STRATEGIES FOR FUTURISTIC THINKING IN INFORMATION SYSTEMS, OPERATIONS/PRODUCTION, PROJECT MANAGEMENT AND SUPPLY CHAIN MANAGEMENT

Paper submitted for Symposium

45TH ANNUAL MEETING OF SE INFORMS

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Educational Innovation

August 10 2009

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ABSTRACT

Today's challenge is how do professors keep students engaged and teach them what they need to know for tomorrow's careers in information systems, operations/production, project management and supply chain management. In current operations/production, project management and supply chain management education, the researchers have developed a pedagogical model based on the theory of dialectical inquiry, integrating online software tools and future business trends that can ensure business students gain necessary skills and tools.

INTRODUCTION

Often teaching focuses on past proven theories and concepts and not enough on anticipating and adjusting to current and new marketplace changes. Obviously, this is a challenge for all educators in the environment of constant and rapid changes. With the rapid increase in the rate of technological changes, especially in operations/production, project management and supply chain management, faculty members are challenged not to just keep abreast of the technological changes, but additionally, to anticipate the economic, political, and social changes of the future. Leaders particularly need to proactively address the future and think about tomorrow [4, p. 397]. Guillory [8, p. 91] specifically says faculty should teach students how to lead 'futureperfect organizations' in the 21st century. In addition to the content, industry and environmental changes educators need to address, there are new teaching and learning theories emphasizing analysis and integration of material which pose a formidable challenge to course design. Sometimes teaching students how to think and placing them in situations where that can be expressed is key.

Although employers and educators are aware of this constant ongoing tension created by these rapid changes, there is very little written about bridging the gap in this disconnection. The authors have reviewed pedagogical and business related literature and conducted some experiential exercises in teaching undergraduate and MBA level information systems, operations/production management, project management and supply chain management courses to observe the impact on student's learning. Pedagogical underpinnings of the "futuristic thinking" exercises and assignments contribute to ensuring that students can develop higher order skills such as future-oriented thinking and integrate them into operational technologies and processes. These exercises and assignments can also better prepare students for the rapid marketplace changes that are sure to assail them in the future.

THEORETICAL AND PEDAGOGICAL BACKGROUND

There are many tools and techniques used to simulate actual decision making among students while they are still developing their discipline-based skill set. Case analysis and exercises are two primary tools utilized for enhancing experiential learning among students, whether in the classroom, or in on-line learning situations. Most experiential learning techniques attempt to

engage the student [10], making it more vivid, and eliciting reactions or decisions based on realistic or real world situations and circumstances [10] [11]. Specifically, any time a student can be placed in the role of a decision maker, for purposes of learning, the results seem to be more profound and meaningful [7]. In technical fields, like operations/production, project management and supply chain management, there is a critical need in higher education not to simply teach students information and methods/techniques, but to teach students how to think critically in a dynamically changing environment [3] [5] [9].

NEED FOR FUTURISTIC THINKING

The business challenges in the workplace have been escalating, forcing organizations and their leaders to anticipate "discontinuous change" [13, 1999, p. 146]. As opposed to simply learning about the past and gaining insight from historical decisions, managers and employees will need to "anticipate the future" [14, p. 55] [4]. To be successful, today's leaders must be able to seize upon opportunities, stay abreast of changes, remain flexible and "visualize futures" [6, p. 107] [3]. Students preparing for future careers must be able to "critically analyze the position of a firm and envision where *future value* can be created for customers" [1, p. 48].

Looking toward the future, successful organizations increasingly are realizing that they must increasingly "adapt or even anticipate (quantum-thinking) future transformation in organizational operation" [8, p. 91]. In their research of accounting students, Springer and Borthick [12, p. 19] examined differences in student exam scores for those who were exposed to the traditional dialectical learning process of lecturing, with those who experienced coverage of accounting concepts in a more innovative learning process of higher order learning, where students are asked to comprehend and respond to business dilemmas with future strategies/action plans. As a group, the students are challenged to use higher order skills to "analyze the effects of assumptions on decisions", to present their scenarios, and to defend their ideas against "competing viewpoints" scored significantly higher than those who were asked to find the correct answer to the typical accounting problem, which is the traditional "intellective task". In a similar fashion, research by Mukherjee [9, p. 174] gives examples how faculty in MIS/CIS classes use higher order thinking skill exercises to promote critical thinking and problem analysis. 'Scenario planning' is another technique used by faculty to teach marketing strategy skills by Van Doren an dSmith [13, p. 146]

SUMMARY OF THE SYMPOSIUM

This Symposium will explore how educators need to intentionally shape course content and delivery. Through careful course and pedagogical design, students can become astute critical thinkers. Panelists will illustrate how they structure learning for students through the choice of experiential exercises that are aligned to specific higher order critical thinking skills, based on the theoretical framework of Bloom [2]. Through their assignments, panelists will show how to build student skills from comprehension and analysis to synthesis and evaluation, in their various discipline areas. In addition, the research provides anecdotal evidence of the success of this pedagogical technique using online platform tools. The Symposium Session will conclude with a section soliciting ideas, suggestions, recommendations and experiences from the faculty audience who teach courses that utilize operations, production, project management, and supply chain management concepts and skills, and how they can benefit from the futuristic thinking framework model.

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