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A Novel Approach to Business Ethics Training: Improving Moral Reasoning in Just a Few Weeks

David Allen Jones

ABSTRACT. I assessed change in students' moral reasoning following five 75-min classes on business ethics and two assignments utilizing a novel pedagogical approach designed to foster ethical reasoning skills. To minimize threats to validity present in previous studies, an untreated control group design with pre- and post-training measures was used. Training (n = 114) and control (n = 76) groups comprised freshmen business majors who completed the Defining Issues Test before and after the training. Results showed that, controlling for pre-training levels of moral reasoning, students in the training group demonstrated higher levels of post-training principled moral judgment than students in the control group.

KEY WORDS: business ethics training, moral judgment, moral reasoning, Defining Issues Test

Introduction

In the wake of all-too-frequent corporate scandals over the last decade, business schools have been blamed for instilling in future business leaders a drive to pursue financial gain without consideration of social and ethical responsibilities. It is for good reason, then, that accreditation granting agencies require business schools to incorporate business ethics training in the curriculum. For instance, the Association to Advance Collegiate Schools of Business "believes that ethical behavior is paramount to the delivery of a quality business education" (14), and they suggest that undergraduate business graduates should have sound "ethical understanding and reasoning abilities" (AACSB, 2005, p. 18). But can ethical reasoning abilities really be taught?

Some scholars believe that "ethics" cannot be taught because a student's character is deeply ingrained prior to enrolling in college (Cragg, 1997). In contrast, other researches note that while moral values may already be established among undergraduate students, the ability to rationally and maturely reflect upon decision options is trainable (Churchill, 1982). Rossouw (2002), for example, suggests that people can acquire the cognitive competence to reason through moral dilemmas in a sophisticated manner. In fact, it is well established that people become more sophisticated in their moral reasoning as they naturally develop throughout life (Colby et al., 1983) and that cognitive–moral development can be "sped up" through ethics training (Schlaefli et al., 1985).

In this article, results are presented from an assessment of the effect of business ethics training on freshmen business students' moral reasoning. Although previous studies have already shown that ethics training can affect moral judgment, meta-analytic research shows that training effects are weaker among individuals under the age of 24 years and tend to be non-significant when the training program is shorter than 3 weeks (Schlaefli et al., 1985). In the present study, trainees were freshmen business majors, averaging 19 years of age. Moreover, the in-class training comprised only five 75-min classes on business ethics. Despite the young age of the trainees and the short training period, improvement in students' moral reasoning was expected because, as described later, a theoretically grounded and novel pedagogical approach was used to foster ethical reasoning skills through two team-based assignments.

Training in business ethics and moral reasoning

Moral reasoning, or moral judgment, refers to the ways in which individuals define whether a course of action is morally right, such as by their evaluating

different courses of action and their taking into account ethical principles when determining their stance about an ethical issue (Pettifor et al., 2000; Rest, 1993; Rossouw, 2002). Moral reasoning is considered to be necessary for moral decision making and behavior (Pettifor et al., 2000; Rest, 1984). Indeed, research shows that development in moral judgment relates positively to moral behavior (Greenberg, 2002; Kohlberg, 1964; Rest, 1979; Trevino, 1992). For these reasons, researchers have argued that a critical pedagogical goal is to help students achieve the highest level of development in moral reasoning possible (Desplaces et al., 2007).

Kohlberg's (1969, 1976) influential theory and research suggests that individuals naturally progress through a series of definite and describable stages of moral reasoning, which form the bases of their ethical behavior. In each stage, individuals judge the morality of actions using their current understanding of justice and reciprocal cooperation. Over time, individuals tend to become more sophisticated in their moral judgment. Individuals at higher stages of moral judgment can understand ethical judgment through the ''lenses'' of earlier stages but tend to reject such perspectives when determining the ethics of a course of action in favor of their more sophisticated views. In contrast, individuals at lower stages of moral development judge ethical issues in narrower terms and have difficulty comprehending moral judgment at higher stages of moral development.

Based on a ''neo-Kohlbergian'' conceptualization of moral judgment, Rest designed the Defining Issues Test (DIT; Rest, 1993) to measure the degree that individuals' moral judgment reflects various stages of cognitive–moral development. For instance, individuals in Stage 2 define morality in terms of instrumental egoism and exchange-based considerations (e.g., ''What will I get out of this?''); individuals at Stage 4 focus on the morality of law and their duty to the social order; and individuals at Stage 6, the highest stage, define morality in terms of rational and impartial moral principles relating to social cooperation. The DIT has been used widely in the scholarly literature, including several studies on the effects of business ethics training.

Boyd (1981–1982) examined the effect of a Business and Society course on 181 students' scores on the DIT, relative to 81 students in other business courses. Results showed support for the training. Differing from the present study, however, Boyd (1981–1982) examined the effects of a semester-long course, whereas I examined the effects of five 75-min classes and a novel assignment approach. This difference in the length of the training is an important one given that ethics training programs less than 3 weeks long are typically ineffective in improving moral reasoning (Schlaefli et al., 1985), a point to which I later return. Like Boyd (1981–1982), Abolmohammadi and Reeves (2000) examined the effects of a semester-long course in business ethics and corporate social responsibility. Results showed that scores on the DIT among 113 undergraduate business students increased from the beginning to the end of the semester. However, a control group was not used in this study and, thus, it is impossible to determine if the change was due to the ethics training or due to, for example, natural maturation in cognitive–moral development. In another study, Fraedrich et al. (2005) examined the effects of business ethics training over the course of a semester among students enrolled in various courses in which business ethics material was covered. Among the over 300 students who completed pre- and post-training measures of moral reasoning, there was a small but significant increase in DIT scores; however, these results, too, are limited by the lack of a control group. Similarly, Dellaportas (2006) examined the effects of an Ethics in Accounting course on 26 senior undergraduate students who completed pre- and post-training measures of the DIT. Results showed that moral reasoning increased significantly but, again, a control group was not used. Desplaces et al. (2007) examined the effects of ethics training on moral reasoning among over 400 business students using the DIT but found few effects. Moreover, this study had several methodological limitations, including the lack of a control group and pre-training measures.

Perhaps most relevant to the current study is Ritter's (2006) examination of the effects of ethics training on moral judgment among 33 students enrolled in a business class, who were compared to a control group comprising 44 students in another section of the same class. Like the present study, the length of the business ethics training was fairly short: Students in the training group participated in lectures on business ethics and completed 10 ethics exercises, which were then discussed during class.

The authors found some limited evidence for an increase in moral judgment among trainees, but the results were somewhat mixed (e.g., the omnibus test was not significant but there was some post hoc evidence suggesting a positive effect of training among women). The small sample size in this study may explain the lackluster results. Moreover, Ritter's measure of moral reasoning was created ad hoc with little evidence presented in support of its validity. Thus, while the Ritter (2006) study is commendable for some aspects of its design (e.g., the use pre- and post-training measures and a highly comparable control group), the design of the present study incorporates methodological improvements over Ritter's study, such as the use of a larger sample size and a well-validated measure of moral reasoning.

The hypothesized effect of business ethics training on moral reasoning

The hypothesis that business ethics training will influence students' moral judgment was tested using the Principled score, or *P* score, from the DIT, which is the most frequently used score in the contemporary literature (Rest and Narvaez, 1994). The *P* score is calculated based on the relative importance respondents place on the two highest stages of cognitive–moral development. The *P* score reflects principled moral thinking and "represents the degree to which a person's thinking is like that of moral philosophers" (Rest, 1993, p. 13). When determining the morality of an action, individuals with a high *P* score consider the specific values they believe should govern how people interact, as well as a broader conceptualization of the relevant stakeholders. Given the way in which the *P* score is calculated, higher scores reflect greater levels of principled moral thinking and less reliance on earlier stages of moral development, such as those in which right and wrong are determined solely by self-interested considerations.

Meta-analytic research on the DIT shows that ethics training programs shorter than 3 weeks do not influence moral judgment (Schlaefli et al., 1985). In the present study, trainees completed only five 75-min classes on business ethics. Moreover, training effects on moral judgment are relatively weaker among people younger than 24 years of age (Schlaefli et al., 1985), and trainees in the present study were, on average, 19 years of age. Additionally, the focus on *P* scores as the dependent variable (reflecting Stages 5 and 6 of cognitive–moral development) represents a conservative test of the training because it is easier to shift from, for example, Stage 3 to Stage 4 than it is to shift from Stages 4 to 5 (Schlaefli et al., 1985). Despite these challenges, improvements in moral reasoning were expected to occur as a result of the training because a novel pedagogical approach was used to foster ethical reasoning skills.

The pedagogical approach (described later) was expected to positively impact students' *P* scores for five reasons. First, as advocated by business ethics scholars (e.g., Brady and Hart, 2006) a number of different philosophical approaches were covered during class and students practiced applying them to various ethical issues and dilemmas. This practice was expected to affect moral reasoning given that it illustrated to students new ways of thinking about ethical issues. Moreover, various philosophical approaches share conceptual links with the different stages of moral development (see Brady and Hart, 2007), thereby exposing students to multiple stages of moral reasoning, including the principled levels of moral judgment. For example, Kant's theory of morality represents a post-conventional level of moral thinking (Brady and Hart, 2007).

Second, students likely perceived the ethics material as highly relevant given that the instructor emphasized and illustrated numerous examples of typical ethical dilemmas that students will later face in business contexts (Sims, 2002). Following Weber's (1990) recommendation, the majority of ethical issues and dilemmas discussed in class were scenarios commonly encountered by employees and managers, rather than exclusively focusing on issues confronting a CEO. Third, experiential learning was utilized via case analysis assignments, which is considered by ethics scholars to be effective for teaching ethical decision making and self-awareness (Pettifor et al., 2000). Fourth, considerable amounts of class time were spent having group-based discussions at the team and class level of ethical dilemmas and scenarios, which scholars suggest can effectively advance students' cognitive–moral development (Weber, 2007; Wells and Schminke, 2001).

Fifth, and perhaps most importantly, a team-based approach to case analysis assignments was used. Kohlberg (1976) emphasized the importance of group participation and shared decision making to develop higher levels of moral judgment. Indeed, research utilizing the DIT shows that training programs are most effective in changing moral judgment when trainees spend time discussing controversial moral dilemmas with their peers and practicing moral problem solving (Schlaefli et al., 1985). In short, the pedagogical approach used in the training was intended to foster what Rossouw (2002) labeled cognitive competence by exposing students to ethical theories and decision-making tools, having students apply the material to business scenarios, and developing in students an appreciation for divergent views through team-based discussion and assignments. For these reasons, despite the aforementioned challenges (e.g., the short training period), I expected to find support for the following hypothesis.

Hypothesis 1: Training in business ethics will increase students' use of principled moral reasoning. Specifically, post-training Principled scores on the DIT will be higher in the training group than in the control group, controlling for pre-training levels.

Methodology

Methodological considerations

Prior studies on the effectiveness of business ethics training have shown mixed results (see Glenn, 1992). Presumably, these mixed results are partly due to differences in pedagogy, but several methodological limitations may also account for the mixed findings. Among the numerous ways to assess change due to training, when random assignment to groups is not possible an ideal quasi-experimental design is called the untreated control group design with pre- and post-training measures (Cook and Campbell, 1979). In this design, the dependent variable is measured in training and control groups at the same times, before and after the training occurs. Several prior studies on business ethics training have not included a control group (e.g., Abolmohammadi and Reeves, 2000; Bodkin and Stevenson, 2007; Carlson and Burke, 1998; Dellaportas, 2006; Desplaces et al., 2007; Fraedrich et al., 2005; Weber and Glyptis, 2000; Wynd and Mager, 1989). Moreover, in some of the studies in which a control group was included, pre- and post-training measures were not obtained at the same times in both groups (e.g., Glenn, 1992; Zinkhan et al., 1989). Unlike these prior studies, the design of the present study accounts for three potential threats to validity: history, practice, and maturation effects (Cook and Campbell, 1979).

History effects occur when events other than the training influence training outcomes. For example, some impactful morally laden event (e.g., the events of September 11, 2001) may affect training outcomes (e.g., ethical sensitivity) and, hence, can threaten the validity of inferences relating to training effectiveness. History effects are minimized when pre- and post-training measures are obtained from training and control groups at the same time because change in the training group is assessed *relative* to any change that may have occurred in the control group. Practice effects occur when scores on some dependent variables improve not because of the training, but as a result of individuals learning to score "better" on measures they complete two or more times. To minimize practice effects, it is essential to assess change due to training relative to a control group in which all participants complete the measures at the same times.

Of particular relevance to evaluating the effects of business ethics training on moral reasoning is the threat to validity caused by maturation effects. A maturation effect occurs when observed change is due to naturally occurring change, rather than the training. Moral judgment is known to develop naturally over time as people develop and mature cognitively (Kohlberg, 1969; Rest, 1979), especially among people receiving formal education (McNeel, 1994; Rest, 1979). Thus, to account for maturation effects, it is essential that pre- and post-training measures are taken over the same period of time in the training and control groups to isolate the effect of training from the effect of naturally occurring cognitive–moral development.

In the present study, the research question of interest, then, is not whether there is change in moral judgment among students in the training group but, rather, whether any such change is significantly greater than the change that may occur

among students in the control group. In addition, it is important to compare any change in the training group to a control group comprising individuals who are similar in their age and education level given that both variables relate to moral judgment (Rest, 1979). Moreover, in some studies on the effectiveness of business ethics training, the control group comprised non-business majors (e.g., Cohen and Cornwell, 1989; Martin, 1981; see Glenn, 1992), but there is reason to believe that business students are qualitatively different than non-business students. Business education may foster "cutthroat and unethical" behavior (Lane et al., 1988, p. 228) and business schools may attract students with certain values, as is evidenced by research showing that business students are more willing to engage in unethical behaviors than are non-business students (White and Dooley, 1993; Wood et al., 1988). Thus, ideally, students in the training and control groups would be highly similar to best assess the effects of business ethics training.

Participants

Participants ($N = 190$[1]) were business majors in their freshmen year at a university in the Northeastern United States. All students provided their voluntary consent to complete the measures in return for bonus credit applied to their course grade and the option of being entered in a draw for $50 in which they had a 1 in 50 chance of being chosen. A research assistant assigned students an identification number to match responses on the pre- and post-measures. Students were informed that their instructors would never be able to identify their responses.

The training group ($n = 114$) comprised students in three sections of a course limited to freshmen business majors. The course was co-taught and focused on business communication, career mindfulness, teamwork skills, and business ethics (the latter was taught by the author). The control group ($n = 76$) comprised students in two sections of a different course that was likewise limited to freshmen business majors. The course in which control group participants were enrolled focused on the different functional areas of business and the use of information technology to make business decisions; in this course, business ethics was not covered prior to the completion of the post-training DIT. None of the students in the training and control groups had taken more than one other business course prior to the semester in which the study occurred, and none of them were concurrently enrolled in any other business courses.

Procedure

Study timeline

Participants in the training group completed the measures during class time and those in the control group completed the measures outside of class time. The pre-training measure was first administered to all participants during the second week of classes of the Spring 2006 semester. Nine weeks later, participants in the training group received the training in business ethics. One and a half weeks following the training (1 week before the end of the semester), participants in both groups completed the post-training measures. Following this, participants in the both groups attended a lecture in which they were debriefed about the study purpose (at which time control group participants also learned about business ethics).

Business ethics training: in-class

The course in which training group participants were enrolled included five 75-min classes on business ethics. These classes occurred over a 3-week period, interspersed with two classes in which ethics was not covered (e.g., one class was on writing case analyses). For the five training classes, 50.88% of the sample attended all five classes, 36.84% missed one class, 8.77% missed two classes, and 3.51% missed three classes (many of these absences were due to legitimate reasons, such as athletic obligations and health issues). Because 30% of students' final grades was based on the ethics material, students who missed these classes were likely motivated to learn the material on their own using the textbook, the class notes that were accessible online, and their team members.

Portions of each class were spent covering lecture content, having class-wide discussions, and discussing ethical dilemmas and short cases within student teams before sharing conclusions with the class. All teams comprised four to five students who had

already worked together on assignments unrelated to business ethics. The ethics material included different categories of unethical actions, ''gut'' tests, performing a stakeholder analysis, the ethical decision-making process, day-to-day ethical dilemmas experienced by employees and managers, corporate social responsibility, and ethics in a global environment. Emphasis was placed on understanding and applying philosophical perspectives on ethics including egoism, enlightened self-interest, rule- and event-based utilitarianism, various deontological perspectives, relativism and cultural relativism, and integrated social contract theory.

Business ethics training: case analysis assignments

In addition to the lecture material and in-class discussions, a major pedagogical tool was the use of a novel approach to case analysis assignments that was designed to maximize the development of ethical reasoning skills. This novel assignment approach comprised two major parts. In brief, Part I involved the analysis of a case, first individually and then as a team. Part II involved individual and team-based grading of the ethical reasoning skills demonstrated in other teams' case analyses.

The assignment approach was applied to two cases developed and co-developed by the author.[2] The cases were designed so the majority of business ethics material taught in class was applicable; accordingly, the student teams applied the different course material in a variety of ways. In Case 1, students were placed in the role of a co-owner of a medium-sized company who was in the process of hiring someone for an important sales position. The primary dilemma was whether to use information obtained through dubious means about the top candidate, which suggested that hiring her may eventually affect the health insurance premiums for all employees because of her son's illness. The case was complex and there was no obvious ''morally superior'' course of action; there were several stakeholders (e.g., employees, co-owners, the top-two applicants), multiple ethical issues (e.g., discrimination based on gender), as well as various practical issues to consider (e.g., the actor's relationship with the other co-owner who wanted to use the information). In Case 2, students were placed in the role of an account manager of a team at an advertising agency that was competing for a large account. The primary ethical issues were about the use of insider information about a competitor's plans and the withholding of less favorable information about the merits of the team's primary ad campaign strategy. The primary dilemma was the actor's choice of which advertising strategy, if any, should be presented to the clients later that day. Like Case 1, Case 2 was complex and involved the consideration of various stakeholders (e.g., each member of the ad team had a unique interest in the decision), other ethical issues (e.g., whether to leverage racial stereotypes in an ad), and practical issues (e.g., protecting the interests of, and setting an example for, a rising star on the team).

In Part I of the case analysis assignment, students first prepared analysis notes about the case on their own, which were submitted and graded by the instructor who assessed the extent to which relevant course material was applied. Following their individual work on the case, students worked with their team members to complete the case analysis as a team. The purpose of requiring students to work on their own before working within their teams was to force them to have informed positions to facilitate rich and lively discussions among team members in which they could rationally defend their positions. The instructions for the case analysis required students to identify ethical issues, define why they are ethical issues using philosophical perspectives and other course material, conduct a stakeholder analysis, consider whether they have stronger obligations to some stakeholders than to others, identify decision options and the consequences of the options for the stakeholders, evaluate the decision options using philosophical perspectives, and make and justify a decision about the chosen course of action.

For Case 1, after the teams submitted their case analyses, the instructor used class time to debrief students on various ways of thinking about the case. The lecture and discussion focused on examples of sophisticated ethical reasoning skills and the various ways in which course material could be applied to the case. Following this debriefing class, students completed Part II of the assignment. In Part II, each student team received the analyses of the same case submitted by four other student teams. First working on their own, students graded the use of ethical reasoning skills demonstrated in each of the four case analyses, and they provided written justifications for their grading decisions (this individual assignment

was then graded by the instructor). Then, students worked within their teams to come to consensus about the grades for the four case analyses. For both the individual and team-consensus grading, students used a forced distribution of grades to require them to make fine-grade distinctions between the ethical reasoning skills demonstrated in each case analysis. The team-consensus grades were highly consistent across the teams, and each student team received the grades assigned to them by other teams (these grades were used for feedback only – all grades were determined by the instructor). Each team also received the written feedback on their use of ethical reasoning skills provided by four other teams. For Case 2, students did not perform the grading task because the teams submitted their analyses near the end of the semester. Instead, after students completed the post-training DIT, student teams presented their analysis of Case 2 to the class, which served to expose students to different approaches to the case adopted by multiple teams.

Measures: the Defining Issues Test

The DIT (Rest, 1993) is a widely used measure for assessing individuals' moral judgment based on Kohlberg's (1969) framework of cognitive–moral development. The DIT presents "Kohlbergian dilemmas" in vignettes (e.g., whether to steal a drug in order to save one's wife), and respondents are asked to rate 12 statements and rank the top four statements in terms of the extent they reflect the critical issue of the dilemma (e.g., "Isn't it only natural for a loving husband to care so much for his wife that he'd steal?"). The 12 statements are designed to represent different stages of cognitive–moral development. I used the short form of the DIT. Rest (1993) reported that the short form correlates with the long form at about 0.90.

The DIT is supported by considerable reliability and validity evidence. Test–retest reliability for the *P* score ranges within the high 70% or 80% levels and Cronbach alphas typically fall within the 0.70–0.80 range (Rest, 1993). Construct validity evidence comes from numerous sources; for instance, experts in moral philosophy score higher on the DIT than other individuals, and people's scores change over time in the expected directions (Rest, 1993).

Results

Pre-training characteristics of the training and control groups

Participants in the training and control groups were compared on demographic and other characteristics including their scores on the DIT at Time 1. The age and gender of participants in the training and control groups were compared because meta-analytic evidence suggests that students who are older, and especially who are female, hold stronger ethical attitudes than their younger and male counterparts (Borkowski and Ugras, 1998). The percentage of females did not differ in the training (29.82%) and control (36.84%) groups: $\chi^2 = 1.02$, $p > 0.05$. Although all participants were freshmen, participants in the control group ($M = 18.94$ years, SD = 0.96) were significantly older, by slightly over 6 months, on average, than participants in the training group ($M = 18.37$ years, SD = 0.57): $t(190) = -5.06$, $p < 0.001$. Because students with higher grade-point averages (GPA) have been shown to respond more "correctly" to business ethics scenarios (Martin, 1981), self-reported GPA was compared between the training ($M = 2.83$, SD = 0.57) and control groups ($M = 2.94$, SD = 0.52) and no difference was found: $t(175) = -1.40$, $p > 0.05$.

Students in the training and control groups did not differ on the self-reported number of times they cheated on (a) an assignment while in university [$M = 0.61$, SD = 1.88 vs. $M = 0.75$, SD = 1.91, respectively, $t(182) = -0.51$] or (b) a test while in university [$M = 0.27$, SD = 0.83 vs. $M = 0.53$, SD = 1.13, respectively, $t(181) = -1.73$], which provides some evidence that the two groups were comparable in terms of their levels of unethical behavior. Perhaps most importantly, pre-training *P* scores on the DIT did not differ among the training ($M = 29.24$, SD = 15.80) and control groups ($M = 30.57$, SD = 15.45): $t(188) = -0.57$, $p > 0.05$.

Hypothesis testing: assessing change due to training

Scholars suggest that analysis of covariance (ANCOVA) is the best analytic method for assessing change due to training using the research design I employed (Arvey and Cole, 1989; Stevens, 1986).

Pre-training *P* scores were entered as the covariate so that the training and control groups could be compared on post-training *P* scores while controlling for pre-training levels. Results showed that Hypothesis 1 – that the training would increase students' Principled scores – was fully supported. Post-training *P* scores were higher in the training group ($M = 36.52$, SD = 17.76) than in the control group ($M = 31.67$, SD = 15.96), while controlling for pre-training *P* scores (adjusted means were 36.77 vs. 31.28): $F(1, 187) = 5.86$, $p < 0.05$. Thus, the observed change among students in the training group was significantly greater than any change in *P* scores among students in the control group.

Other analyses

Further examination of Principled scores

Table I shows the percentage and number of students whose pre- and post-training *P* scores fell within particular ranges within the training and control groups. In the context of normative data pertaining to the DIT (Rest, 1993), two points are particularly notable among the results in Table I. First, Rest (1993) reported that scores in the 20s are typical of junior high school students. In the training group, 57 students (50.00%) had pre-training *P* scores of 29 or lower; after the training, this number fell to 38 students (33.33%). Notably, in the control group there was almost no change in the percentage of students who scored 29 or lower (46.05% and 47.37% before and after the training, respectively). Second, *P* scores in the 40s are purportedly typical of college students (Rest, 1993). In the training group, 31 students (27.19%) had pre-training scores of 40 or higher; after the training, this number increased to 52 students (45.61%).

Self-reported learning and cognitive intentions

Several items were administered to students in the training group at the same time as the post-training DIT. Students responded on a scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Table II shows descriptive statistics for self-reported learning among students in the training group. The means on all items were around six out of a possible seven, indicating that, as a result of the training they received, students believed they were better able to apply the skills listed in Table II.

Discussion

The purpose of this study was to assess whether a relatively short training program in business ethics

TABLE I

Percentage and number of participants within ranges of pre- and post-training Principled scores on the DIT for training and control groups

Principled score	Percentage and number of participants			
	Training group		Control group	
	Pre-training	Post-training	Pre-training	Post-training
0–9	12.28 ($n = 14$)	4.29 ($n = 5$)	3.95 ($n = 3$)	2.63 ($n = 2$)
10–19	12.28 ($n = 14$)	14.04 ($n = 16$)	19.74 ($n = 15$)	15.79 ($n = 12$)
20–29	25.44 ($n = 29$)	14.91 ($n = 17$)	22.37 ($n = 17$)	28.95 ($n = 22$)
30–39	22.81 ($n = 26$)	21.05 ($n = 24$)	30.26 ($n = 23$)	23.68 ($n = 18$)
40–49	13.16 ($n = 15$)	16.67 ($n = 19$)	9.21 ($n = 7$)	14.47 ($n = 11$)
50–59	10.53 ($n = 12$)	18.42 ($n = 21$)	7.89 ($n = 6$)	7.89 ($n = 6$)
60–69	3.51 ($n = 4$)	7.89 ($n = 9$)	6.58 ($n = 5$)	1.32 ($n = 1$)
70–80	0.00 ($n = 0$)	2.63 ($n = 3$)	0.00 ($n = 0$)	5.26 ($n = 4$)

$n = 114$ in the training group and $n = 76$ in the control group. Norms established for the DIT (Rest, 1993) are such that scores in the 20s are typical of junior high school students, in the 30s of high school students, in the 40s of college students, in the 50s of graduate students not studying moral philosophy, and in the 60s of graduate students studying moral philosophy.

TABLE II

Self-reported learning and intentions to consider ethics in business contexts: descriptive results from the training group

Item	*M*	SD
As a result of my experiences in the course, I…		
Am better at identifying the stakeholders involved in an ethical dilemma	6.24	0.72
Am better at applying different philosophical approaches to an ethical dilemma	5.82	0.91
Am better at recognizing an ethical dilemma when one exists	6.12	0.84
Can reason through an ethical dilemma in a more sophisticated manner	6.07	0.91
Can reason through an ethical dilemma in a more mature way	6.12	0.90
Am more likely to think about the morality of my actions in a business context	6.11	0.87
Am more likely to consider the ethical implications of my actions in a business context	6.02	1.03

n = 114. Students responded on a scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*).

using a novel pedagogical approach to case-analysis assignments could improve students' moral judgment. Results showed that the training significantly increased students' principled moral reasoning, relative to students in the control group. Although previous studies have shown significant increases in moral reasoning among business students who completed a course focusing on ethics (Abolmohammadi and Reeves, 2000; Boyd, 1981–1982; Dellaportas, 2006; Fraedrich et al., 2005), what is particularly notable about the present study is that meaningful effects were observed after a relatively short training period.

This study contributes to the literature in several ways. First, the study design was rigorous and minimized several threats to validity that researchers should consider when studying this topic in the future. For instance, the effect of ethics training was isolated from natural changes in moral judgment that occur among university students (i.e., maturation effects). Moreover, students in the training and control groups were highly similar in their age, gender representation, year of study, academic major, self-reported GPA, self-reported cheating in university and, perhaps most importantly, pre-training *P* scores on the DIT. Thus, while definitive causal conclusions can only be derived from a true experiment, the rigorous design of this quasi-experiment provides considerable support for the inference that the training in business ethics improved students' ability to engage in principled moral reasoning.

A second contribution of this study is that a novel pedagogical approach to business ethics training was described with sufficient detail so that its use can be replicated for teaching and research purposes. As discussed later, additional research is needed to determine what aspects of this pedagogical approach may be responsible for changes in moral reasoning. Third, theory was presented to explain why the novel pedagogical approach was expected to improve students' moral reasoning. For example, after students worked on the case analysis individually, they were likely well prepared and committed to a position about the case before meeting with their team members to work on the case together, thereby fostering sophisticated discussions among team members. The use of team-based discussion and decision making is consistent with Kohlberg's (1976) view that group participation and shared decision making can foster higher levels of moral judgment, and with research showing that training programs are most effective when trainees discuss moral dilemmas and practice moral problem solving with their peers (Schlaefli et al., 1985). Moreover, students practiced applying various philosophical approaches to ethical dilemmas and cases, which exposed students to different perspectives that reflect multiple stages of moral reasoning (Brady and Hart, 2007).

A fourth, and perhaps the most important, contribution of this study is the finding that a short training program can improve students' moral judgment. The training comprised only five 75-min classes on business ethics and two out-of-class assignments, which represent substantially less training time than the 3-week minimum shown to be necessary for increasing cognitive–moral

development (Schlaefli et al., 1985). Research on the DIT has shown that training programs lasting longer than 12 weeks have no greater effect than programs lasting 3–12 weeks (Schlaefli et al., 1985). Nonetheless, given the short length of the novel training program examined herein, future research should determine if the use of the same pedagogical approach over a longer period of time can further increase principled moral judgment (e.g., training over 10 75-min classes with multiple case analysis assignments).

Limitations and future research

Perhaps the greatest limitation of this study is that the findings do not illuminate which aspects of the training are responsible for its success. In future research, the in-class portions of ethics training could be held constant while the out-of class tasks are manipulated. Different training groups could be created and compared; for instance, one training group could include no out-of-class activities or assessment; another group could include no out-of-class activities with assessment through a test; another group could include the individual work on the case analysis assignments; and a fourth group could include the individual and team-based aspects of the case analysis assignments as described herein. In short, aspect(s) of the training program that may be responsible for changes in principled moral reasoning need to be isolated to further inform business ethics pedagogy.

A second limitation is that it is unknown how long the training effect will last. Reflecting the philosophy underlying training in any business course, my guiding assumption echoes Oddo (1997) who suggests that repeatedly applying ethical reasoning skills in the classroom may foster their use in business settings. Regardless of whether this assumption holds, however, research on the DIT suggests that the effect observed in this study is not transient. Experimental research shows that instructing participants to "fake upward" and artificially inflate their scores on the DIT do not result in elevated scores (Schlaefli et al., 1985). Thus, it is likely that students' responses to the DIT reflected their actual levels of moral judgment, rather than, for example, their beliefs about what the researcher wanted to find. Moreover, research shows that it is extremely rare for individuals to regress to earlier stages of moral development (Colby et al., 1983), and training intervention studies with delayed follow-up testing typically show that gains on the DIT are maintained (Schlaefli et al., 1985). Despite these findings, few studies have examined whether improvements in moral judgment due to business ethics training last over time, and this issue should be examined in future research.

Another, perhaps unavoidable, limitation of this study is the potentially confounding influence of other courses in which students were concurrently enrolled. Although students in both the training and control groups were not enrolled in any other business course, it is possible that students in one group were enrolled in more courses with ethical content than students in the other group. One strength of this study, however, is that students were freshmen business majors who had previously completed, at most, only one other business course. Given that business ethics is infused throughout the curriculum at the business school in which these data were collected, the sample comprised students who were largely not yet "indoctrinated" with business ethics education. This circumstance, however, raises important questions for future research and pedagogical practice. Is it best to train students in business ethics early on so that their higher levels of principled moral reasoning will "color" the rest of their business education? Are gains in moral reasoning early on in a student's business education "washed out" by competing messages about the self-interested pursuit of material gain? Would the same effect found in this study be found among students in later stages of their business training?

Practical implications

The primary practical implication of this research is that moral judgment can be improved by a relatively short training program in business ethics. Most of the suggestions for future research noted above also have important implications for teaching practice. A final issue of practical importance is whether improving moral judgment among future business leaders affects their behavior. Ideally, longitudinal research would be conducted to compare students

who do and do not receive the ethics training on relevant workplace behavior, such as counterproductive workplace behavior (e.g., theft, sabotage). In the absence of such research, however, there is good reason to believe that the effect observed in this study is indeed practically important. Ethics theory suggests that moral reasoning is necessary for individuals to engage in moral decision making and behavior (Pettifor et al., 2000; Rest, 1984). Moreover, individuals at higher levels of moral development are less susceptible to situational pressures to engage in unethical behavior (Trevino, 1986). Consistent with these points, development in moral judgment relates positively to moral behavior (Kohlberg, 1964; Rest, 1979). For instance, people's stage of moral development relates to behaviors that include student cheating, resisting pressure from an authority figure, helping behavior, and whistle blowing (Trevino, 1992), as well as theft (Greenberg, 2002). Thus, although additional research is needed to examine the links between business ethics training and future workplace behavior, evidence suggests that improving business students' moral judgment is a worthy, if not an essential, goal of business training.

Notes

[1] Excluded from this sample were three individuals who did not pass the DIT's internal reliability check. For this check, complex but meaningless sounding items are interspersed throughout the DIT. If a participant provides high ratings to these items, the questionnaire is invalidated because it is inferred that the participant is rating items on some basis other than their meaning. Two participants were purged as a result of their pre-training DIT responses (one person each from the training and control groups), and one participant was purged as a result of his or her post-training DIT responses (from the control group).

[2] The second case was co-developed with the co-instructor of the course, Amy Tomas.

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School of Business Administration,
The University of Vermont,
Burlington, VT, U.S.A.
E-mail: dajones@bsad.uvm.edu