

## Research on Value Guidance in Quality Management Education

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**Abstract:** Under the framework of the Quality Power Nation Construction Outline, "Quality Management" serves as a core course for business management students at applied undergraduate institutions, playing a pivotal role in promoting economic transformation and meeting the needs of the people for a better life. This article focuses on the "Quality Management" course offered by Business Management program of Guangzhou City University of Technology, exploring the implementation of teaching activities based on the principles of Outcomes-Based Education (OBE). The aim is to cultivate talents for a quality-driven nation while achieving the objectives of value guidance and quality development. The article examines the optimization of course objectives through an outcome-oriented approach, delves into the integration of value-driven elements into the teaching content, iterates course design based on teaching feedback, and employs flipped classroom strategies to enhance teaching methods. This approach seeks to organically combine value guidance with professional instruction, providing a reference for nurturing a new generation of university students who possess cultural confidence, national pride, a spirit of patriotism, and a rigorous scientific mindset.

**Keywords:** Outcome-Based Education (OBE); Value Guidance; Holistic Development; Teaching Reform; Quality Management

### 1. Introduction

The pursuit of a good life represents a chapter in human evolution, embodied both in the ongoing practical endeavors of people and in the contention and integration of value orientations.[1] Quality management is an interdisciplinary field that integrates engineering science theories, mathematical statistics, and management science. It is

divided into four major modules: foundational quality management, design quality management, integrated quality management, and developmental quality management. This discipline not only serves as a vital pathway for cultivating students' quality awareness and mastery of quality management methods and techniques but also plays a key role in enhancing their overall competencies and adapting to the future demands of social and economic development.

The "Quality Management" course is a core subject offered to third-year undergraduate students in the Business Management program at Guangzhou City University of Technology. In line with the institution's applied undergraduate education orientation and the requirements for developing new liberal arts, this course focuses on fostering students' quality awareness and developing their capabilities in quality management through the application of relevant theories, tools, and methods. The curriculum covers an overview of quality management, quality management tools, quality inspection techniques, quality function deployment, orthogonal experimental design, reliability analysis design, quality management systems, Six Sigma management, quality economic analysis, service quality management, and quality management in digital technologies[2].

Regarding the reform of course value guidance, many scholars have confirmed the significance of value-driven curricula and their new teaching models. Li argues that educators should assume the mission of fostering talent, emphasizing the need to explore the value guidance of curricula while adhering to the principles of curriculum development, in order to achieve the dual objectives of knowledge transfer and capability cultivation[3]. Gao and Zong suggest that educational institutions should leverage the comprehensive influence of 360-degree moral education. This can be accomplished through classroom teaching as a core process for nurturing students, thereby

achieving an organic integration of knowledge transfer and value guidance and promoting students' all-around development through the fusion of explicit and implicit education.[4] Value-driven education within the curriculum involves integrating moral and value education into the teaching process of professional courses, subtly influencing college students' thoughts and behaviors.[5]

This article focuses on the core course "Quality Management" in the Business Management program at Guangzhou City University of Technology, exploring the implementation of value-driven educational activities based on the principles of Outcomes-Based Education (OBE). The aim is to provide new ideas for cultivating talents for a strong quality nation while achieving the goal of quality development.

## 2. Outcome-Oriented Optimization of Course Objectives

The integration of value guidance with the specialized knowledge of "Quality Management" is closely aligned to enhance students' learning outcomes. This ensures that the course objectives are integrated with the

goals of value guidance, supporting students' comprehensive development in values, knowledge, skills, and competencies.

Before the launch of the "Quality Management" course, the teaching team collaboratively developed a set of learning objectives for students based on the theory of Outcomes-Based Education (OBE). OBE was first proposed by American scholar Spady in 1981, who defined it in his work, "Outcome-Based Education: Critical Issues and Answers," as "a clear focus and organization of the educational system to ensure that students gain experiences leading to substantial success in their future lives." [6] OBE emphasizes a student-centered, outcome-oriented approach that promotes continuous development. It advocates for backward design and forward implementation, with a strong focus on personalized assessment and competency-based evaluation.

The teaching objectives for the Quality Management course, established according to the outcomes-oriented approach, encompass knowledge objectives, skill objectives, and competency objectives, as shown in Table 1.

**Table 1. Teaching Objectives for "Quality Management"**

Teaching Objectives	Objective Descriptions
Knowledge Objectives	Students will be able to understand the basic concepts, importance, and historical development of quality and quality management.
	Students will be able to master the relevant terminology, principles, standards, and regulations of quality management.
	Students will be able to learn tools and techniques such as quality cost, control charts, and Six Sigma.
	Students will be able to familiarize themselves with the ISO 9001 standard for quality management systems and the quality certification system.
Skill Objectives	Students will be able to apply quality management theories and tools to analyze and solve practical problems.
	Students will be able to master the methods of sampling inspection, process capability analysis, and statistical process control.
	Students will be able to learn to use quality management software and tools for data analysis and process improvement.
	Students will be able to learn to collaborate in a team environment to solve practical problems in quality management.
Competency Objectives	Students will be able to establish the correct concept of quality and the values of enterprise quality management.
	Students will be able to cultivate a sense of social responsibility, professional ethics, and team spirit.
	Students will be able to clearly understand and practice the spirit of patriotism, integrity, dedication, and camaraderie.
	Students will be able to enhance their scientific spirit and craftsmanship, as well as their abilities in self-directed learning and collaborative innovation.

The above course objectives align with the professional talent development plan, reflecting students' relevant capabilities and seamlessly integrating with the course content.

## 3. Deeply Integrate Value-Driven Elements into the Teaching Content

The organic integration of professional instruction and value guidance achieves a balanced educational objective that emphasizes the transmission of knowledge, enhancement of skills, and cultivation of values.[7] In the current context of promoting comprehensive quality education, we should merge moral

education courses with teaching objectives, embedding value guidance within the process of imparting professional knowledge.[8]

Integrating value-driven education into the "Quality Management" course can be approached from six dimensions: scientific philosophy, the history of disciplinary development, professional ethics, current events, regional characteristics, and cutting-edge applications. This comprehensive exploration aims to uncover the value-guiding elements within the curriculum.[9]

In the teaching design of the "Quality Management" course, we delve into the

specialized knowledge content to find points of integration with value-driven education. The historical development of quality management not only boasts significant achievements in basic research but also merits attention for its contributions to social services.[10] We have meticulously collected and organized outstanding individuals and exemplary cases from the development of quality management, creating a rich repository of value-guided case studies. These cases are closely aligned with various chapters of the "Quality Management" course, allowing value-driven education to be naturally and effectively integrated into professional learning.

In addition to collaboratively completing the "Quality Management" teaching syllabus, the course team has written teaching cases that incorporate value guidance elements. The principles for writing these cases include not only integrating value-driven elements but also ensuring they facilitate students' engagement in self-directed learning activities, achieving a subtle yet effective impact in everyday teaching. The lesson plans detail weekly teaching activities, outlining the methods for incorporating course value guidance and teaching strategies, along with the expected outcomes, as shown in Table 2.

**Table 2. Methods for Integrating Value-Driven Elements into Course Instruction**

Lesson Session	Knowledge Point	Methods of Integrating Value Guidance Elements	Expected Outcomes of Value-Driven Education
1	Basic Concepts of Quality Management	Each group selects a well-known quality management case (such as the Toyota Production System or General Electric's implementation of Six Sigma), analyzes the reasons for its success or failure, and prepares a PowerPoint presentation to report their findings.	Students can share their thoughts on quality management with team members, gaining a deeper understanding of its significance for both enterprises and the nation.
2	Pioneers of Quality Management and Their Significant Contributions	By using videos and stories, students will learn about key figures in the field and their contributions, such as W. Edwards Deming and Joseph Juran from the United States, Genichi Taguchi and Kaoru Ishikawa from Japan, and Liu Yuan Zhang from China.	Students can gain insights into the history of the discipline and renowned scholars, fostering a dedicated pursuit of quality improvement and a professional spirit.
3	Current Issues in Quality Management	By showing the video "The Story of the Pipeline," students are encouraged to reflect on whether they want to be bucket carriers or pipe repairers. This discussion is complemented by the recent news of "Luo Bo Kuaipao" launching on a large scale in Wuhan, competing with ride-hailing drivers for business, prompting students to consider the opportunities and challenges that technological innovation presents in modern society.	Using short stories, guide students to develop a correct worldview and values, encouraging them to pay attention to social issues and deeply reflect on the social responsibilities and ethical obligations that quality managers should uphold.
4	Basic Tools of Quality Management	Each group selects a quality management tool, introduces its purpose, shares a case study demonstrating how to systematically use the tool to solve quality issues, and discusses their experiences and challenges encountered during the learning and application process.	By applying tools such as Pareto charts, cause-and-effect diagrams, and histograms, students can strengthen their craftsmanship spirit of pursuing excellence and their awareness of continuous improvement.
5	Statistical Process Control (SPC)	By examining quality inspection cases, students become aware that in the automotive manufacturing industry, the quality of components is rigorously monitored through statistical process control. A single component's quality issue could lead to vehicle malfunctions during operation, jeopardizing the safety of both drivers and passengers.	Through this case study, students recognize that their future work related to quality carries significant social responsibilities.
6	Design Quality Management	Show videos of the recall incidents involving the Chinese-made Bumblebee cars and dolls from the Foshan factory to illustrate the importance of design quality and manufacturing quality through the case of the "recall controversy."	Inspire students' patriotism and instill ideals of becoming an innovative and quality-driven nation.
7	Quality Cost Management	Using Feigenbaum's cost theory as a starting point, this discussion focuses on implementing a prevention-oriented quality management approach. While prevention costs may increase by approximately 4%, this strategy can lead to an overall reduction in quality costs by around 30%, achieving excellent results.	Help students establish the philosophy that "Preparation is the key to success; without it, failure is inevitable."
8	Quality Management System (QMS)	Using the classic case of Haier smashing refrigerators to illustrate the role of quality standards, and understanding the development of Chinese quality through the standardization processes of domestic brands like BYD.	Cultivating students to set ambitious goals and aspire to improve the quality of domestic brands.

We are committed to using quality cases from modern manufacturing as a teaching guide, aiming to enhance the integration of the "Quality Management" course with value-driven education. By selecting typical quality cases from industries such as automobile manufacturing and refrigerator production, we not only explain the theories of quality management but also demonstrate their practical applications. This teaching approach not only enriches classroom content but also

invigorates the classroom atmosphere, thereby improving the quality of education. As a result, students can gain profound ideological and political education while learning specialized knowledge.

#### 4. Iterate Course Design Based on Teaching Feedback

As a widely used teaching support platform in higher education, Xuexitong plays a crucial role in the "Quality Management" course.

Instructors can leverage its rich features, such as distributing preparatory materials, conducting in-class quizzes, collecting group discussion outcomes, and assigning homework, while continuously gathering student feedback data through the platform to dynamically optimize the integration of teaching objectives and value-driven education.

Before class, instructors publish preparatory materials and test questions via Xuexitong. Once students complete these, instructors can analyze the data on the platform to assess students' preparation levels and adjust their teaching strategies accordingly. During class, instructors can utilize Xuexitong for interactive activities, such as flipping the classroom, and record students' classroom performance to provide formative assessments. After class, instructors can post practice exercises through Xuexitong and analyze students' responses to evaluate learning outcomes. Furthermore, instructors can modify their teaching designs based on students' performance evaluations, creating summary reports to further guide revisions of course objectives and value-driven goals, thereby achieving continuous improvement in teaching.

In addition, instructors obtain feedback from students regarding the value guidance of the course through conversations and surveys using Wangxunxing. This allows for timely and targeted adjustments to the value-driven teaching content and methods, enhancing the efficiency of classroom process management.

### **5. Flipped Classroom Enhances Teaching Strategies**

When designing course content and conducting teaching activities, it is essential to fully consider the individual differences among students. The identification of these differences primarily relies on a long-term and continuous feedback system aimed at monitoring learning outcomes. When formulating teaching strategies, it is crucial to ensure that all students can achieve the expected learning results within the established time and resource conditions.

The "flipped classroom" is a blended teaching model that combines modern technology with traditional teaching methods. With the rapid development of online learning resources in terms of abundance and accessibility, the flipped classroom has become a predominant

teaching model in higher education. In the context of teaching quality management, the flipped classroom is implemented in the following ways:

First, instructors prepare a wealth of teaching resources in advance, such as videos on quality management theories and practical case analyses, along with relevant reading materials and a list of questions. Students independently watch the videos and read the materials before class, engaging in preliminary learning and attempting to answer the questions, thereby forming a foundational understanding of the basic principles, methods, and important steps in quality management.

During class, instructors move away from traditional lengthy lectures and instead facilitate group discussions, case analyses, project presentations, and brainstorming sessions to guide students in exploring quality management issues in depth. For instance, for a case study of a real company's quality management practices, students are divided into groups to discuss and analyze existing problems and propose improvement methods, followed by presentations and exchanges among the groups. In this process, the instructor plays a guiding and evaluative role, helping students deepen their understanding of quality management knowledge and cultivating their problem analysis and problem-solving abilities.

Additionally, a Q&A session can be established in class where students raise questions they encounter during their studies, allowing both the instructor and classmates to provide answers, thus promoting the consolidation and expansion of knowledge. Moreover, instructors can assign practical quality management project tasks, enabling students to work in groups after class to further apply theoretical knowledge in practice, enhancing their practical skills and teamwork abilities. Through this flipped classroom model, students' engagement and initiative in quality management education can be significantly improved, thereby enhancing teaching effectiveness.

### **6. Conclusion**

This article focuses on the "Quality Management" course in the Business Administration program at Guangzhou City University of Technology, exploring the



practical implementation and research of a value-driven education model within the course. Quality management plays a crucial role in the national economic transformation and in meeting the needs of citizens for a better life. The value guidance of the course subtly influences students' ideological awareness and behavior.

The article proposes teaching objectives based on the principles of Outcome-Based Education (OBE), aiming to promote students' comprehensive development in values, knowledge, skills, and competencies through the integration of course value guidance requirements. To achieve these objectives, the article suggests methods for reconstructing the curriculum content by uncovering value-driven elements to build a repository of value-driven case studies, effectively combining specialized knowledge with value-oriented education.

The course design incorporates historical developments in quality management, notable figures, and exemplary cases to enhance students' professional ethics and social responsibility. Furthermore, the article discusses optimizing the implementation of course value guidance through iterative course design and improved teaching strategies. By utilizing teaching support platforms like Xuexitong, instructors can collect student feedback data to dynamically optimize teaching objectives and instructional design. Additionally, teaching models such as the flipped classroom are employed to increase student engagement and initiative.

The application of a value-driven teaching model in the "Quality Management" course can effectively enhance students' comprehensive competencies, preparing them to become talents suited to the future demands of social and economic development. Through this teaching model, students not only acquire specialized knowledge but also receive profound ideological and political education, achieving an organic integration of knowledge transmission and value guidance.

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