THE IMPACT OF AN “ETHICS ACROSS THE CURRICULUM” INITIATIVE ON THE COGNITIVE MORAL DEVELOPMENT OF BUSINESS SCHOOL UNDERGRADUATES

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INTRODUCTION

“To know the good is to choose the good”

Socrates

The reason for business schools to care about supporting moral development in their students can, unfortunately, be gleaned from almost any day’s Wall Street Journal. The business community in this country has experienced scandals involving a myriad of unethical and illegal business practices, many of them committed in large and well-known firms. A study cited by St. Pierre, Nelson, and Gabbin (1990) found that 62% of Fortune 500 firms were guilty of illegal acts within a 10-year period (Richards, 1999).

Development of moral judgment skills in businessmen and women is a key competency for universities. Because business schools provide a key input into the private sector in terms of employees with skills and abilities in business administration, business schools must participate to enable and sustain private sector efforts to combine social justice and economic prosperity (Godfrey, 1999). Management education influences management practice, for good or ill, so business schools have an obligation to provide a moral, not merely a market, education for future managers (Godfrey, 1999). While there is an established role in the education of business students for developing the moral decision-making abilities
of our future business leaders, the question researchers struggle with is how best to accomplish this goal.

This research examines one answer to that question by evaluating an “ethics across the curriculum” program at a small, Catholic university in Texas (referred to as the target university). For the last three years, all business students at this university (whether they have a business major or minor) were exposed to either a didactic and/or an experiential ethical component in each business class. In addition, all students at this university are required to complete as many as four ethically oriented courses. However, non-ethics courses outside of the business school do not uniformly include an ethics component. The goal of this research was to determine whether the additional exposure to moral decision-making concepts in the business school led to a higher level of cognitive moral development (the ability to analyze situations and identify ethical decisions). This study measured the level of moral development of senior business majors and compared them to seniors with non-business majors at the same university and with senior business majors at another university without a defined ethics component in its curriculum. The recently revised Defining Issues Test 2 (Rest, 1979/1999), based on the definitions for cognitive moral development developed by Lawrence Kohlberg (1981), is used to measure the level of cognitive moral development of each group.

The next section will present a review of literature covering the prior work in moral/ethical development, measurement of moral judgment, and efficacious ethical education

LITERATURE REVIEW

This section will provide the background and support for this research through a literature review by examining the following:

- Kohlberg's research on cognitive moral development
- Measurement of moral judgment: the Defining Issues Test instrument
- Research exploring moral development and education
- Research exploring the moral development of business students

Kohlberg’s Research on Cognitive Moral Development

The foundational theory for this research is Lawrence Kohlberg’s theory of cognitive moral development. Kohlberg’s theory maintains that there is a universal pathway for all human moral development that moves
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through 6 age-related stages with justice (meaning equity, respect/dignity for all persons, liberty, and reciprocity) as its apex. While all people advance through the same stages, they do not all advance at the same rate or by the same age. It is also possible in Kohlberg's scheme to plateau at a lower stage and never advance to the higher stages.

Kohlberg’s six stages of moral development are presented in Table 1. Kohlberg organized his stages into three general levels: Pre-conventional, Conventional, and Principled (Reimer, Paolitto, & Hersh, 1983).

**Table 1: Kohlberg’s Stages of Moral Development**

<table>
<thead>
<tr>
<th>Moral Development Level and Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level I: Pre-conventional</strong></td>
</tr>
<tr>
<td>Stage 1: Punishment and Obedience</td>
</tr>
<tr>
<td>Toddler: One to Three Years</td>
</tr>
<tr>
<td>Stage 2: Instrumental Exchange</td>
</tr>
<tr>
<td>Preschool: Three to Six Years</td>
</tr>
<tr>
<td><strong>Level II: Conventional</strong></td>
</tr>
<tr>
<td>Stage 3: Interpersonal Conformity</td>
</tr>
<tr>
<td>(good boy-nice girl orientation)</td>
</tr>
<tr>
<td>Middle Childhood: Six to Twelve Years</td>
</tr>
<tr>
<td>Stage 4: Social system and conscience maintenance</td>
</tr>
<tr>
<td>(law and order orientation)</td>
</tr>
<tr>
<td>Adolescence through Adulthood: Twelve Years and above</td>
</tr>
<tr>
<td><strong>Level III: Principled</strong></td>
</tr>
<tr>
<td>Stage 5: Prior rights and social contract</td>
</tr>
<tr>
<td>Stage 6: Universal ethical principles</td>
</tr>
</tbody>
</table>

**Measurement of Moral Judgment: The Defining Issues Test**

James Rest developed an alternative approach to Kohlberg's original instrument, the Moral Judgment Interview. Rest’s instrument, the Defining Issues Test (DIT), eliminated the interview and allowed for easy, rapid, and accurate scoring. The DIT, developed in 1976, measures moral development as a continuous variable (0-95), with developmental stages
very similar to Kohlberg’s expressed as ranges within the data set. The DIT has been used extensively to test the tenets of Kohlberg’s theory of moral development, most of which have continued to find empirical support (Rest, Narvaez, Bebeau, & Thoma, 1999).

When examining changes in DIT scores for evidence of advancing moral development, the slow, long-term nature of cognitive development must be taken into account. It is important to recognize that a period of time must elapse to appreciate the impact of interventions on an individual’s moral development. Studies using the DIT as a measurement tool for educational effectiveness, cannot expect to document change in moral development in less than 2-4 year intervals (Rest, 1980b).

Perhaps the most consistent finding of studies using the DIT in educational evaluations is the recalcitrance of the DIT to change: no control groups in any of the studies (reviewed in Rest, 1979) showed upward or downward change; only about half of the experimental groups showed significant pre-post change, and then only 5-12 points (about the average change in 2 to 4 years of normal development). It is not easy to get significant gains on the DIT with short term programs, especially if the program does not concentrate on a philosophical examination of reasoning about moral problems (Rest, 1980b).

Finally, as Kohlberg amended his scoring techniques, the DIT has also gone through a metamorphosis. A new development index was devised, the N2, to replace the P score. Validity is as strong or stronger with the N2 (Rest, Narvaez et al., 1999) and one study has documented a decrease in potential political ideology bias (Sweeney & Fisher, 1998). Whereas the P score represents the relative importance given in the response ranking to stages 5 or 6, the N2 is more of a weighted average of all scores. “The N index is actually a hybrid score resulting from the combination of three scaled stories with three stories utilizing the P score index” (Sweeney & Fisher, 1998). In addition, Rest has developed a DIT2, which is a 5-dilemma test (compared to the 6 dilemma or 3 dilemma versions of the DIT1). Specific information on the DIT, its validity, and its reliability are presented in the methodology section.

Relationship Between Moral Judgment and Education

Research does not find much disagreement about the goals of moral education. Rest (Rest, 1980a) summarizes these goals as producing people who:
• Can reason in philosophically adequate ways,
• Can formulate plans of action even when experiencing stress, conflicting values, or situational pressures,
• Will actually follow through behaviorally on such plans.

To accomplish these goals, Rest recommends a two-track educational approach.

One track would be designed to develop the incipient moral philosopher in people, to focus on the development of moral judgment, anticipating the time when the person will have formulated a critical moral ideology and appreciates his or her stake in making society work. The other track would be designed to shape behavior – as non-coercively as possible – so as to equip the student with socially useful skills and routines, which he or she may not yet appreciate. Socialization is intended to prevent or limit destructive behavior and to provide the experience of working in groups for shared goals (Rest, 1980a).

In this structure, immediate behavior payoff would not be expected from cognitive moral education, it would be seen as a longer term investment in the child’s ability to “function as envisioned in the democratic ideal” (Rest, 1980a).

When evaluating the critical years to focus on cognitive moral education, Rest identifies the college years as the time when most people can comprehend principled moral thinking (i.e. stage 5 and 6). “Research to date indicates that the college years are most crucial in moving most people beyond conventional moral thinking . . . In the years beyond high school, the individual begins to see many choices and begins to see the need to have a programmatic basis for making these choices” (Rest, 1980a). This age group is fertile ground for educators seeking to encourage cognitive moral development.

However, in previous studies of the impact of university level ethics classes, there is usually little true understanding of the material presented and little carry-over into moral reasoning outside the classroom (Boss, 1994). Educational psychologist Howard Gardner has also found that scholastic knowledge seems strictly bound to school settings and students revert back to their earlier forms of moral reasoning when confronted by moral issues outside of the academic setting (Gardner, 1991). Rest (1988) concluded that the most effective methods for supporting growth in moral development among college students included (Rest, 1988):
- Dilemma discussion interventions that engage the student in active problem-solving of controversial moral issues,
- Personality development interventions that involve the student in service projects such as peer tutoring and volunteering in a nursing home,
- Attempts to integrate their service experiences by means of readings in developmental psychology and discussions of the personal meaning and relevance of these experiences to their personality development.

Kohlberg identified an almost identical list as a result of his Just Community work, saying that “actual experience in confronting moral issues, particularly in the out-of-classroom environment, is important for moral development” (Kohlberg, 1984).

The use of experiential models and real-life dilemmas and discussions reflects a recognition by Kohlberg and Rest that advancement through the moral stages depends on resolving cognitive disequilibrium rather than direct instruction (Norman, Richards, & Bear, 1998). This need for disruption or cognitive dissonance to promote growth is recognized by other ethical educators outside of the Kohlbergian circle, such as John Wilson, Gerhard Minnameier, Pedro Ruiz, Paul Griseri, and Ken McPhail. Kohlberg's movement toward the development of Just Communities also demonstrates a recognition of the need, explored in detail by the list of authors just mentioned, to integrate experiences outside of the classroom or the discipline, the need for young people to understand their role and impact on society as a whole in order to appreciate the impact of their moral decisions.

A final trend in ethical education discussed by a number of leading authors in the ethical education field, but not dealt with explicitly by Kohlberg, is the need for integrating emotion into cognitive decisions, which requires the development of compassion and empathy (Griseri, 2002; McPhail, 2001; Ruiz & Vallejos, 1999).

**Research Exploring The Moral Development Of Business Students**

This section has reviewed Kohlberg's research on cognitive moral development, measurement of cognitive moral development using the Defining Issues Test, and moral education. The next section presents the study methodology. In terms of historical research in ethical education in the business school environment, there is extensive research in the accounting curriculum (Bay & Greenberg, 2001; Jeffrey, 1993; Ponemon,
1993; Ponemon & Glazer, 1990), a few studies in the marketing/sales area (Loe, 2000; Yoo & Donthu, 2002), and in management/general business (Godfrey, 1999; Hall, 1994). Studies on the effectiveness of ethical education in other areas of business are rare. These studies, are often based on very short, 3-month pre-post test evaluations, which cannot be expected to yield definitive results. There is a definite gap in the published literature for studies of cognitive development on large numbers (greater than 100) of business students and none have yet been identified that explore the application of “ethics across the curriculum” in the business school context.

METHODOLOGY

Study Design Model

As depicted in Figure 1, the study design model evaluates a number of educational factors and individual characteristics and determines their impact on the cognitive moral development on the student groups included in this study.

**Figure 1:** Factors Influencing Cognitive Moral Development in Undergraduate Business Students

![Diagram of Factors Influencing Cognitive Moral Development]

**COGNITIVE MORAL DEVELOPMENT**

**EDUCATION**

- Ethics Across the Curriculum
- University Tenure (length of exposure to curriculum)

**INDIVIDUAL CHARACTERISTICS**

- Gender
- Grade Point Average (GPA)

Hypotheses

This research tests 5 hypotheses, which are listed in their null form. Hypotheses 1 and 2 address the question: has the “ethics across the cur-
riculum” program at the target university resulted in different levels of moral reasoning?

Ho1 (null):
There is no difference in the mean levels of moral reasoning ability (as measured by DIT2 N2 index scores) for senior undergraduate business students exposed to “ethics across the curriculum” vs. senior non-business students at the same university.

Ho2 (null):
There is no difference in the mean levels of moral reasoning ability (as measured by DIT2 N2 index scores) for senior undergraduate business students exposed to “ethics across the curriculum” vs. senior undergraduate business students at another university without a formal ethics component in their curriculum.

Hypothesis 3 seeks to verify with the new DIT2 instrument previous research conducted with the original DIT that documented differences in moral reasoning ability between genders (Rest, Narvaez, Bebeau, & Thoma, 1999).

Ho3 (null):
There is no difference in the mean levels of moral reasoning ability (as measured by DIT2 N2 index scores) for female senior undergraduate students vs. male senior undergraduate students.

Hypothesis 4 explores the impact of university tenure on levels of moral reasoning. This variable has not been widely studied in past research.

Ho4 (null):
There is no difference in the mean levels of moral reasoning ability (as measured by DIT2 N2 index scores) for senior undergraduate transfer business students exposed to “ethics across the curriculum” in their business classes vs. senior
undergraduate non-transfer business students at the same university.

Hypothesis 5 seeks to verify with the DIT2 the relationship between levels of academic performance (as measured by grade point average) and moral reasoning that have been documented in past studies (Rest, Narvaez, Bebeau, & Thoma, 1999).

$H_{05}$ (null):

There is no difference in the mean levels of moral reasoning ability (as measured by DIT2 N2 index scores) for senior undergraduate students based on their self-reported grade point average (GPA).

**Procedure**

To facilitate data gathering, the target university granted access to all sections of the Capstone course taken by senior students in all majors. These classes were used as subjects for the DIT during three consecutive semesters. The survey was administered during a regularly scheduled class period. Participation was voluntary. Students were offered the opportunity to obtain their DIT score. A second university agreed to participate in this research and to provide a comparison population of senior-level business students. This comparison university is a large, public university in Texas that has no formal ethics component in its business school curriculum.

**Variables**

DIT2 N2 index scores represent the dependent variable. Exposure to “ethics across the curriculum”, gender, and university tenure represent the independent variables used to test the hypotheses.

**Dependent Variable**

The dependent variable, the N2 index score, is calculated based on the responses to the DIT2 survey instrument, which is scored by the University of Minnesota. The recently developed N2 index is a suggested replacement for the P score historically used to quantify moral development as measured by the DIT. While the P score is calculated solely on the basis of ranking data, the N2 index is calculated using ranking and rating data. The N2 index also utilizes more stringent rules for handling
missing data. N2 scores are adjusted to have the same mean and standard
deviation as the P score on the 1995 standardization sample (n=1,115) so
that comparisons between P and N2 can be made easily (Rest, Thoma,
Narvaez, & Bebeau, 1997).

Independent Variables

1. Exposure to “ethics across the curriculum”

During the 1998-1999 academic year, the business school at the tar-
get university implemented a program requiring an ethics component in
each business class. The format and content of the ethics component was
left to the discretion of the instructor. As of the 2002-2003 academic
year, all senior-level business students received an ethics component in
each business class. Given that students do not generally declare a major
and take their first business class until their sophomore year, a three-year
implementation time-table is sufficient to guarantee that the senior-level
students have received full exposure to the program. This assumption
will be verified by examining the results of student evaluations for the fall
and spring semesters of the 2002-2003 academic year. For all business
school classes, these evaluations include a question as to whether the
class included an ethical component. Historical data indicates that 90%
or more of all students state that each business class had an ethical com-
ponent.

2. Gender

The DIT2 questionnaire asks participants to identify their gender
(male or female).

3. University tenure

The demographic questionnaire will include a question ascertaining
whether the respondent began their studies at the university as a fresh-
man, sophomore, junior or senior.

Instrument

The DIT2 represents a new, 5-story, version of the DIT “that is
more updated, shorter, has clearer instructions, purges fewer subjects for
bogus data, and is slightly more powerful on validity criteria” (Bebeau,
2002). According to Rest, “the increased power of the DIT2 over the
DIT1 is primarily due to the new methods of analysis (the new N2 index,
and new data quality checks) rather than to changes in dilemmas, items or instructions” (Rest, Thoma, & Bebeau, 1999).

Reliability/Validity

The DIT1 has been used for 25 years and reported in hundreds of studies. This instrument’s reliability and validity are well documented (Rest, 1986a; Rest, Narvaez, Thoma, & Bebeau, 2000; Rest, Thoma et al., 1999). “Reported test-retest reliabilities on the six-story version of the DIT have been in the high .70s or .80s and Cronbach’s alpha index of internal consistency has been reported to be in the high .70s” (Jeffrey, 1993). The DIT2 had similar reliability results when tested side-by-side with the DIT1 (Rest, Thoma et al., 1999).

Statistical Techniques

N2 index scores and all descriptive statistics are computed by the Center for the Study of Ethical Development at the University of Minnesota. SPSS is used to produce demographic profiles of the populations and to perform t-tests difference of means for independent samples. The t-tests are used to determine whether significant differences exist between the mean N2 index scores of the 2 independent groups detailed in each hypothesis. The level of significance for all tests will be set at .05.

This section summarized the study methodology. The next section will present the study results.

RESULTS

Study Results

Data Collection

A total of 527 surveys were collected. One hundred (19.0%) of the survey respondents were business students at the target university, 256 (48.6%) of the respondents were non-business students at the target university, and 171 (32.4%) of the respondents were business students at the comparison university.
Table 2: Total Survey Responses

<table>
<thead>
<tr>
<th>Group</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Business Students</td>
<td>100</td>
<td>19.0</td>
</tr>
<tr>
<td>Target Non-Business Students</td>
<td>256</td>
<td>48.6</td>
</tr>
<tr>
<td>Comparison University Business Students</td>
<td>171</td>
<td>32.4</td>
</tr>
<tr>
<td>Total</td>
<td>527</td>
<td>100.0</td>
</tr>
</tbody>
</table>

A total of 151 surveys were purged to eliminate respondents who did not meet the senior class standing or 18-24 year age criterion. An additional 27 surveys were excluded based on invalid or random responses to the DIT2 questionnaire, leaving a total of 349 valid survey responses. The purges did not dramatically change the spread profile among the three groups.

Table 3: Total Survey Purges by Group

<table>
<thead>
<tr>
<th></th>
<th>Total Survey Responses</th>
<th>Age and Class Purges</th>
<th>DIT Validity Purges</th>
<th>Total Purged</th>
<th>Percent Purged</th>
<th>Total Valid Surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Business Students</td>
<td>100</td>
<td>30</td>
<td>10</td>
<td>40</td>
<td>40.0</td>
<td>60</td>
</tr>
<tr>
<td>Target Non-Business Students</td>
<td>256</td>
<td>65</td>
<td>14</td>
<td>79</td>
<td>30.9</td>
<td>177</td>
</tr>
<tr>
<td>Comparison University Business Students</td>
<td>171</td>
<td>56</td>
<td>3</td>
<td>59</td>
<td>34.5</td>
<td>112</td>
</tr>
<tr>
<td>Total</td>
<td>527</td>
<td>151</td>
<td>27</td>
<td>178</td>
<td>33.8</td>
<td>349</td>
</tr>
</tbody>
</table>

To validate the existence of ethics across the curriculum in the business classes at the target university, data was collected during the normal student evaluation process for Fall 2002. Students were asked whether the class they were evaluating included an ethics component. Out of 226 student evaluation responses, 200 (88.5%) indicated that they agreed or strongly agreed that the business class included an ethics component.
To validate the non-existence of ethics across the curriculum at the comparison university, the results of a strategic planning study were consulted. In this study, an independent evaluation of the business school syllabi conducted in 2002 by the Wharton School indicated that very few classes had any ethical component. This was one of the major conclusions of the consulting report.

Descriptive Statistics

The DIT2 instrument provides an index for moral judgment development, the N2 index. This index ranges from 0-90 and was developed by Rest and Narvaez in 1998 as an alternative to the historically used P score. While the P score is created by summing the weighted ranks for those answers corresponding to cognitive moral development stages 5 and 6 (the top two stages) divided by the number of stories (5) and multiplied by 10, the N2 index takes the P score and uses a formula to add the ranking data for the other stages to provide a more complete, equal weighting to all stage-based rankings. While this study focused its analysis on the N2 index for testing the hypotheses, the P score was also explored as it relates to norms set over the past 20 years of research utilizing the DIT.

The N2 index for the valid surveys in this study ranged from 1.88 to 75.17 with a mean of 35.6 and a standard deviation of 15.23. The N2 index is normally distributed.

The spread of pre-conventional, conventional, and post-conventional scores by group is examined in Figure 2. The pre-conventional level corresponds to Kohlberg’s Stage 1 and Stage 2, which reflect a focus on consequences to self and one’s own needs when making ethical decisions. The conventional level corresponds to Kohlberg’s Stage 3 and Stage 4, which reflect a focus on what pleases others, and following rules or group norms when making ethical decisions. The post-conventional level corresponds to Kohlberg’s Stage 5 and Stage 6, which reflect a recognition of individual rights as well as societal standards and a focus on following decisions of conscience based on internalized ethical principles (Rest et al., 2000). Study respondents from the target university business group had the highest percentage of pre-conventional scores (29.8%), followed by the target university non-business group (26.5%), with the comparison university having the lowest percentage of scores at this stage (22.6%). The two business student groups had the same percentage of conventional stage scores (38% for both groups), with the target university non-business group having the lowest percentage of scores at this
stage (34%). The target university non-business group had the highest percentage of post-conventional scores (39.5%), followed closely by the comparison university (39.3%), with the target university business students having the lowest percentage at this stage (32.1%).

**Figure 2: Cognitive Moral Development Stage By Group**

To allow comparisons to historical, published studies, the P score was calculated for the study population. All groups in this study had lower P scores than reported by the DIT data bank for college students (Rest & Narvaez, 1994). Based on Rest’s meta-analysis study examining P scores by age and profession across all DIT data collected nation-wide, the average P score for college students was 42.3. The average score for the target university business group was lower than that found in Rest’s study for seniors in high school, who averaged 31.8. The highest scores in Rest’s study were for protestant seminarians (59.8) and moral philosophy/political science graduate students (65.2).

A study conducted at the target university in 1983 by William Penn reported P score averages very similar to those found in this study for non-business majors at the target university. Compared to the target university’s non-business group P score of 37.20 and standard deviation of 16.06, Penn’s study, which did not break out results by major, reported an average P score of 37.59 and a standard deviation of 16.08 for the 44 senior-level students in his study (Penn, 1985). Similarly, a study con-
ducted in 1993 at another public university in Texas reported P scores of 33.52 for entry-level undergraduate education students (Lampe, 1994). While the students in the other Texas study are younger than the students in this study, each of these Texas-based studies found P scores lower than the national average for similar age and education backgrounds. Figure 3 illustrates the different P-Score averages across these studies.

**Figure 3: DIT P-Score Comparisons**

Hypothesis Tests

This research tests 5 hypotheses, which are listed in their null form. Hypothesis 1 and 2 address the question: has the “ethics across the curriculum” program at the target university resulted in different levels of moral reasoning?

**$H_{01}$ (null):**

There is no difference in the mean levels of moral reasoning ability (as measured by DIT2 N2 index scores) for senior undergraduate business students exposed to “ethics across the curriculum” vs. senior non-business students at the same university.
Based on the results of the t-test run on the mean N2 index scores of the two target university groups, a difference in moral reasoning ability exists, and hypothesis 1 is rejected. However, the difference is in an unexpected direction. The mean N2 index scores (presented in Table 4) of the target university business students is 29.6 compared to an average of 35.8 for non-business students at the same university.

Table 4: Target University Business and Non-Business Students N2 Index Comparison

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Business</td>
<td>60</td>
<td>29.56</td>
<td>13.97</td>
<td>1.80</td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target Non-Business</td>
<td>177</td>
<td>35.76</td>
<td>15.75</td>
<td>1.18</td>
<td></td>
</tr>
</tbody>
</table>

The level of cognitive moral development of the target university business student group exposed to “ethics across the curriculum” is actually significantly lower ($t = -2.709$, $p < .01$) than the mean N2 index scores of the non-business students who did not have this additional exposure to ethics.

$Ho2$ (null): There is no difference in the mean levels of moral reasoning ability (as measured by DIT2 N2 index scores) for senior undergraduate business students exposed to “ethics across the curriculum” vs. senior undergraduate business students at another university without a formal ethics component in their curriculum.

Based on the results of the t-test run on the mean N2 index scores of the target university and comparison university business student groups, the null hypothesis 2 is rejected. However, the difference is in an unexpected direction. The mean N2 index score shown in Table 5 for the target university business student group is 29.6 compared to an average of 38.5 for the comparison university business student group.
Table 5: Target University Business Students and Comparison University Business Students N2 Index Comparison

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>N2SCORE Target Business Students</td>
<td>60</td>
<td>29.56</td>
<td>13.97</td>
<td>1.80</td>
</tr>
<tr>
<td>Comparison Business Students</td>
<td>112</td>
<td>38.45</td>
<td>14.19</td>
<td>1.34</td>
</tr>
</tbody>
</table>

The mean N2 index score of the group exposed to ethics across the curriculum is actually significantly lower ($t = -3.936, p < .01$) than the mean N2 index score of the comparison university business student group who did not have the additional exposure to ethics.

**Ho3 (null):**

There is no difference in the mean levels of moral reasoning ability (as measured by DIT2 N2 index scores) for female senior undergraduate students vs. male senior undergraduate students.

Based on the results of the t-test run on the mean N2 index scores of the three study groups by gender, the null hypothesis 3 cannot be rejected for all groups, but can be rejected for both target university business and non-business student groups.

There is insufficient evidence to conclude a difference exists between the mean N2 index scores by gender in the comparison university business student group. However, for each of the two groups at the target university, females have significantly higher N2 index scores than males. Many examples of recent literature have found similar results (Rest, 1986a; Rest, Narvaez et al., 1999). Figure 4 illustrates the difference in average N2 index scores for the target university group. The average N2 index for target university male business students was 26.5, compared to an average N2 index of 36.9 for females in the same group. The t-test results show that the difference between male and female target university business students is significant ($t = -2.827, p < .01$).
A significant difference in N2 index scores by gender is also observed in the non-business student group at the target university. Figure 5 illustrates this difference graphically. The average N2 index score for non-business student males at the target university was 31.3, compared to an average N2 index score of 37.9 for non-business student females. The t-test results that show the difference between the average N2 index scores for these two groups is statistically significant ($t = -2.678$, $p < .01$).
The next hypothesis, hypothesis 4, explores the impact of university tenure on levels of moral reasoning.

**Ho4 (null):**

There is no difference in the mean levels of moral reasoning ability (as measured by DIT2 N2 index scores) for senior undergraduate transfer business students exposed to “ethics across the curriculum” in their business classes vs. senior undergraduate non-transfer business students at the same university.

Based on the results of the t-test run on the mean N2 index scores of the target university business student group by tenure, the null hypothesis 4 is rejected. Tenure comparisons are based on evaluating the N2 index scores of those students who self-report their first year at the university was as a freshman compared to those who self-report their first year at the university was as a sophomore, junior, or senior. The average N2 index of the target university business students who had been at the university since freshman year was significantly higher (p < .05) than the average N2 index for those who transferred into the university. Table 6 illustrates the difference in mean N2 index scores within the target university business student group. Students who began their studies at the target university as freshmen have an average N2 index of 35.0, while students who entered the university as sophomores or later have an average N2 index of 26.2. The t-test results document that this difference is significant (t = -2.467, p < .05).

**Table 6: Target University Business Students: Impact of Tenure N2 Index Comparison**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>First year at this university</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sophomore or later</td>
<td>37</td>
<td>26.19</td>
<td>13.12</td>
<td>2.15</td>
</tr>
<tr>
<td>Freshman</td>
<td>23</td>
<td>34.98</td>
<td>13.87</td>
<td>2.89</td>
</tr>
</tbody>
</table>

The fact that university tenure did impact the cognitive moral development levels of the target university business group is evidence that the ethics across the curriculum focus did impact those students that were
exposed to the curriculum for the entire college career. University tenure had no impact on the N2 index scores of the other two study groups.

The final hypothesis examines the relationship between cognitive moral development and grade point average (GPA).

**Ho5 (null):**

There is no difference in the mean levels of moral reasoning ability (as measured by DIT2 N2 index scores) for senior undergraduate students based on their self-reported grade point average (GPA).

Based on the results of the one-way ANOVA run on the mean N2 index scores of the three study groups by GPA category, the null hypothesis 5 cannot be rejected for all groups, but can be rejected for target university non-business students. There is insufficient evidence to conclude a difference exists between the mean N2 index scores by GPA category in the target university business student or comparison university business student group.

While examining N2 index scores by GPA did not impact the target or comparison university business student groups, GPA did have an impact on the N2 index scores for the non-business student group at the target university. When an ANOVA analysis is run comparing GPA categories there is a significant difference found in the target university non-business student group. This difference is illustrated graphically in Figure 6, which shows the variation around the mean for the target university non-business student group by GPA category.

**Figure 6:** Target University Non-Business Students: Average N2 Index Score +/- 2 Standard Error by GPA Category
The higher N2 index scores seen for higher GPA categories and lower N2 index scores seen in the lower GPA categories are verified statistically in the ANOVA data provided in Table 7, which indicates that the difference among the means by GPA category is statistically significant (p < .01) for this group.

**Table 7: Target University Non-Business Students: ANOVA Comparison of Mean N2 Index Scores Across GPA Categories**

<table>
<thead>
<tr>
<th>N2SCORE</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4061.42</td>
<td>3</td>
<td>1353.80</td>
<td>5.909</td>
<td>.001</td>
</tr>
<tr>
<td>Within Groups</td>
<td>39636.63</td>
<td>173</td>
<td>229.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>43698.05</td>
<td>176</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To validate the significant difference in N2 index scores by GPA category identified in the target university non-business group by the ANOVA, a Scheffe Post Hoc test was run. The Scheffe test confirmed the significant difference between GPA categories and identified that this difference is concentrated in the extreme high and low categories. As illustrated in Table 8, the N2 index scores of students in the lowest GPA category (>= 2.0 and < 2.5) are significantly different from those in the top two categories (>= 3.0 and < 3.5, and >= 3.5). Note that no student reported a GPA less than 2.0. The only category where no significant differences were found were for those students with a mid-level GPA between 2.5 and 3.0. As expected, the N2 index scores of students with higher GPAs were significantly different from those with the lowest GPA.
Table 8: Target University Non-Business Students: Scheffe Post Hoc Test on ANOVA Comparison of Mean N2 Index Scores Across GPA Categories

Dependent Variable: N2SCORE

<table>
<thead>
<tr>
<th>GPA Category</th>
<th>Mean Difference (l-j)</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;= 2.0 and &lt; 2.5</td>
<td>-9.57</td>
<td>.264</td>
</tr>
<tr>
<td>&gt;= 2.5 and &lt; 3.0</td>
<td>-16.98</td>
<td>.005</td>
</tr>
<tr>
<td>&gt;= 3.0 and &lt; 3.5</td>
<td>-15.82</td>
<td>.009</td>
</tr>
<tr>
<td>&gt;= 3.5</td>
<td>-6.25</td>
<td>.215</td>
</tr>
<tr>
<td>&gt;= 3.0 and &lt; 3.5</td>
<td>9.57</td>
<td>.264</td>
</tr>
<tr>
<td>&gt;= 2.5 and &lt; 3.0</td>
<td>-7.41</td>
<td>.125</td>
</tr>
<tr>
<td>&gt;= 3.5</td>
<td>15.82</td>
<td>.009</td>
</tr>
<tr>
<td>&gt;= 2.0 and &lt; 2.5</td>
<td>6.25</td>
<td>.215</td>
</tr>
<tr>
<td>&gt;= 2.5 and &lt; 3.0</td>
<td>-1.15</td>
<td>.982</td>
</tr>
<tr>
<td>&gt;= 3.0 and &lt; 3.5</td>
<td>16.98</td>
<td>.005</td>
</tr>
<tr>
<td>&gt;= 2.0 and &lt; 2.5</td>
<td>7.41</td>
<td>.125</td>
</tr>
<tr>
<td>&gt;= 3.0 and &lt; 3.5</td>
<td>1.15</td>
<td>.982</td>
</tr>
</tbody>
</table>

*: The mean difference is significant at the .05 level.

Based on the apparent direct relationship evident between GPA category and mean N2 index score illustrated in Figure 6 and the difference in means verified by the ANOVA test, the existence of a correlation was tested. A significant correlation (p < .01) between GPA category and N2 index score was verified, with GPA explaining almost 28% of the variation in N2 index scores of the target university non-business group. Since this correlation between GPA and N2 index is not seen in the other two groups, no generalizations can be made from this study. However, the inclusion of other variables, such as measures of intelligence or other measures of scholastic aptitude, are recommended for future studies to help clarify the meaning of these results.
Discussion

Differences Among Comparison Groups

A potential mitigating factor across all groups in this study is the difference in average standardized aptitude test (SAT) scores between the target university and the comparison university. The SAT is a common test used by universities to identify potentially successful candidates for admission. Several studies have noted a correlation between DIT results (either P score or N2 index) and SAT, although typically this relationship is weak (Rest, Narvaez, Mitchell, & Thoma, 1998). The average SAT score for 1999 freshman (who would make up the senior class during the study period) was 1041 for all students at the target university and 1245 (19.6% higher) for the comparison university business students. Understanding the impact, if any, of SAT scores on the cognitive moral development levels of students in this study might also help explain why a correlation is observed between grade point average (GPA) in one group (target university non-business), but not in the others.

Impact of Student Tenure

While the overall business population at the target university had the lowest level of cognitive moral development as measured by the N2 index, the picture changes when tenure at the university is taken into account. The impact of length and intensity of exposure to ethical education as well as the teaching methods used on cognitive moral development have been demonstrated in other studies (Armon & Dawson, 1997; Cannon, 2001; Gardner, 1991; Hall, 1994; Penn, 1990; Ponemon & Glazer, 1990; Richards, 1999; Tennant, 1990).

While the non-business student population at the target university had a significantly higher N2 index than the business students, this difference is not seen when comparing students whose first year at the target university was as freshman. The mean N2 index scores for the target university business student group whose first year at the target university was as freshmen was 35.0, compared to an N2 index of 36.7 for the non-business student group whose first year at the target university was as freshmen. The t-test results verify that there is now no statistically significant difference between the N2 index scores of these two groups ($t = -0.482, p > .05$).

Similarly when N2 index scores are compared between target university business students and comparison university business students, including only those students attending the university since their fresh-
man year, the difference between the N2 index scores is not significant. The mean N2 index scores for the target university business student group whose first year was as freshmen was 35.0, compared to the comparison university business student group whose first year was as freshmen which was 38.1. The t-test results that show the difference between the N2 index scores of these two groups is not significant (t = -0.920, p > .05).

Tenure did not have an impact on the results of any of the other hypotheses.

Impact of Gender

When N2 scores are compared between groups by gender, while no change is seen to the original results when comparing males, when comparing females the significant differences between target university and comparison university business students is eliminated and no significant difference exists.

As seen in the original test for hypothesis 2, when average N2 index scores for males are compared, there is a significant difference (p < .01) between the target university and comparison university business students, with the comparison university business group testing significantly higher than the target university business group. The average N2 index scores for male business students at the target university was 26.5, compared to an average N2 index score of 38.7 for male business students at the comparison university. The t-test results that show this difference is significant (t = -4.210, p < .01).

Contrary to the results of the original test for hypothesis 2, when average N2 index scores for females are compared, there is no significant difference between the target university and comparison university business students. The average N2 index scores for female business students at the target university was 36.9, compared to an average N2 index score of 38.1 for female business students at the comparison university. The t-test results that show this difference is not significant (t = -0.361, p > .05).

Similarly, when cognitive moral development stage data is compared between groups by gender, males have a higher percentage of scores in the pre-conventional stage than females for every group and females have a higher percentage of scores in post-conventional than males for every group. The statistically significant difference found at the target university between N2 index scores by gender is reflected in Figure 7, which illustrates the larger differences between stage percentages by gen-
Other Potential Mitigating Factors

Other variables were examined, including citizenship, years of work experience, and number of ethics classes. None of these factors significantly impacted the results of any of the hypotheses tested.

The final section will discuss the implications of these results and make suggestions for future research.

SUMMARY AND CONCLUSIONS

Study Limitations

The primary limitation of this study was a lower than expected number of valid surveys for business students at the target university. Due to a high purge rate on survey responses for this group, test results were based on low numbers, especially on hypotheses 3, 4, and 5. A second limitation of the study was the large difference in average SAT scores between the target and comparison universities. Since individual SAT scores were not collected, it is unknown whether this difference might have an impact on the results. While most studies did not find SAT
scores to be related to cognitive moral development as measured by the DIT P-score (Rest, 1988), one study did find differences in P-scores based on SAT scores (Hendel, 1991), so the difference in overall SAT scores between the two campuses used in this study complicates the interpretation of results.

Another limitation is the lack of longitudinal information in the form of pre- as well as post-test results for the target university population. While the target university students had similar or lower levels of cognitive moral development by the end of their college careers when compared to the large public university, without knowing where the students at each university began, the results are somewhat equivocal. The target university may be creating more change and growth than the comparison university, even though the students end their college careers at the same or lower level of cognitive moral development. However, the time and cost of such a longitudinal study was prohibitive in this case.

A further limitation is related to the DIT instrument. While the DIT is a well-tested, commonly used instrument with high validity and reliability, it is an objective measure rather than an interview, and the accuracy of the results depends on the accuracy of the responses supplied by the subjects. Less depth and breadth of information is obtained from an objective measure when compared with an interview since the respondents choose from pre-selected responses. This study used only the justice-orientation defined by Kohlberg to measure student's level of cognitive moral development. No attempt was made to measure other aspects or perspectives on moral development. Finally, no measurement was attempted to specifically link cognitive moral development and moral behavior.

Potential limitations of the study include the lack of variety in business school majors at the comparison university. The fact that all the subjects were finance majors may have impacted the results, although no difference was seen between finance and accounting majors and other business school majors at the target university. A second potential limitation is a lack of information on socioeconomic differences among the study participants. A final potential limitation is the inability to control for all differences between the target and comparison universities, and the resulting potential for group selection bias to influence the results. Since the target university was a small, private, Catholic university and the comparison university was a large public university, inherent differences in the student populations and curricula beyond those explored in this study can be assumed. In fact, hypothesis 2 was based on the belief that
the target university would do a better job of fostering cognitive moral development because of its small size and religious affiliation. Since these students will compete equally in the business world, the comparison is interesting because of the inherent differences in the business student population and curricula. Particularly given the results of this study, it is obvious that influencing a young adult’s cognitive moral development is much more complex than site, size, and curricula focus.

The next section will examine the implications of the results of this study in light of these limitations and the comparisons to other researchers.

**Study Implications**

The results of this study challenge many basic assumptions in business ethics education: First, that a small, religious-based university will inherently do a better job attracting and/or developing moral leaders. Second, that requiring ethics classes or implementing “ethics across the curriculum” by itself will positively impact the cognitive moral development of students. Third, that having no ethics requirements will negatively impact the cognitive moral development of students. This study demonstrates that cognitive moral development is complex, and impacting this development requires more than desire and commitment, it requires a deep understanding of how young people develop their abilities to make ethical decisions and how to influence this development both inside and outside the classroom. Another indicator of the complexity of moral development is found in the gender results. The fact that female students had significantly higher levels of cognitive moral development than males at the target university, but that gender was not a factor at the comparison university indicates that factors are at work that have not been identified in this study and which need additional investigation.

Finally, this study has contributed to the body of knowledge in the area of education and cognitive moral development by identifying that a difference in cognitive moral development exists between those students who began their college careers at the target university and those who transferred in after freshman year. Thus, this study has also identified the need for specific attention to be paid to the cognitive moral development of the transfer student.

The two main questions raised by the failure of the target university’s “ethics across the curriculum” program to raise the level of cogni-
tive moral development of their students to the level attained by a university with no specific focus on ethics are:

1. What are we trying to teach?
2. How do we teach it?

What Are We Trying to Teach?

As discussed in the Literature Review, Kohlberg and, later, Rest recognized that a purely cognitive approach to moral education is not effective by itself in promoting growth in cognitive moral judgment skills (Reed, 1997; Rest, 1980a). After examining literature across the discipline in moral education, the answer to the question, what are we trying to teach, in ethics is two-fold and highlights the challenge for a university. First, universities want to teach what John Wilson refers to as “public” morality — the actions that impact other people, the decision-making skills that reflect morality as “a social device or institution” (McLaughlin & Halstead, 2000). This type of morality is the focus of most ethical education, attempting to shape behavior first, allowing cognitive understanding to follow. As discussed in the Literature Review, Rest recognized the continued importance of this approach (Rest, 1980a). However, a focus on a second type of morality may be the key to successfully impacting a student’s cognitive moral development. This second type of morality is what Wilson calls “the state of the soul” and Rest called the development of the incipient philosopher and is defined as happiness, dignity, and personal ideals (McLaughlin & Halstead, 2000; Rest, 1980a). Similarly, other authors note the importance of a focus on personal development (Grissi, 2002) and emotion or compassion and empathy (McPhail, 2001; Ruiz & Vallejos, 1999) in addition to knowledge and skills.

Based on a review of ethical education research in engineering, law, business, and medicine, Ken McPhail of the University of Glasgow identifies three critical objectives for ethical education, which prepare the student to learn and then supports development of the two types of morality (McPhail, 2001):

1. Disruption and encouragement of cognitive dissonance (prepares the student to learn)
2. The development of a context for the profession (knowledge building, public morality)
3. The development of students’ moral sensibility (personal development, state of the soul)
The second objective, the development of a context for the profession refers to the goal of integrating personal and professional ethics and integrating responsibilities to the profession with responsibilities to society. As McPhail states, “business ethics is inseparable from the debate about the moral basis of the market economy” (McPhail, 2001). Thus a second core goal of business ethics education must be for students to recognize, not just the rules and norms for their profession, but also the broader social and political context within which their profession operates (McPhail, 2001; Piper et al., 1993). These concepts were supported by other authors in the field of ethics education both inside and outside of the Kohlbergian tradition (Griseri, 2002; McLaughlin & Halstead, 2000; Minnameier, 2001; Mosher & Sprinthall, 1971; Penn, 1990; Piper, Gentile, & Parks, 1993; Rest, 1988; Rest et al., 1998; Sprinthall, 1974). By disruption, the authors mean a broadening of perspective through direct challenge to a student’s beliefs and assumptions, which, up until college, they have taken for granted. This disruption process allows the students to better recognize ethical dilemmas, to develop a more consistent link between their thoughts and actions, and to develop empathy for people with different, contradictory perspectives and viewpoints. The authors contend that by creating an uncomfortable state of disequilibrium, the cognitive dissonance is created that pushes a student to initiate learning and growth, not unlike the crises required to advance through stages in Erik Erikson’s theory of cognitive development (1950) discussed in the Literature Review. Therefore a primary goal of business ethics education must be to promote cognitive dissonance and encourage disequilibrium through the approaches and techniques utilized to deliver the ethics curriculum and thereby encourage and enable students to progress to higher stages of cognitive moral development.

The third objective is to develop students’ moral sensibilities through the integration of emotion and empathy into our knowledge building and skill development. This objective ties back to the first of disruption by creating opportunities for students to enter into the emotions (anger, fear, anxiety) experienced by another person as a result of their own actions (McPhail, 2001; Piper et al., 1993). This goal also supports the second objective by fostering the integration of understanding and emotion. Hence, a third core goal of a business ethics education must be to “enable students to enter into the feelings and emotions of others and develop a sense of moral commitment towards them” (McPhail, 2001).

These authors argue that the typical, generalized focus on knowledge building through cognitive discussion and debate of case studies...
commonly used in university-level business education results in a lack of emotional connection to ethical issues, de-humanizes ethical problems, and fosters a purely cognitive evaluation of risk without the emotional understanding of responsibility for outcomes (Griseri, 2002; Ruiz & Vallejos, 1999). Advanced cognitive development is not about following rules, but an understanding of the right thing to do and the reasons to do it (McLaughlin & Halstead, 2000; McPhail, 2001). Reaching advanced levels (5-6) of cognitive moral development, recognizing ethical issues in real life contexts, and applying knowledge gained through past experiences requires an integration of cognitive understanding and of feeling (Griseri, 2002; Ruiz & Vallejos, 1999).

However, the classroom tends to foster a very cognitive atmosphere, with students as passive participants (Griseri, 2002; McPhail, 2001; Piper et al., 1993; Ruiz & Vallejos, 1999). Many standard methods for teaching ethics (debate, discussion, group problem solving) over-emphasize rationality and ignore the emotional, human side of ethical conflicts, which leads to the second question, how do we teach ethics?

**How Do We Teach?**

While the theories and work of Kohlberg can begin to answer this question, other theorists and traditions must be included to complete the answer. Prior to his death, Kohlberg had just begun an exploration of this question through the creation of a Just Community as discussed in the Literature Review, which combines Kohlberg’s theory of moral development with Dewey’s (1966) democratic community and Durkheim’s (1961) theory of moral education, focusing on community and shared responsibility (Reed, 1997; Walsh, 2000). The Just Community focused on creating a participatory democracy where students and teachers developed community norms and participated together in making decisions that impacted the community (Reed, 1997). Kohlberg also applied the Just Community approach within a prison system (the Niantic State Farm for Women), creating a small, self-governed community where group norms were established for moral behavior (Kohlberg, Scharf, & Hickey, 1971). The focus of ethical education in these experiments is experiential and primarily outside of the classroom, using the classroom as a safe space to discuss and reflect on the application of cognitive knowledge/skills, integrating them with the emotional growth prompted by the participatory governance structure (Reed, 1997; Walsh, 2000). Other Kohlbergian authors, such as Rest and Narvaez, have discussed the concepts behind the Just Community approach, but it is authors from other theoretical
paradigms who have created programs for integrating cognitive and emotional growth in the university classroom.

Both Kohlbergian and non-Kohlbergian authors from a variety of traditions who focus their work in the area of ethical education recognize that most professors in general, and business professors in particular, are often uncomfortable and unskilled with walking the fine line necessary for fostering successful ethical discussions between an authoritative, doctrinaire role (which stifles learning and reflection) and a free-for-all, 'there is no right or wrong answer' role (which fails to provide the moral compass or direction necessary for growth) (McLaughlin & Halstead, 2000; Piper et al., 1993). These authors in the ethical education field see the instructor's role as providing a set of standards or criteria for students to use in making choices on their own (McLaughlin & Halstead, 2000). In addition to this primary role, the professor must develop techniques and modalities that foster the objectives: disruption, integration, and emotion/empathy. The University of Galsgow’s McPhail sets out a program addressing the three objectives that covers eight areas and is supported by other writers in the field (McPhail, 2001):

1. Interdisciplinarity – both in content and in composition of the class [see also (Griseri, 2002; Piper et al., 1993)].
   a. Utilizing content from outside the business arena to spark imagination, integrate emotion into discussion, and provide context for the profession’s impact on society.
   b. Creating a multi-disciplinary classroom to broaden the perspective of the students and expose them to different viewpoints, provide opportunities for the practice of empathy.

2. Group learning – the creation of a non-hierarchical learning environment where the students learn from each other and the professor acts as facilitator [see also (Ignelzi, 1990; Maitland & Goldman, 1974; Mosher & Sprinthall, 1971; Sprinthall, 1974)]. This method supports personal development (state of the soul) work as well as providing opportunities for emotion/empathy practice, and reflective integration practice.

3. Real life case studies – using real cases presented by guest lecturers who were impacted by the case provides an opportunity in business similar to that provided in medical education by meeting a real patient and discussing real ailments. By humanizing the case, the opportunity for emotional integration to occur with learning is maximized.
4. Role play, simulation exercises – similar to the use of real life case studies, role plays and simulations allow the victims of unethical behavior to become visible and for empathy and experience to integrate with knowledge [see also (Keasey, 1973; Piper et al., 1993)].

5. Film – presented as another effective way to explore feelings and emotions of individuals caught in ethical dilemmas [see also (Lormier, 1971)].

6. Literature – by engaging the emotions and revealing and challenging hidden values and prejudices, the objectives of disruption and the development of students’ moral sensibilities are supported.

7. Personal value journals – where students are encouraged to write about and explore their feelings and values. This technique helps students develop and refine an identity and encourages self-directed learning and reflection.

8. Timing – McPhail cites a number of authors that support ethics across the curriculum. Indeed any other approach would, by definition, not meet the integration objective of ethical education [see also (Piper et al., 1993)].

McPhail outlines a program for teaching business ethics that focuses on method, process, and procedures. While McPhail does the best job of putting a program package together, several authors provide support and additional insight into how these suggestions are integral to a successful ethics education program (Davey & Davey, 2001; Griseri, 2002; Ignelzi, 1990; McLaughlin & Halstead, 2000; McPhail, 2001; Minnameier, 2001; Piper et al., 1993; Ruiz & Vallesos, 1999; Scott, 1986; Smith, Strand, & Bunting, 2002).

This section has provided an outline for an effective business ethics program drawn from both Kohlbergian and non-Kohlbergian theorists. The next section provides recommendation for supporting this program with practical applications and future research.

Recommendations

Recommendations for Practitioners

The business school at the target university in this study has accomplished a major objective by implementing an “ethics across the curriculum” initiative. They have faculty and administrative support for making business ethics a central theme for each business discipline. A number of classes already incorporate experiential, service learning projects, which
research indicates can be used effectively to promote cognitive moral development in the students who participate. To increase the program’s effectiveness in influencing the students’ cognitive moral development, the actual content and process of how ethics is included in each class must be the next area of focus. The ideas presented here to meet the objectives of disruption, integration, and compassion/empathy development in students provide a starting point for discussion. As the Harvard Business School has discovered, faculty education is a critical success factor for implementing new approaches to ethical education and their Leadership, Ethics, and Corporate Responsibility program can serve as a model and provide useful consultation (Piper et al., 1993).

This study also provides institutions similar to the comparison university (large, public, with no formal ethics program) with key information and opportunities. While the comparison university students had higher levels of cognitive moral development, they remained lower than the average for college students as measured in meta-analyses using nation-wide DIT data. While the pre-test vs. post-test scores of students in a class at this university that included a strong ethical component showed no significant change in their cognitive moral development, meta analyses across many DIT studies show such short-term impact is rare (Rest, 1980b). Impacting moral development is a long-term, transformational process across 2-4 years and nurturing the student throughout this time frame is required to accomplish change. The lessons presented above on effective moral education provide guidance on how to improve the impact of isolated as well as cross-curriculum ethical education. In addition, given the competitive nature of top-ranked business schools in the country, effective ethical education is a potential area for differentiation. With focus and development, improvements in this area could become a focus for future marketing efforts and provide opportunities for connections with local communities and focal points for successful fundraising campaigns.

Recommendations for Future Research

A key goal for future research should be to better understand how the cognitive moral development of a group of students who have had no formal exposure to ethical education becomes higher than that of a group of students who have been immersed in a curriculum that values and includes ethics in some form in every class. Is it a matter of basic intelligence or educational preparation? The comparison university is more competitive and has higher admission standards and may by defini-
tion attract more intelligent and more educationally prepared students. Future studies should include SAT scores or other measure of educational competence and/or basic intelligence to verify this point. Similarly, socioeconomic status may be a key antecedent to cognitive moral development, given this variable’s potential impact on educational preparation. Future studies should also continue to examine the differences between students who spend their entire college career at one campus and transfer students. Further study is also recommended on the impact of grade point average and academic discipline on cognitive moral development.

Another recommendation is to examine other out-of-classroom exposure to key experiences that may drive cognitive moral development in these students. This researcher has taught across business disciplines at both the target and comparison universities and has subjectively witnessed a potential difference between the out-of-classroom experiences of students at the two universities. These out-of-classroom experiences may help explain the differences observed in this study in cognitive moral development. The students at the comparison university appear to have more exposure to volunteer, social projects and, thus, have had more opportunities to develop the compassion and empathy required to integrate emotions and knowledge/reasoning when making ethical decisions. This difference may account for their ability to function at a higher stage of cognitive moral development, at least in a social context. The fear that arises from this possibility, given that the comparison university provides no routine exposure to business ethics, is that these students will use their cognitive moral development skills in their personal lives, but never learn to apply them in their professional lives. As Thomas Piper of Harvard University’s Business School notes,

Management educators also need to recognize that they have always taught lessons in leadership, ethics, and corporate responsibility, even (perhaps especially) when they are silent…What faculty are silent about and what they omit send a powerful signal to students. Omission of discourse is not value-neutral education. There is no such thing. Omission is a powerful, even if unintended, signal that these issues are unimportant (Piper et al., 1993).

Thus the challenge remains for universities in general, and business schools in particular, to understand how best to deliver ethical education, not whether to do it or not. As presented so well in the quote above, that choice is moot.
Another key opportunity for future research is to conduct longitudinal studies at best or a cross sectional design study at least to capture and compare change to cognitive moral development at different types of universities from freshman to senior year. The idea here is not to avoid comparing universities that are inherently different, but to understand what differences impact cognitive moral development, so those variables that can be replicated across institutions are identified. Of particular interest is the fact that a number of studies focusing on Texas-based universities consistently find levels of cognitive moral development below the averages reported in large, multi-state meta-analyses. The goal should be to understand better how to raise the level of cognitive moral development skills of all students regardless of the university environment they choose. Similarly, objective measures should be balanced and enriched by qualified data collection methods, such as interviews, to allow researchers to identify other variables that may be key to understanding cognitive moral development.

To help guide educators, more quantitative support is required for the “ethics across the curriculum” approach. In addition, a deeper understanding is needed of the educational tools and techniques that are most effective in reaching the goals of disruption, integration, and emotional connection in ethical education.

A final recommendation for future research is to identify methods for objectively linking cognitive moral development and moral behavior to improve our understanding of what drives people who know the right to choose, or not choose, to do the right. As discussed in the Literature Review, according to Rest, some of the constructs that impact moral behavior in addition to cognitive moral development include (Rest, 1980a):

- Pressure of self interest (Damon, 1977)
- Ego strength (Kohlberg, 1969) as defined by courage, strong will, and resolve
- Confusion, inability to analyze the appropriate moral action under stress (Staub, 1979)
- Differences in moral sensitivity (Gilligan, 1977). The ability to recognize a moral dilemma, also referred to as moral imagination.
- Reflexive behavior may dominate actions for some individuals under some conditions as opposed to conscious, reflective behavior (Piaget, 1932).
Conclusions

The study found that the level of cognitive moral development of all three groups was lower than the national average for college graduates as measured by meta-analyses on DIT data (Rest, Narvaez et al., 1999). The study also found that the level of cognitive moral development at the target university was virtually identical to that measured 20 years prior to this study (Penn, 1985, 1990) despite the increase in focus on ethics in general and the implementation of an “ethics across the curriculum” program in the business school in particular. This study was designed to evaluate the impact on cognitive moral development of an “ethics across the curriculum” initiative implemented three years prior to this study in the business school at a small, Catholic university in Texas (the target university). The cognitive moral development of business students at the target university were compared to non-business students at the same university and also compared to business students at another large, public university in Texas, which had no specific focus on ethics in its curriculum. The study also sought to test the impact grade point average, gender, and university tenure had on cognitive moral development. The study results were based on the N2 index scores calculated based on the responses of 391 traditional aged (17-24), senior-level (90+ hours) students to the recently revised Defining Issues Test (Rest, Thoma et al., 1999).

Five conclusions are drawn from this study. First, a generalized, undefined focus on ethics is not sufficient to bring students to a level of cognitive moral development commensurate with or above the national average for college graduates. Second, a failure to focus on ethics does not necessarily impede a business students’ ability to develop cognitive moral reasoning skills. However, it appears to limit that development to a level below the national average. Third, some impact on cognitive moral development may indeed be generated by an “ethics across the curriculum” approach given the difference observed in the data between students based on their tenure at the university. Similarly, the impact of the college experience on cognitive moral development on the students at the target university was different for males than for females. Fourth, an episodic exposure to ethics in isolation, without programmatic support across the discipline does not impact cognitive moral development. Finally, universities without a formal ethics program risk graduating students who believe ethics is unimportant in business (or less important than profit). These students may also fail to learn how to merge their private and public views of morality and instead allow the workplace to
define how and if this merge occurs. Current experiences in the failure of major companies to uphold the public trust graphically demonstrate how risky this strategy is for our students and for our society.

The primary recommendation drawn from this study is for all university business schools to implement a focused approach to “ethics across the curriculum” that utilizes the current research in ethical education and includes a plan for meeting three objectives: disruption/encouragement of cognitive dissonance, integration of context and class content, and the development of compassion/empathy, supporting the integration of emotion with knowledge and skills in ethical decision-making. While meeting all three objectives in every course is an untenable goal, having a number of classes that focus on these goals spread throughout the students’ college experience is a practical goal, as demonstrated by the success of the Harvard program (Piper et al., 1993). However, it is vital that all business classes demonstrate the importance of ethics by including it in their syllabi with a focus on one or more of the goals. Implementing this recommendation will require faculty education and support to build skills in effective teaching methods.

In conclusion, as educators of the business leaders of tomorrow, we teach as much through our silence as through our words. What we hold as important enough to include in our syllabi will send a powerful message to our students about the role ethics should play in their professional lives. This study has shown that putting ethics in the syllabi, while an honorable starting point, is not enough. The needs of our students to develop as human beings must be as important to us as their need to develop as accountants, financial planners, or marketers. The goals of a business education must include encouraging and assisting students in their search for purpose and worth, or risk their confusion of equating success in life with profits and portfolio diversification to the detriment of their personal lives and to our society.

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