications, total quality management

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"I enrolled in the total quality management course because it was required. I didn't think it had anything to do with my major. I was surprised to learn that the field of finance is all about quality!" "My boss said I'll get a raise if I pass the certification examination." "The woman interviewing me for a job noticed the quality certification on my resume and immediately wanted to know more." These comments come from students who recently completed a fundamentals of Total Quality Management class at a Southern business college.

Overview

In the 1990s, the college's dean and faculty realized that economic, competitive, and technological changes were forcing educational institutions to reassess the way they were providing their products and services. Therefore, they began searching for and implementing innovative improvements in their educational processes. Such improvements included the incorporation of computer technology in the classrooms, the addition of a stand-alone course in quality management, and the implementation of a "More Coaching, Less Teaching" philosophy "a student-centered method of instruction placing emphasis on student involvement as a means of personal and social development, interaction in groups, with the instructor acting as a facilitator/moderator/coach" (Vaughn 1995). This approach was recognized by the American Assembly of Collegiate Schools of Business (AACSB) as an example of innovative activity that represents some of the best practices in management education occurring in the United States (Vaughn, 1993, 1995).

The forces driving these changes have not gone away. In *The Futurist,* authors write about the move away from traditional textbooks to online classes and the competition traditional educational institutions face from Internet colleges and universities (Wagner, 2001; Cornish, 2000). Dunn goes as far as to suggest that 10 % of the public colleges and 50 % of private colleges within the United States will close by

the year 2050 (Cornish. 2000). In addition, educational accreditation organizations, such as the

Association of Collegiate Business Schools and Programs (ACBSP) and the American Assembly of

Collegiate Schools of Business (AACSB), are setting standards requiring continuous improvement,

creative approaches to teaching, active learning in educational systems, and recommendations for more

interaction between academicians and professional associations (*ACBSP Standards* 1998, Marcis and

Bland, 2001). Many businesses are turning to universities to provide additional employee training, such as

preparation courses for professional certifications, as a way to reduce training costs (Schwartz, 1997). The

professors used Fayol's (Daft 1994) and Gullicks' (Denhardt 1995) management functions of planning,

organizing, coordinating, and controlling to guide them through this process for improvement.

Planning

The first step was to envision their desired end state. What exactly did they want to achieve? They

decided their end state was to offer a course that made their college more attractive to students and future

employers, making the college more competitive. They decided they could do this in two ways: (1) by

incorporating information systems technology into the quality curriculum and (2) by offering students an

opportunity to obtain professional certification in the field of quality prior to graduation. The first

objective met the college's goal of applying state-of-the-art technology in the classroom and the second

objective contributed to the goal of making the college and its students more competitive in the

marketplace.

To accomplish these goals and objectives the professors researched their market options. First, a

review was conducted to identify information technology-based curriculum materials supporting the topic

of total quality management. The search started with a study of products available from the traditional

academic publishers. No suitable product was found. The professors then reviewed products offered by

training and consulting organizations. Again, no suitable product was found. They then researched

professional and trade organizations. It was here that they found a product by the American Society for

Quality (ASQ) titled *ASQ's Foundation in Quality Instructor-Led Learning Systems Programs--Quality*

101 prepared by the Holmes Corporation. The *Quality 101* course provided a state-of-the-art online, continuously updated, curriculum prepared by recognized experts. In addition, the student-centered focus of the product fit in well with the college's "More Coaching, Less Teaching" philosophy. The course materials included team activities, whole-class involvement, reading and writing exercises, and individual hands-on active learning beyond the classroom allowing the professors to assume facilitator/coach roles along with a teaching role. At the same time, ASQ was offering a new certification--the Certified Quality Improvement Associate (CQIA).   The CQIA opportunity is ideal for college students because it is designed for nonquality professionals and requires only two years of work experience. (For further information on the CQIA certification, the reader is referred to Hartman 2002.) Having found a product that met their objectives, the professors were ready to organize staffing, coaching plans, and financial resources for the change.

Organizing

Staffing the course was not a problem since the current college faculty could easily assume responsibility for coaching the new curriculum. However, it was decided that all faculty who coach the course would become Certified Quality Improvement Associates. They then organized a coaching plan for adopting the new curriculum. The ASQ *Quality 101* program is an Internet product consisting of narrative modules, pretests, post-tests, mastery tests, and student activities. The narrative modules cover the principles, philosophies, and applications of quality management. The principles and philosophies are covered in the first three modules: Module 1 (Quality Benefits),
Module 2 (The Evolution of Quality), and Module 3 (Total Quality Management). The applications of quality are covered in the last three modules: Module 4 (Process Management), Module 5 (Quality Tools), and Module 6 (Quality Deployment).

However, the *Quality 101* course had two shortfalls. First, the course did not contain enough material to last the length of a college semester. Second, the material lacked academic rigor. To address these concerns the coaches added more material to the subjects of quality costs, teamwork, benchmarking, six

sigma, and added information about management and planning tools and creating storyboards. Videotapes addressing key coaching points were incorporated. To add academic rigor, the professors required students to prepare quality notebooks, book reviews, and annotated bibliographies to enhance their organizing, researching, analytical thinking, and writing skills. Students also formed process improvement teams, used a continuous process improvement model to study and improve a real-world work process, and briefed their results demonstrating their process improvement, oral communication, and PowerPoint presentation skills.

Budgeting issues were more complex since the retail cost of $345 for the *Quality 101* support materials was far too expensive for college students. This hurdle was overcome when the professors were able to negotiate a volume discount price. The next budgeting issue involved how to make the course materials available to students since the university bookstore's process for ordering and paying for textbooks did not accommodate the needs of the course. After brainstorming several alternatives, the professors decided to ask the college dean to provide funds for the purchase of the curriculum materials and to allow them to distribute the materials to the students on the first day of class. The student cost was incorporated as a computer lab fee charged for the course. With the planning and organizing stages for the revised course completed, the initiative was coordinated through the appropriate university officials.

Coordinating

A formal proposal outlining the suggested course improvements and requesting approval was sent to the department chair and the college dean. Both leadership levels enthusiastically embraced the proposal and provided their full approval and support. The next steps involved coordinating the proposed changes through the vice president of academic affairs and university business offices such as the comptroller, purchasing, accounts payable, and computer information systems. After receiving the approval of all involved, course materials were ordered and the improvements implemented during the fall semester of academic year 2000-01.

Controlling

Tools used to assess and report the effectiveness of the course revisions include:

? The course evaluation instrument provided by ASQ and the Holmes Corporation.

? Grade point averages.

? Student comments.

? Number of students qualifying for an ASQ certificate of course completion (earned an 80 % or better on the mastery examination).

? The number of students passing the ASQ Certified Quality Improvement examination.

As of spring 2004, 304 students enrolled in the revised course. The grade point averages for these 304 students reflect that 79 % (239 students) earned a grade of B or better, an increase from 62 % of the students enrolled in the previous unrevised curriculum. These students also received certificates of course completion for *Quality 101* and 1.5 continuing education credits from ASQ. One hundred and seventy nine students registered to voluntarily take the ASQ Certified Quality Improvement Associate examination and 111 (18 accounting majors, 8 finance majors, 27 management majors, 4 marketing majors, 50 computer information sciences majors, and 4 undecided majors) passed becoming CQIAs. (A percentage identifying the number of students passing the examination cannot be computed because the number of students not reporting on the examination date is not available.) As of June 5, 2,879 individuals became CQIAs worldwide (Hartman 2002). Thus, the college's students account for 4 % of the worldwide CQIA certification.

Future Plans

Plans to continue improving the effectiveness of the total quality management course include:

? Adding more formative/summative assessments and statistical analysis measuring for improvements in: enthusiasm, knowledge, classroom, and student performance (Jenkins 1997).

? Surveying the college's CQIA alumni and their employers to determine if certification played a role in their employment or career advancement.

?   Identifying new funding sources for student CQIA examination fees.

Conclusion

     By improving the process used to develop and teach their course on quality management the professors created a course that is more attractive to students and employers. They did this by incorporating student-centered objectives and a coaching teaching style, using an up-to-date online curriculum, and providing students an opportunity to obtain professional certification in the field of quality. As a result, they are well on the way of meeting their initial end state of making their college more competitive in the marketplace.

REFERENCES

Association of Collegiate Business Schools and Program. (1998). *ACBSP standards and criteria for demonstrating excellence in baccalaureate/graduate degree schools and programs.*

Cornish, E. (2000). Outlook 2001. *The Futurist* (November-December).

Daft, R. (1994.) *Management*, (3rd ed.), Fort Worth, TX: The Dryden Press.

Denhardt, R. (1995). *Public administration. An action orientation*, (2nd ed), Belmont: Wadsworth Publishing Company.

Hartman, M. (2002). Developing a new kind of certification. *Quality Progress* (May).

Jenkins, Lee. (1997). *Improving student learning. Applying Deming's quality principles in classrooms*. Milwaukee: ASQ Quality Press.

Marcis, J., and E. Bland. (2001). The value of professional certifications in academe. *Atlantic Economic Journal*, 29il, 116.

Schwartz, M. (1997). Partnerships in education. *HR Focus*, 74/9, 9.

Vaughn, Percy J. (1993). *COBA Faculty Briefings,* 2/7, 110.

Vaughn , Percy J. (1995). Some quality principles and tools for education: A case study. A paper presented at the Alabama Quality Conference IV (ASQ).

Wagner, C. (2001). Outlook 2002. *The Futurist* (November-December).

BIOGRAPHIES

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Plan of Instruction for Quality 101

Course overview and online pretest

Module 1--Quality Benefits

Preparation	Student reads pp. 5-15 of textbook Student types responses to questions in the Progress Check, p. 13 Student types responses to Case Study questions, p. 14
Review	Instructor introduces module objectives and reviews lesson concepts Film: "Quality Costs" (American Society for Quality)
Application	Case Study: The True Costs of Three Sigma Baggage Handling, student text p. 14 Module 1 Handout--Quality Benefits Exercise
Transfer	Exercise applying lesson concepts to real-world student environments
Review	Review Progress Check questions. Review module objectives. Student teams prepare Quiz 1.

Module 2--The Evolution of Quality

Preparation	Student reads pp. 16-34 of textbook. Student types responses to questions in the Progress Check, p. 32. Student types responses to Case Study questions, p. 33.
Review	Instructor introduces module objectives and reviews lesson concepts. CD-ROM: "Dr. Juran Speaks" (U.S. Air Force Quality Institute) Film: "ISO 9000 Executive Briefing" (International Quality Systems) Film: "Quest for Excellence" (Malcolm Baldrige National Quality Program)
Application	Case Study: Bridging Cultures for Quality: Training is the Key Module 2 Handout--The Evolution of Quality Exercise. Review Progress. Check questions.
Transfer	Exercise applying lesson concepts to "real-world" student environments.
Review	Review Progress. Check questions. Review module objectives. Student teams prepare Quiz 2.

Module 3--Total Quality Management

Preparation	Student reads pp. 35-76 of textbook. Student types responses to questions in the Progress Check, pp. 64-65. Student types responses to Case Study questions, p. 66.
Review	Instructor introduces module objectives and reviews lesson concepts. Film: "Cornerstones of Quality" (Toastmasters International) CD-ROM; "Personal Continuous Improvement Inventory" (U.S. Air Force Quality Institute) Film: "Putnam Trust--Customer Service" (American Society for Quality)

Film: "A Journey Worth Beginning" (Baldrige National Quality Program)
Computer-based tutorial: Six Sigma (U.S. Air Force, Air Command and Staff College)

Application   Case Study: Using Baldrige Assessments to Achieve World-Class Performance
Module 3--Total Quality Management Exercise
Start Team Development Exercises Forming

Transfer   Exercise applying lesson concepts to "real-world" student environments

Review   Review Progress. Check questions. Review module objectives. Student teams prepare Quiz 3.