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OIL AND WATER: CAN INTEGRATING HUMANITIES AND MANAGEMENT IN THE BUSINESS CLASSROOM IMPROVE CRITICAL THINKING SKILLS?

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Developing critical thinkers is an objective of businesses, higher education, and accrediting institutions. Business educators are challenged with how to teach critical thinking skills and how to evaluate the effectiveness of these methods. This quasi-experimental study used a pretest-posttest design with a control group to assess critical thinking skills in undergraduate business students enrolled in Organizational Behavior classes. The hypothesis was that using the humanities to teach business concepts would improve student critical thinking as assessed by the California Critical Thinking Skills Test (CCTST). The literature revealed many case studies and how-to articles; however, there was a gap in quantitative analysis. The results of an ANOVA analysis showed a significant effect of teaching method on CCTST scores. This study represented an initial quantitative investigation of a pedagogical intervention aimed at impacting critical thinking in business students.

INTRODUCTION

Horner (1954) defined the optimal end-product of a business education as a student developing broad comprehension, the ability to understand with reason, a sense of tolerance, and critical inquisitiveness - Critical thinkers. Over half a century later the government, accrediting agencies, businesses, and institutions of higher education are requesting this skill of college/university graduates. Business educators are challenged with how to teach critical thinking skills and how to evaluate the effectiveness of these methods. Smith (2003) found business faculty rarely taught critical thinking content, but rather integrated critical thinking material through assignments and course activities. Ackerman, Gross, and Perner's (2003) qualitative study showed that business students were positive about critical thinking assignment even if they perceived them as more time-consuming, and business instructors with longer teaching experience were less positive about them for undocumented reasons. Others have suggested an active and collaborative vs. traditional, lecture-based learning environment to foster critical thinking, and recommended creative teaching tools and resources such as incorporation of information from other disciplines into the educational experience (Dickerson, 2005; Aram & Noble, 1999). Pedagogical practices such as problem-based learning (case studies), course-content-embedded learning (discussions, scaffolding, debates), and critical reflection/critical theory/critical systems theory have been used by business educators to develop critical thinking learning outcomes (Braun, 2004; Athanassiou, McNett, & Harvey, 2003; Clabaugh, Forbes, & Clabaugh, 1995).

Using the humanities to teach business concepts connects seemingly unrelated ideas and requires students to analyze, synthesize, and evaluate which develops critical thinking skills. The humanities, as a collection of disciplines outside business, include art, music, religion, literature, philosophy, and history to explore the human condition (Bruderle, 1994). Through a painting, work of fiction, or a

song students discover, debate, question, and reflect on what it means to be human and operate in society. Students view issues from multiple perspectives within the humanities, which requires application and analysis of critical thinking skills to assess (Bumpus, 2005). Pina e Cunha, Vieira da Cunha, and Cabral-Cardoso (2004) suggested that by exploring knowledge from different perspectives, new knowledge is generated.

While traditional assessment methods are still valuable, alternative methods of assessing learning outcomes are needed for new pedagogies, in order to benchmark their effectiveness (Serva & Fuller, 2004; Garfield, 1994; Braun, 2004). In a traditional classroom environment, assessment of student learning focuses on tests, projects, and assignments that generate points and/or a grade (Linn & Miller, 2005; Wiggins, 1993). Clabaugh, Forbes, and Clabaugh (1995) used course grades to measure critical thinking in a redesigned personal selling course and found preliminarily that critical thinking skills were higher in the redesigned course; whereas, Athanassiou, McNett, and Harvey (2003) developed the Checklist instrument to assess critical thinking in undergraduate business students.

Campbell, Heriot, and Finney (2006) challenged business educators to understand the distinction between curriculum and pedagogical changes. Curriculum is the content or what is taught. Pedagogy is the strategies, techniques, and approaches to teaching. This study did not change the content of what was taught. Organizational Behavior material was the basis of the curriculum. However, how that knowledge was imparted, was modified through the technique of using or incorporating the humanities. The hypothesis was that using the humanities to teach business concepts in an undergraduate Organizational Behavior class would improve student critical thinking as assessed by the California Critical Thinking Skills Test (CCTST).

THEORY

Bloom's (1956) original taxonomy provided a theoretical framework for this study. It is a hierarchy of cognitive development from simple to complex which includes:

- Knowledge: recall of previously learned material
- Comprehension: an awareness of the materials meaning
- Application: uses data, principles, and theory to answer questions
- Analysis: breaks down material
- Synthesis: recombines material to form new entity
- Evaluation: judging the value of the material (Bloom, 1956; Athanassiou, McNett, & Harvey, 2003)

Clabaugh, Forbes, and Clabaugh (1995) suggested higher order thinking or critical thinking occurs in the application, analysis, synthesis, and evaluation levels. Using humanities to teach business concepts through lecture, assignments, and exams created an environment of application, analysis, synthesis, and evaluation by examining management concepts from multiple perspectives.

The revised Bloom's taxonomy (Anderson & Krathwohl, 2001) presents a two-dimensional model, which incorporates both the kind of knowledge to be learned (knowledge dimension) and the process used to learn (cognitive process). In relation to critical thinking the revised taxonomy interchanged the order of synthesis (create) and evaluation (evaluate). This change reflects current thought in education that creative thinking is a more complex form of thinking than evaluative thinking.

Discussing Malcolm X (Worth, M., Perl, A., & Lee, S., 1992) as a historical example of servant leadership requires a student to apply their knowledge of his life, work, and motives to the concept of servant leadership. In order to effectively see the connection, a student needs to break down the events in Malcolm X's life, and then pull those pieces back together to synthesize it with the servant leadership concepts. The student evaluates whether Malcolm X was truly a servant leader. Creating occurs when students reorganize elements of this discussion into a new pattern of how this information would benefit a manager.

LITERATURE REVIEW

The literature of using the humanities as a business pedagogy tool is replete with valuable how-to case studies; however, an assessment of the humanities intervention with a valid and reliable instrument was lacking. Cowen (1992) explained how art, history, and art administration could be used to enhance leadership understanding. Small (2006) recommended integrating history and philosophy into the

business ethics pedagogy. Bruderle (1994) and Mockler (2002) presented examples of how to use the arts to enhance management and leadership skills. Fiction, poetry, music, and film were means of developing management skills in several case studies (Cowden, 1989; Harrington & Griffin, 1990; Shaw & Locke, 1993; Gallos, 1997; Cohen, 1998; Gallos, 1993; Bumpus, 2005; Baker, 1993; Powell & Veiga, 1986). The authors provided exceptional detail and examples on how to use the humanities as a business pedagogy tool. However, this literature did not include an assessment of the intervention, and did not contribute to business education's understanding of the effectiveness of the intervention.

Using Shakespeare's *Henry V* and *Richard III*, Stevenson (1996) taught transformational and charismatic leadership, vision, legitimacy, and followers. The study used a class questionnaire to solicit qualitative data from the students (n=25) post-Shakespeare, in which students responded favorably. Bumpus (2000) used the novel *Brothers and Sisters* to teach human resources management. Concepts such as glass ceiling, sexual harassment, diversity, staffing, motivation, performance appraisal, discipline, and job analysis/planning emerged from the discussion of the novel. This study conducted a post-reading survey, which found 92% of the students felt the novel was appropriately connected to course objectives. Arts and literature have also been used to teach leadership (Harrison & Akinc, 2000). A university-based course evaluation measured student response (n=15) to the class, in which 93% felt they developed critical thinking. Others used poetry and the visual arts to teach emotional intelligence (Morris, Urbanski, & Fuller, 2005). This study used grades on assignments and projects to assess the impact of the humanities intervention. No data was reported from the study. While this literature presented preliminary studies on integrating humanities, it failed to show cause and effect or a relationship between the intervention and critical thinking.

METHODOLOGY

Intervention

The intervention of using the humanities to teach business concepts was applied to two of three Organizational Behavior classes conducted during spring 2007 at a private, liberal arts college in the upper Midwest. The study was a quasi-experimental design with a control group. The control group followed the textbook content for lectures, assignments, and exams. No use of the humanities into the business pedagogy was done.

In the experimental classes, lectures, assignments, and exams connected humanities to business topics. For example, the photo exhibit, *Jews of the Luthertown Wittenberg in the Third Reich*, which told the story of 71 Jews living in the birthplace of the Reformation during the Holocaust, was used for a in-class discussion on progressive

discipline, the enforcement of policies/rules, and implications for managers.

Three out of fourteen assignments connected humanities to business topics. The reading of Nickle and Dimed and Bridges out of Poverty required students to discuss three Organizational Behavior (OB) concepts such as ethics, motivation, and teams from the texts and ways managers could respond to working with a working-poor employee population under each OB concept. Applying Gallos (1993) approach to understanding divergent interpretations of the

same event or perceptions through film, students watched Crash and used one scene to describe all the perceptions of the characters involved including the viewer, and assess the benefits of multiple perceptions to a manager. Using the Harrison and Akinc (2000) model of the humanities assignment, teams connected humanities examples to Organizational Behavior concept. These were 55 minute team lectures with no Powerpoint. Class engagement was required. Teams were challenged to discover the connection between the examples and the OB concept (Table 1).

Table 1: Sample Team Projects

<p>The topic is extrinsic & intrinsic motivation. For this assignment you will need to read, view, and incorporate the following into your discussion:</p>	<p>The topic is traps of decision-making. For this assignment you will need to read, view, and incorporate the following into your discussion.</p>
<ul style="list-style-type: none"> • Movie – <i>Rudy</i> • <i>Learn What Motivates Your Employees</i> - McConnell • Short Story <i>A Hunger Artist</i> Kafka • Song – <i>Amazing Grace</i> • Suze Orman's <i>Young, Fabulous, and Broke</i> • Vince Lombardi speech – <i>What It Takes To Be #1</i> 	<ul style="list-style-type: none"> • <i>The Hidden Traps in Decision Making</i>, Hammond, Kenney, & Raiffa • The song by the Clash – <i>Should I come or should I go</i> • The Prisoners' dilemma – concept • Episode of <i>General Hospital</i> • Six thinking hats – decision making concept tool • The sculpture <i>The Thinker</i> by Rodin • Movie <i>12 Angry Men</i>

Three exams during the semester connected humanities to business concepts through an essay-only format. All questions tested knowledge, comprehension, application, analysis, and synthesis using the lectures, readings, and team assignments. A question using *12 Angry Men* included defining and identifying a decision-making anchoring trap from the film, and using a particular scene to explain what stage of team development they were in and why.

Design and Sample

This quasi-experimental study used a pretest-posttest design with a control group to assess critical thinking skills in undergraduate business students enrolled in Organizational Behavior classes during spring 2007 in an upper Midwest private college. A convenience sample was drawn from students enrolled in Organizational Behavior during spring 2007 (n=49). The control group (n=16) was one section and the experimental group (n=33) was two sections. Each group experienced participant mortality (control group mortality n=6, experimental group mortality n=7). Participants who did not complete both pre- and posttest were not included in the study. Participation in the study was voluntary. Permission from the Institutional Review Board (IRB) was obtained through a college in the Midwest.

Instrument

The study assessed student critical thinking using the California Critical Thinking Skills Test (CCTST) (Facione & Facione, 1993). The CCTST, a 34 multiple choice question instrument, assessed college-age individual's core critical thinking skills of analysis, inference, evaluation, and inductive/deductive reasoning. Analysis referred to comprehension and interpretation. Inference was the ability to draw conclusions. Evaluation was the assessment of reason and plausibility of statements. Inductive reason drew conclusions from inferences and deductive reasoning drew conclusions from logic. The subcategories scores did not add up directly to the total score. The CCTST was available in paper and pencil and on-line in version Form A, Form B, and Form 2000. The study employed the paper and pencil version of Form A, which was estimated to take 45 minutes to complete. Data was collected during the 2nd and 15th weeks of a 16 week semester. Several studies have concluded that the CCTST is reliable, concurrent valid, content validity and has pre- post-testability (Staib, 2003; Brody et al., 2001; Brunt, 2005; Adams et al., 1996). The CCTST has been used extensively in the nursing and healthcare disciplines to assess pedagogical interventions and measure critical thinking in undergraduate students (Chau et al., 2001; Saucier, Stevens, & Williams, 2000; Velde, Wittman, & Vos, 2006; Wheeler & Collins, 2003).

RESULTS

The demographic data (Table 2) reflected gender, class level, and ethnicity of the experimental and control groups. The experimental group had more females than males,

whereas the control group had more males. The experimental group had a large number of sophomores, and the control group had a larger number of juniors. Both groups were predominately Caucasian. The group sizes were not equal.

Table 2: Demographics

Group	N	Females	Males	Class level	Ethnicity
Experimental	33	21	12	2 seniors 9 juniors 22 sophomores	2 Asian-Americans 1 Mixed/other 30 Caucasians
Control	16	7	9	1 senior 12 juniors 3 sophomores	16 Caucasian

Using the overall CCTST score for informal analysis, there were differences between the pretest scores and the posttest scores for the experimental and control groups. The mean for the experimental pretest was less than the control group (Table 3). There was greater variability in the control pretest scores than in the experimental group. While there

were two outliers in the experimental pretest scores, both experimental and control pretest scores were approximately normally distributed. In the experimental posttest, the mean was higher than the control group (Table 4). The control posttest scores had greater variability and skewness than the experimental posttest scores.

Table 3: Pretest Scores

Method	Mean	N	Std. Deviation
experimental	17.15	33	3.318
Control	18.69	16	6.405
Total	17.65	49	4.549

Table 4: Posttest Scores

Method	Mean	N	Std. Deviation
experimental	16.12	33	3.228
Control	15.69	16	5.654
Total	15.98	49	4.121

To test the ANOVA assumptions and conduct the one-way between subject ANOVA analysis the difference between the posttest and the pretest scores was used (Table

5). Both groups experienced a decrease in their posttest scores resulting in a negative mean difference.

Table 5: Posttest-Pretest (mean difference)

Method	Mean	N	Std. Deviation
experimental	-1.03	33	3.704
Control	-3.00	16	3.266
Total	-1.67	49	3.654

The assumption of homogeneity of variance was not violated. Using the Levene's test, the null hypothesis was that the variances were equal. This was confirmed by a non-

significant ($p > .05$). The assumption of normal distribution was not violated. The pretest scores, posttest scores, and difference residuals all approximated normal distributions.

The ANOVA analysis found there was a significant effect of teaching method on CCTST scores, $F(1,47) = 3.280$, $p = .0385$ (one-tailed test, $p < .05$).

DISCUSSION

This study proposed that using the humanities to teach business concepts in an undergraduate Organizational Behavior class would improve student critical thinking as assessed by the California Critical Thinking Skills Test (CCTST). The results indicated a mixed response. The decline in the posttest CCTST score in both the experimental and control groups, could argue against the hypothesis, or there was no improvement. However, there was statistical significance in the difference between the experimental and the control group with the experimental group experiencing less of a decline in CCTST than the control group. What could have contributed to this decline in scores? The end of the school year may have had some influence on the decline. With only weeks before summer break, many students are focused on finishing projects, writing papers, and studying for finals. The ability to concentrate on a critical thinking exercise may have been impaired. As future researcher plan on conducting similar experiments, fall semester or a full school year may provide not only more data, but data not influenced by the end of year school events.

Another issue derived from the results is practical significance. While the difference in means between the experimental and control group was statistically significant, the $R^2 = .065$, suggested the results were not practically significant because on 6.5% of the variability in overall CCTST scores was explained by the intervention; whereas residual error or within group variability contributed over 90% of the variability in the overall CCTST scores. The large residual error may be due to confounding variables outside the scope of this study. Future research may wish to explore with an ANCOVA design.

While the study results suggested using humanities to teach business concepts did influence students' critical thinking skills, there were limitations to the study. As the demographic data attested, these groups were very homogeneous. The lack of ethnic diversity in the student make-up may have attributed to common responses on the CCTST. The strong liberal arts emphasis throughout the 4-year curriculum, particularly in requirements, of the Midwest college could have created a homogenous intervening variable. The control and experimental groups were of unequal size, which can contribute to an increase in Type I errors. This study was conducted over one semester. A longitudinal study design would provide a richer data set and provide for more equal groups.

Finally there were instrument limitations. The same form of the instrument was used for the pretest and posttest, which may have resulted in test-retest issues. The students' experience with the instrument from the first data collection may have influenced their answers on the subsequent and final data collection, which were thirteen weeks apart.

Future studies might wish to use one form of the test for the pretest and another for the posttest. Additionally, several students commented on the uncomfortable language and wording of the CCTST Form A questions and answers. This may have led students to guess as opposed to fully thinking through the questions and answers.

CONCLUSION

As an initial quantitative exploration of the pedagogical intervention of using humanities to teach business concepts, this study revealed that there was a significant impact on student's critical thinking. The importance of critical thinking skills and the ability to measure it are vital to our students, departments, and institutions. However, the thought of combining humanities and business to many business faculty is akin to combining oil and water. Spreadsheets and case studies are the tools of trade, and not a bible passage or an opera. These items are not included with the textbook, teaching Powerpoints, or test banks. Alternative teaching methods have the potential to create a richer and more engaging learning experience for the students, but they are a challenge for educators. Researching the literature is one method of finding out how others have incorporated humanities to teach business, but this material requires jumping in and working within it – baby steps or taking the big plunge (Mather, 1961). In addition more research on the effectiveness of alternative teaching methods is needed to support pedagogical change in the classroom. These teaching methods can be a lot of fun, but are the student's learning or learning in a better way – this is the reason we teach.

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