



2014

# The Interaction Between Learning Styles, Ethics Education, and Ethical Climate

Leanna Lawter

*Sacred Heart University*, lawterl@sacredheart.edu


Tuvana Rua

*Sacred Heart University*, ruar@sacredheart.edu

Chun (Grace) Guo

*Sacred Heart University*, chun-guog@sacredheart.edu

Follow this and additional works at: [https://digitalcommons.sacredheart.edu/wcob\\_fac](https://digitalcommons.sacredheart.edu/wcob_fac)

 Part of the [Business Law, Public Responsibility, and Ethics Commons](#), [Educational Assessment, Evaluation, and Research Commons](#), [Human Resources Management Commons](#), and the [Organizational Behavior and Theory Commons](#)

## Recommended Citation

Lawter, Leanna; Rua, Tuvana; and Guo, Chun (Grace), "The Interaction Between Learning Styles, Ethics Education, and Ethical Climate" (2014). *WCOB Faculty Publications*. 347.

[https://digitalcommons.sacredheart.edu/wcob\\_fac/347](https://digitalcommons.sacredheart.edu/wcob_fac/347)

This Peer-Reviewed Article is brought to you for free and open access by the Jack Welch College of Business at DigitalCommons@SHU. It has been accepted for inclusion in WCOB Faculty Publications by an authorized administrator of DigitalCommons@SHU. For more information, please contact [ferribyp@sacredheart.edu](mailto:ferribyp@sacredheart.edu), [lysobeyb@sacredheart.edu](mailto:lysobeyb@sacredheart.edu).



## The Interaction between Learning Styles, Ethics Education, and Ethical Climate

Journal:	<i>Journal of Management Development</i>
Manuscript ID:	Draft
Manuscript Type:	Original Article
Keywords:	Learning styles, deep learning, ethics education, ethics climate

SCHOLARONE™  
Manuscripts

Review

## The Interaction between Learning Styles, Ethics Education, and Ethical Climate

### ABSTRACT

**Purpose** – The purpose of this paper is to investigate how learning styles and learning spaces interact to stimulate deep learning. Specifically we investigated the interaction of learning styles with ethics education and the ethical climate to influence the likelihood of engaging in ethical behavior.

**Design/methodology/approach** –Data was collected from two groups of students—those who had completed a business ethics course and those who had not completed a business ethics course. The sample consisted of 180 undergraduate students at a private university in the United States. Data was analyzed using regression analysis to test the hypotheses. A scenario-based measure of the likelihood of engaging in ethical behavior was developed and implemented in the study.

**Findings** –Both ethics education and ethical climate had a direct impact on a student’s likelihood of engaging in ethical behavior. The interaction between learning style and business ethics class significantly impacted experiential learners’ likelihood of engaging in ethical behaviors. Results for non-experiential learners as relates to ethical climate were non-significant, but ad hoc analysis indicates ethical climate significantly impacted likelihood to engage in ethical behaviors.

**Practical Implications** –The findings have practical implications for how universities should utilize learning spaces both inside and outside the classroom to be stimulate deep learning and be more effective in sensitizing students to ethical behavior.

**Originality/Value** –Our results support using formal and informal learning spaces to stimulate deep learning as it relates to ethics education in universities.

**Keywords** – learning styles, deep learning, ethics education, ethical climate

**Paper Type** – Research paper

For Peer Review

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

## Introduction

As business educators, one of our challenges is to develop more ethical managers. The solution to this challenge has been at most universities to require students to complete a course in business ethics (Givens, 2004). While ethics education in the form of a business ethics course may heighten a student's sensitivity to particular ethical situations, ethics education may in fact fall short of its main objective—creating ethical managers ([Smith and Oakley, 1996](#)). In fact, business schools are notorious for high levels of cheating ([Bowers, 1964](#); McCabe 1997; McCabe, Butterfield & Trevino, 2006) and may actually be creating an ethical climate where observed cheating fosters de-sensitivity to ethical situations and encourages unethical behavior in order to get ahead (McCabe and Trevino, 1995).

Although explanations of unethical behavior have long been attributed to individual factors, previous research has shown that contextual factors can interact with individual factors in influencing moral reasoning and important organizational outcomes (e.g. Adam, [Tashchian and Shore, 2001](#); Dickson, Smith, Grojean and Ehrhard, 2001; Weber, 1990). Researchers (Adam et al. 2001; [Dickson et al., 2001](#); [Victor and Cullen, 1988](#)) note that the perceived consequences of behavior, the perceived conformity to group expectations, and the individuals' economic dependence on the employing organization can exert powerful influence on individual decisions as well as business unit readiness, success and cohesiveness. Following this logic, we expect that in an educational setting, students' ethical behavior can be shaped by individual factors as well as contextual factors such as the ethical climate of the university and ethics education in influencing their moral reasoning and individual behavior.

Traditionally, researchers and educators argue that teaching styles should fit and reflect students' learning preferences and needs (Kolb, 1984). However, a drastic different approach

## Learning Styles Interaction

2

1  
2  
3  
4  
5 recently proposed by Kolb and Kolb (2009) suggests that in order to activate deep learning, the  
6  
7 student must engage in types of learning which are less frequently used and, in a sense, get out of  
8  
9 their comfort zone. For example, while experiential learners are adept at using tacit knowledge,  
10  
11 they may benefit more from business ethics class that facilitates reflective learning and thereby  
12  
13 helps them reframe past events (Lawter, Guo, Rua, 2011). However, to our knowledge, little  
14  
15 research is done on investigating the approach developed by Kolb and Kolb (2009).  
16  
17

18  
19         Puzzled by these different perspectives, in the present study, we investigate how students'  
20  
21 learning styles, an individual level variable, when interacting with ethics education and the  
22  
23 ethical climate of the university, two context level variables, influence the likelihood of  
24  
25 engaging in ethical behavior. Our primary assertion is that both the classroom and the general  
26  
27 ethical climate of a university act as learning spaces for students. Thus we posit that both the  
28  
29 formal learning space of the business ethics classroom and the informal learning space of the  
30  
31 ethical climate of the university will influence a student's likelihood of engaging in ethical  
32  
33 behavior.  
34  
35  
36  
37

38  
39         Deep learning theory (Kolb and Kolb, 2009) suggests that for experiential learners and  
40  
41 non-experiential learners deep learning is stimulated in different learning spaces. Following this  
42  
43 line of reasoning, we would expect that for experiential learners formal learning spaces where  
44  
45 learning occurs primarily through vicarious learning would stimulate deep learning. Similarly,  
46  
47 we would expect that for non-experiential learners informal learning spaces where learning  
48  
49 occurs primarily through experiential learning would stimulate deep learning.  
50  
51

52  
53         Based on deep learning theory, we posit that for the experiential learner the formal  
54  
55 classroom will have a stronger influence on the likelihood of engaging in ethical behavior, as  
56  
57 business ethics class will activate reflective learning and the reframing of experiences gained  
58  
59  
60

## Learning Styles Interaction

1  
2  
3  
4  
5 from informal learning spaces. We also predict that for the non-experiential learner the ethical  
6  
7 climate will have a stronger influence on the likelihood of engaging in ethical behavior, as the  
8  
9 experience of seeing students caught cheating will reinforce vicarious learning from formal  
10  
11 learning spaces.  
12

13  
14 To test these hypotheses we conducted a survey among 180 undergraduate students and  
15  
16 the findings of our data analysis provide initial support to our speculations. We found that  
17  
18 students who took a business ethics class were more likely to engage in ethical behavior. We  
19  
20 also found that students who perceived higher percentages of students caught cheating were  
21  
22 more likely to engage in ethical behavior. Additionally we found some support for the  
23  
24 interactive effects of learning style and learning spaces. Our study makes three major  
25  
26 contributions to theory and practice. First our findings support the theory that deep learning  
27  
28 occurs when students engage in learning outside of their preferred learning style. Empirically,  
29  
30 we found statistical support for the interaction between experiential learning style and formal  
31  
32 learning space. Additionally, ad hoc analysis suggests that further investigation into the  
33  
34 interaction between non-experiential learning styles and informal learning space is needed.  
35  
36 Lastly, the practical implications for our study is that in sensitizing our students to ethical  
37  
38 behaviors, as institutions we need to employ both formal learning spaces and informal learning  
39  
40 spaces as important avenues of learning.  
41  
42  
43  
44  
45  
46

**Literature Review and Hypothesis Development*****Learning Spaces and Its Influence on Learning***

47  
48  
49  
50 Learning spaces are generally defined as places where formal, or informal learning takes  
51  
52 place (Marsick & Watkins, 2001; Milne, 2006). More specifically, formal learning takes place in  
53  
54 highly structured settings (Marsick & Watkins, 1990) whereas informal learning can take place  
55  
56  
57  
58  
59  
60

anywhere in an organization in an unstructured manner. Accordingly, different learning spaces at a university can lead to different types of learning: classrooms being highly structured will lead to formal learning (Marsick & Watkins, 1990), while interactions with peers outside the classroom and contextual cues from the overall sense of the university climate lead to informal learning (Marsick & Watkins, 2001; Wenger, 1998).

Bronfenbrenner (1977) described learning/development spaces as a “topologically nested arrangement of structures each contained within the next” (p. 514). Kolb and Kolb (2005) further defined learning spaces within the university setting as a three tiered system of spaces such that the immediate setting such as the classroom or course is the microsystem of the individual, whereas the other concurrent settings in the person’s life such as other courses, dorms, or fraternities serve as the mesosystem, while the overarching institutional patterns and values of the wider culture in an organization would serve as the macrosystem. Accordingly, these three levels of the system (micro, meso or macro) would generate distinct learning opportunities for the learner as each of these levels will present unique experiences. Within the current study two levels of learning spaces are compared—business ethics class as an example of the microsystem, which provides formal learning, and ethical climate of the university as an example of the macrosystem, which provides informal learning.

### ***Business Ethics Class as a Learning Space***

Business ethics class acts as a formal learning space where students are sensitized to types of ethical dilemmas in organizations and societies. The main objective of business ethics education is to generate a higher level of moral awareness and moral maturity in our graduates. The expectation is to enable the student to engage their own personal values when they are



## Learning Styles Interaction

1  
2  
3  
4  
5 confronted with an ethical dilemma once they enter the business world (Lowry, 2003). The  
6  
7 format of most business ethics courses involves sensitizing the student to types of ethical  
8  
9 dilemmas in organizations by teaching ethics theories as frameworks to evaluate possible  
10  
11 outcomes and then having the student practice their newly developed awareness through the  
12  
13 extensive use of case-based examples (Gentile, 2010). This traditional approach to teaching  
14  
15 business ethics has been criticized for relying on vicarious learning and the lack of transferability  
16  
17 from the academic setting to the student's work experiences after university (McDonald and  
18  
19 Donleavy, 1995).

20  
21  
22  
23  
24 Yet, business ethics class can have a positive impact on student awareness of ethical  
25  
26 situations and increase the ability to reframe past experiences. Lawter, Guo, and Rua (2011)  
27  
28 found that students believed that a business ethics class was beneficial as it allowed them  
29  
30 reframe past experiences and reflect on the ethical nature of past actions. Additionally, students  
31  
32 who had also engaged in some form of experiential learning coupled with the business ethics  
33  
34 course reported a higher likelihood of acting ethically when confronted with an ethical dilemma.  
35  
36 Gentile (2010) also supported the positive effects of business ethics education on students'  
37  
38 ability to engage in ethical behaviors. By coupling vicarious learning activities and experiential  
39  
40 learning activities within a formal learning space, Gentile found that students felt more prepared  
41  
42 when confronted with an ethical dilemma outside the classroom.

43  
44  
45  
46  
47 By integrating both experiential and vicarious learning activities, business ethics class  
48  
49 acts as a valuable learning space for reflection and reframing of past experiences for students.  
50  
51 Therefore, we speculate that business ethics education is successful in students' heightening  
52  
53 sensitivity to ethical situations and encourage them to engage in ethical behavior. As such, we  
54  
55 predict that:  
56  
57  
58  
59  
60

*Hypothesis 1: Students who take a business ethics class will be more likely to engage in ethical behavior.*

### ***Ethical Climate as a Learning Space***

Passarelli and Kolb (2011) suggest that learning extends beyond the classroom and involves a socialization process via membership and identity formation because students also learn from others in their community. Situated learning theory (Lave & Wenger, 1991) provides support for the ethical climate as a learning space as it defines learning as a transaction between the person and the social environment, where learning is extended beyond the physical classroom into the process of a becoming a member of a community of practice. Students develop experiences and share those experiences within their communities creating a climate based on those shared experiences (Passarelli & Kolb, 2011). Climate is one of the most influential contextual factors that can either facilitate or impede effective teaching and learning that take place in the classroom setting through interpersonal interactions (Marsick and Watkins, 2001). Climate acts as a learning space as “*karma in the walls and halls*” by informing the learners about how to make sense of what they observe and how to interpret what they experience (Callahan, 1999).

Victor and Cullen (1987) defined ethical climate as “the shared perception of what is ethically correct behavior and how ethical issues should be handled” within an organization (pp.51-52). Research has shown that situational factors, such as presence of codes of ethics, obedience to authority or conformity to the group and shared perceptions of the organization’s policies and practices, can have a strong impact on individual ethical behaviors (Adams et al.,

2001; Trevino, 1992; Weber, 1990). These previous studies suggest that organizational context has an overriding influence on individual moral decisions made in an organizational context.

In a university setting, cheating has long been noted as one of the most frequently occurring unethical behaviors (McCabe, 2005). McCabe and Trevino (1993) observed that observing peers cheating without consequences can lead others to cheat, as observing this type of unethical behavior in one's immediate surroundings can be viewed as an acceptable way of behaving and getting ahead within that culture. On the contrary, students who perceive strong disapproval of cheating among their peers, which would signify a culture intolerance of this type of unethical behavior, report consistently lower levels of cheating (McCabe and Bowers, 1996). Based on the findings of two experiments, Gino, Ayal and Ariely (2009) note that individuals' unethical behavior depends on the social norms implied by dishonesty of other members. Accordingly, we argue that peer conduct and perceptions of cheating behavior, can contribute to the perceived general ethical climate or the macro-system of the learning space of the university, which will influence students' likelihood of engaging in academic dishonesty. As such, we hypothesize that ethical climate acts as an informal learning space such that:

*Hypothesis 2a: Students who perceive higher percentages of students cheating at university will be less likely to engage in ethical behavior.*

Similarly, in an education setting, empirical findings indicate that in universities, which have honor codes and academic integrity policies that are widely known and accepted by the members of these communities and in which there are clearly stated consequences for not conforming to these standards, students display lower levels of cheating (McCabe and Trevino, 1993). More specifically, the prevalence of cheating and the subsequent consequences will create an ethical climate, which acts as an informal learning space for the student whereby the

## Learning Styles Interaction

8

1  
2  
3  
4  
5 student learns whether unethical behavior is socially acceptable and whether there are  
6  
7 consequences for engaging in unethical behavior. In essence, students engage the experiential  
8  
9 learning process of ethical behavior within this informal learning space (macro-system) as a  
10  
11 member of the university's ethical climate other than their immediate learning from the  
12  
13 microsystem, which is the business ethics courses.  
14  
15

16  
17 In our view, university policies and practices supporting ethical behaviors (and  
18  
19 specifically those which demonstrate an intolerance of academic cheating of all kinds) create an  
20  
21 ethical climate and can serve as a macro-system of student learning spaces in the domain of  
22  
23 academic integrity. This type of learning space constitutes the immediate ethical climate for  
24  
25 students and provides a set of expected ethical behaviors prescribed for all members of these  
26  
27 communities within this domain. Therefore we predict:  
28  
29

30  
31 *Hypothesis 2b: Students who perceive higher percentages of students caught cheating at*  
32  
33 *university will be more likely to engage in ethical behavior.*  
34  
35

**Learning Styles and Learning Spaces**

36  
37  
38  
39 Matching the method of teaching with the learning style of the learner has been shown to  
40  
41 have a significant influence on academic success (Kolb, 1984). Experiential learning is described  
42  
43 as "the process whereby knowledge is created through the transformation of experience" (Kolb,  
44  
45 1984, p. 41). Vicarious learning, on the other hand, is achieved through observing either first  
46  
47 hand or through others accounts with no active involvement in the experience (Bandura, 1977;  
48  
49 Gholson and Craig, 2006; Rosenthal and Zimmerman, 1978). Research shows that individuals  
50  
51 differ in terms of their preference for employing learning styles due to hereditary equipment,  
52  
53 particular life experiences and the demand of the present environment, which generates different  
54  
55  
56  
57  
58  
59  
60

## Learning Styles Interaction

9

1  
2  
3  
4  
5 learning styles for different learners (Kolb and Kolb, 2005; 2009). The traditional perspective on  
6  
7 learning style is that matching the method of teaching with the learning style of the learner is the  
8  
9 best means of positively impacting academic success (Kolb, 1984).  
10

11  
12 However, there is opposing views to this perspective. Kolb and Kolb (2005) suggests  
13  
14 that the different levels of the learning spaces also impact different levels of learning. When it  
15  
16 comes to ethics, it is highly possible that these different levels have different perspectives to  
17  
18 provide, and then the question becomes whether individuals' preferences in regards to learning  
19  
20 styles impact the way they absorb and use these conflicting and competing teachings they receive  
21  
22 from these different learning spaces. Kolb and Kolb (2009) suggest that when the learner is  
23  
24 forced to activate types of learning which are less frequently used by the learner, the process of  
25  
26 deep learning is stimulated. The implication of this is that learners develop a comfort zone of  
27  
28 learning where they become adept at using a particular learning style. As such, experiential  
29  
30 learners become adept at using experiences as the basis of their learning, just as non-experiential  
31  
32 learners become adept at using vicarious learning as the basis of their learning. In order to  
33  
34 stimulate deep learning, students must be forced out of their comfort zones and learning styles,  
35  
36 and encouraged to engage in the other parts of the learning cycle which they are less adept at  
37  
38 using.  
39  
40  
41  
42  
43  
44

45  
46 Within the context of teaching business ethics in a university setting, experiential learners  
47  
48 are adept at using the ethical climate as an experiential learning space. They experience acting in  
49  
50 an unethical manner and the possible consequences of that behavior. However, for the  
51  
52 experiential learners, there is enormous value in using vicarious learning in a classroom setting  
53  
54 as this method of teaching stimulates and engages abstract thinking and reflection, which  
55  
56 supports and activates their deep learning. Therefore, we predict:  
57  
58  
59  
60

*Hypothesis 3: Experiential learners will be more likely to engage in ethical behavior if they have taken a business ethics class.*

On the other hand, non-experiential learners are adept at using vicarious learning, which best translates to the traditional classroom experience. In order for concrete experience to be activated and deep learning to be stimulated, non-experiential learners need to observe what they have learned vicariously being enacted within their experiential learning space—the university ethical climate. For the non-experiential learners, observing the enforcement of academic integrity policies in the university ethical climate reinforces the lessons learned from their vicarious learning. Therefore, we predict:

*Hypothesis 4: Non-experiential learners will be more likely to engage in ethical behavior if they perceive higher percentages of students caught cheating.*

## **Method**

### ***Sample and Procedure***

The study was conducted by surveying undergraduate business students at a private university in the United States. Students were asked to complete two surveys at two points in time. The first survey asked students about preferred learning styles, perceptions about ethical climate of the university, whether they had completed a business ethics course, and demographics. The second survey administered two weeks later measured students' likelihood of engaging in ethical behavior using a scenario-based approach. Surveys were matched based on the subject's name. The matched survey yielded data from 180 respondents.

Participants were age 18 to 24. Fifty five percent of respondents were female, and eighty four percent identified themselves as Caucasian. Participants represented all business majors

## Learning Styles Interaction

1  
2  
3  
4  
5 across the university—Business Administration major (31.5%), Marketing (18.8%), Sports  
6  
7 Management (13.9%), Finance/Economics (13.8%), and Accounting (15.6%). Approximately  
8  
9 40% had completed a business ethics class.  
10

*Measures*

11  
12  
13  
14 Data on learning styles was collected using the VARK, a 16 item scale which was  
15  
16 customized for university aged students ([Fleming and Mills, 1992](#); Leite, Svinicki, and Shi,  
17  
18 2010). The VARK consists of four sub-scales each measuring four styles of learning:  
19  
20 kinesthetic, aural, visual, read/write. Students were then classified into two groups based on  
21  
22 their highest score on the VARK: experiential learners (those with kinesthetic learning style as  
23  
24 the highest score) and non-experiential learners (those with either aural, visual, read/write  
25  
26 learning styles as the highest score). Ethical climate was captured by asking students what  
27  
28 percentage of students at the university cheat and what percentage of students at the university  
29  
30 are caught cheating  
31  
32  
33  
34

35  
36 Scenario-based surveys are commonly used in the ethics literature to test for likeliness to  
37  
38 engage in ethical behavior, allowing for the description of a scenario with response questions  
39  
40 which ask the participant how likely they would be to engage in a particular behavior. Each  
41  
42 subsequent behavior in the response question escalates the behavior based on decreasing  
43  
44 likelihood of engaging in the behavior ([Shu, Gino, and Bazerman, 2011](#); Zhong, Ku, Lount, and  
45  
46 Murnighan, 2010). In the current study, likelihood of engaging in ethical behaviors was  
47  
48 measured using a scenario-based survey. Three scenarios were developed by the authors based  
49  
50 on five semesters of a term project in which students were asked to identify a situation from their  
51  
52 work history in which they encountered an ethical dilemma. The three most frequently  
53  
54 mentioned ethical dilemmas—stealing from work, sexual harassment, and covering up wrong-  
55  
56  
57  
58  
59  
60

1  
2  
3  
4  
5 doing of a friend—were used to develop three amalgamated scenarios. The three scenarios were  
6  
7 tested for content validity using a sample of 23 students. A full scenario-based instrument was  
8  
9 developed where participants were then ask how likely they would be engage in two behaviors,  
10  
11 the second being an escalation of involvement. Participants were asked 1) how likely they would  
12  
13 be to approach one or more of the people involved in the scenario and 2) how likely they would  
14  
15 be to report the incident to a higher authority. A five-point Likert response was used ranging  
16  
17 from “not at all” to “definitely” for each response (see Appendix A). The finalized scenario-  
18  
19 based instrument was pilot tested on an independent sample of 68 students followed up by a  
20  
21 debriefing.  
22  
23  
24  
25  
26  
27  
28

## 29 Results

30  
31 Descriptive statistics and correlations were calculated for the dependent and independent  
32  
33 measures (Table 1).  
34

35  
36 -----  
37 Insert Table 1 about here  
38  
39 -----  
40

41 Regression analysis was used to test the hypotheses. Per Aiken and West (1991) direct  
42  
43 effects were entered into the model first to test for significance and effect size; interaction terms  
44  
45 were entered into the model in the second stage. Three direct effects were hypothesized.  
46  
47 Hypothesis 1 predicted that students who took a business ethics course would have a higher  
48  
49 likelihood of engaging in ethical behavior. This hypothesis was supported and found to be  
50  
51 significant ( $\beta = 1.678$ ,  $t = 2.746$ ,  $p = .007$ ). Hypothesis 2a predicted that students who perceived  
52  
53 higher percentages of students cheating would have a lower likeliness to engage in ethical  
54  
55 behavior. This was not supported ( $\beta = .002$ ,  $t = .241$ ,  $p = .809$ ). Hypothesis 2b predicted that  
56  
57  
58  
59  
60



## Learning Styles Interaction

students who perceived higher percentages of students caught cheating would have a higher likelihood to engage in ethical behavior. This hypothesis was also supported and found to be significant ( $\beta = .038$ ,  $t = 2.739$ ,  $p = .007$ ) (See table 2).

Two interactive effects were hypothesized. Hypothesis 3 predicted that experiential learners would have a higher likelihood of engaging in ethical behavior if they have taken a business ethics class. This hypothesis was supported ( $\beta = 2.662$ ,  $t = 2.064$ ,  $p = .04$ ). Hypothesis 4 predicted that non-experiential learners would have a higher likelihood of engaging in ethical behavior if they perceived higher percentages of students caught cheating. This hypothesis was not supported ( $\beta = .004$ ,  $t = .145$ ,  $p = .885$ ) (see Table 2).

-----  
Insert Table 2 about here  
-----

**Discussion**

For those of us in business ethics education, the hope is that our classes have a positive impact on increasing the sensitivity of our students to the nuances of ethical situations and engaging in ethical behaviors. Our findings show support that taking a business ethics class positively impacts the likelihood of a student engaging in ethical behavior. This is most likely due to increased sensitivity to ethical situations, and a better understanding why specific behavior would be considered unethical. Additionally, our findings show support for the impact of the ethical climate of the university on our students. Our results show that students who perceive higher percentages of students caught cheating are more likely to engage in ethical behavior. The implication for both these findings is that formal and informal learning spaces are important as environments in instructing our students, particularly as they pertain to ethics

1  
2  
3  
4  
5 education. Our teachings in the classroom need to align with our policies and practices outside  
6  
7 the classroom.  
8

9  
10 It is of interest to note that our hypothesis on the effect of observing other students  
11 cheating on likelihood of engaging in ethical behavior was not significant. Based on a large  
12 body of literature on cheating (e.g., McCabe, 2005; McCabe and Trevino, 1995) we expected  
13 students who perceived higher levels of cheating would be less likely to engage in ethical  
14 behavior. Our speculation on the prevalence of cheating as a factor in the ethical climate is that  
15 cheating is so widespread (students reported a mean of 66%) that students are accustomed to  
16 seeing people cheat. Our students' assumption is that a large majority of their peers are cheating  
17 as they are most likely observing widespread cheating with little consequences. However, when  
18 students observe that there are potential consequences for cheating (i.e., being caught), this  
19 hopefully reinforces the message that if you do something that is against the rules, there will be  
20 consequences.  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34

35  
36 Our findings on the interaction between learning styles and learning spaces as it relates to  
37 deep learning are intriguing. When we examined the interaction with learning style (experiential  
38 versus non-experiential) and having taken a business ethics class, we found that business ethics  
39 class had a larger impact on the perspective of experiential learners than non-experiential  
40 learners. This finding is in sync with Kolb and Kolb's (2009) theorizing of deep learning.  
41  
42  
43  
44  
45  
46

47 Specifically, experiential learners are already adept at using contextual cues from the  
48 climate as a means of learning—in a sense, they have already gleaned the lessons about  
49 acceptability of cheating and the likelihood of getting caught from the ethical climate. The  
50 classroom experience, on the other hand, engages abstract learning and solicits reflective  
51 learning as it applies to previous experience by forcing experiential learners out of their comfort  
52  
53  
54  
55  
56  
57  
58  
59  
60

## Learning Styles Interaction

zone and (hopefully) reframing their previous experiences. This eventually leads to deep learning (Kolb & Kolb, 2009) for these individuals, which results in higher likelihood for engaging in ethical behavior.

Although our initial analysis did not reveal a significant interaction effect of percentage caught cheating and learning styles on likelihood of ethical behavior, a closer look at the data indicated that among non-experiential learners, there was a significant difference between students who perceived above average percentages of students caught cheating and below average percentages of students caught cheating and their mean likelihood of engaging in ethical behavior. Non-experiential learners who perceived below average percentages had a mean likelihood of engaging in ethical behavior of 21.9; non-experiential learners who perceived above average percentages had a mean likelihood of engaging in ethical behavior of 23.1 ( $F = 5.25, p = .024$ ). On the other hand, for experiential learners the means were very similar: 22.8 for those who perceived above average percentages of students caught cheating and 22.7 for those who perceived below average percentages of students caught cheating (See Table 3a). A similar pattern existed among experiential and non-experiential learners as related to taking a business ethic class. The difference between the means for experiential learners of likelihood of engaging in ethical behavior was 3.42 points (out of 30) ( $F = 10.02, p = .003$ ); the difference between the means for non-experiential learners of likelihood of engaging in ethical behavior was .8 (out of 30) ( $F = 1.05, p = .307$ ) (see Table 3a).

-----  
Insert Table 3a about here  
-----

In order to further investigate the differences between experiential and non-experiential learners as it related to the interaction between learning spaces (taking a business class and the

1  
2  
3  
4  
5 ethical climate as measured by percentage of students caught cheating) and likeliness to engage  
6  
7 in ethical behavior, we split the data set into two sub-samples—experiential and non-  
8  
9 experiential. Regression equations were then used to test the effects of the two learning spaces.  
10

11  
12 The results from the regression analysis after splitting the data based on learning styles  
13  
14 suggest for experiential learners taking a business ethics class was a more impactful than ethical  
15  
16 climate on likelihood of engaging in ethical behavior. The results suggest a reverse pattern for  
17  
18 non-experiential learners as the perception of the percent of students caught cheating was a  
19  
20 significant predictor for likelihood of ethical behavior and the effect size for taking a business  
21  
22 ethics class was much smaller than for experiential learners (see table 3b).  
23  
24

25  
26 -----  
27  
28 Insert Table 3b about here  
29  
30 -----  
31

32 Our findings support the deep learning theorizing suggested by Kolb and Kolb (2009).  
33  
34 Different learning styles interact with different levels of learning space in a manner which can  
35  
36 stimulate deep learning. More specifically, experiential learners are adept at using experience-  
37  
38 based learning within informal learning spaces to learn. Thus, the formal learning space of the  
39  
40 classroom situation which fosters vicarious learning skills of reflection encourages deep learning.  
41  
42 Our findings also suggest that non-experiential learners, who are adept at vicarious learning, are  
43  
44 able to engage in active learning by experiencing unethical behavior and its consequences as a  
45  
46 member of the community. The ethical climate of the university acts as an informal learning  
47  
48 space fosters active learning and stimulates deep learning.  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

### Implications for Ethics Education

Ethics education does not happen in a vacuum. It is critical that those of us in business education recognize that business education is two pronged. The classroom experience as a formal learning space is where students can engage in abstract and reflective learning. This is where the concepts, theories, and their applications can be used to for vicarious learning. The ethical climate of the university as an informal learning space is where students can act as a member of the climate and gain concrete experiences—in a sense the practical application of the vicarious learning. In order for any ethics education to be successful, universities must view ethics education holistically and recognize that at all three levels of the university learning space—micro, meso, and macro—act on our students' perceptions to stimulate deep learning. We must practice what we preach. Our students learn both by engaging in vicarious learning in the classroom and by experiencing those lessons as real life consequences outside the classroom.

The other implication from our findings is that for our students, their experiences outside the classroom are potentially more important than their experiences inside the classroom. For both experiential and non-experiential learners, the ethical climate positively impacts their perceptions of ethical behavior. Based on our findings, we suggest more research into the interaction of ethical climate and learning styles as it relates to a number of outcomes linked to developing more ethical students and more ethical managers.

**References**

Adams, J.S., Tashchian, A. and Shore, T. H. (2001), “Codes of ethics as signals for ethical behavior”, *Journal of Business Ethics*, Vol. 29 No. 3, pp.199-211.

Aiken, L. S. and West, S. G. (1991), *Multiple regression: Testing and interpreting interactions*, Newbury Park, CA: Sage.

Bandura, A. J. (1977), *Social learning theory*, Englewood Cliffs, NJ, Prentice Hall.

Biberman, N. J. and Buchanan, J. (1986), “Learning style and study skills differences across business and other academic majors”, *Journal of Education Business*, Vol. 67 No. 7, pp. 303-307.

Bowers, W. J. (1964), *Student dishonesty and its control in college*, Bureau of Applied Social Research, Columbia University, New York, NY.

Bronfenner, U. (1977), “Toward an experimental ecology of human development”, *American Psychologist*, Vol. 7, pp. 513-530.

Callahan, M.H.W. (1999), *Case Study of an Advanced Technology Business Incubator as a Learning Environment*, Unpublished doctoral dissertation, The University of Georgia, Athens, GA.

Dickson, M.W., Smith, D. B., Grojean, M. W. and Ehrhart, M. (2001), “An organizational climate regarding ethics: the outcome of leader values and the practices that reflect them”, *The Leadership Quarterly*, Vol. 12 No.2, PP. 197-217.

Fleming, N. D. and Mills, C. (1992), “Not another inventory, rather a catalyst for reflection”, *To Improve the Academy*, Vol.11, pp. 137-155.

Gentile, M. C. (2010), *Giving Voice to Values: How to Speak Your Mind When You Know What's Right*, Yale Univeristy Press, New Haven, CT.

## Learning Styles Interaction

- 1  
2  
3  
4  
5 Gholson, B. and Craig, S. D. (2006), "Promoting constructive activities that support vicarious  
6  
7 learning during computer-based instruction", *Educational Psychology Review*, Vol. 18  
8  
9 No.2, pp. 119-139.  
10  
11  
12 Gino, F., Ayal, S. and Ariely, D. (2009), "Contagion and differentiation in unethical behavior the  
13  
14 effect of one bad apple on the barrel", *Psychological Science*, Vol. 20 No. 3, pp.393-398.  
15  
16  
17 Givens, K. (2004), "A Call for Ethics Education", *BizEd*, Vol. 3 No. 5, p. 8.  
18  
19 Gopinah, C. and Sawyer, J. E. (1999), "Exploring the learning from an enterprise simulation",  
20  
21  
22 *Journal of Management Development*, Vol. 18 No. 5, pp. 477-489.  
23  
24 Kolb, D. A. (1984), *Experiential Learning: Experience as the source of learning and*  
25  
26 *development*, Prentice-Hall, Englewood Cliffs, NJ.  
27  
28  
29 Kolb, A. Y. and Kolb, D. A. (2005), "Learning styles and learning spaces: Enhancing  
30  
31 experiential learning in higher education", *Academy of Management Learning and*  
32  
33 *Education*. Vol. 4 No. 2, pp. 193-212.  
34  
35  
36 Kolb, A. Y. and Kolb, D. A. (2009), "Experiential learning theory: A dynamic, holistic approach  
37  
38 to management learning, education and development", *Handbook of Management*  
39  
40 *Learning, Education and Development*, Armstrong, S. J. and Fukami, C. (Eds.), Sage  
41  
42 Publications, London, UK, pp. 42-68.  
43  
44  
45 Lave, J. and Wenger, E. (1990), *Situated learning: Legitimate peripheral participation*,  
46  
47 Cambridge, UK: Cambridge University.  
48  
49  
50 Lawter, L., Guo, G. and Rua, T. (2011), "The Disconnect Between Business Ethics Education  
51  
52 and Putting it Into Practice: How Do We Fix It?", *Effectively Integrating Ethical*  
53  
54 *Dimensions into Business Education*, Wankel, C., and Stachowicz-Stanusch, A. (Eds),  
55  
56 Information Age Publishing, Charlotte, NC.  
57  
58  
59  
60

- 1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60
- Leite, W. L., Svinicki, M. and Shi, Y. (2010), "Attempted Validation of the scores of the VARK: Learning Styles Inventory with Multitrait-Multimethod Confirmatory Factor Analysis Models", *Educational and Psychological Measurement*, Vol.70, pp. 323-339.
- Lowry, D. (2003), "An Investigation of Student Moral Awareness and Associated Factors in Two Cohorts of an Undergraduate Business Degree in a British University: Implications for Business Ethics Curriculum Design", *Journal of Business Ethics*, Vol. 48 No. 1, pp. 7-19.
- McCabe, D. L. (1997), "Classroom cheating among natural science and engineering majors", *Science and Engineering Ethics*, Vol. 3, pp. 433-445.
- Marsick, V. J. and Watkins, K. E. (1990), *Informal and Incidental Learning in the Workplace*, London and New York: Routledge.
- Marsick, V. J. and Watkins, K. E. (2001), "Informal and incidental learning", *New directions for adult and continuing education*, Vol. 89, pp. 25-34.
- McCabe, D. L. (2005), "Cheating Among College and University Students: A North American Perspective", *International Journal for Academic Integrity*, Vol. 1, No. 1.
- McCabe, D. L. and Bowers, W. J. (1996), "The Relationship Between Student Cheating and College Fraternity or Sorority Membership", *NASPA Journal*, Vol. 33 No. 4, pp. 280-91.
- McCabe, D. L., Butterfield, K. D. and Trevino, L. K. (2006), "Academic dishonesty in graduate business programs: Prevalence, causes and proposed action", *Academy of Management Learning and Education*, Vol. 5, No. 3, pp. 294-305.
- McCabe, D. L. and Trevino, L. K. (1993), "Academic dishonesty: Honor codes and other contextual influences", *Journal of Higher Education*. Vol. 65 No. 5, pp. 522-538.



1 Learning Styles Interaction

2  
3  
4  
5 McCabe, D. L. and Trevino, L. K. (1995), "Cheating among business students: A challenge for  
6  
7 business leaders and educators", *Journal of Management Education*, Vol. 19, No. 2, pp.  
8  
9 205-218.

10  
11  
12 McDonald, G. M. and Donleavy, G. D. (1995), "Objections to the teaching of business ethics",  
13  
14 *Journal of Business Ethics*, Vol. 14 No. 10, pp. 839-853.

15  
16  
17 Milne, A. (2006). Designing blended learning space to the student experience. In D. G. Oblinger  
18  
19 (Ed.), *Learning spaces*. Chapter 11. EDUCAUSE.  
20  
21 <http://www.educause.edu/LearningSpaces/10569>

22  
23  
24 Passarelli, A. M., & Kolb, D. A. (2011). The Learning Way: Learning from Experience as the  
25  
26 Path to Lifelong. *The Oxford Handbook of Lifelong Learning*, 70.

27  
28  
29 Rosenthal, T. L. and Zimmerman, B. J. (1978), *Social learning and cognition*, New York:  
30  
31 Academic Press, p. 338.

32  
33  
34 Shu, L. L., Gino, F. and Bazerman, M. H. (2011), "Dishonest deed, clear conscience: When  
35  
36 cheating leads to moral disengagement and motivated forgetting", *Personality and Social*  
37  
38 *Psychology Bulletin*. Vol. 37 No. 3, pp. 330-349.

39  
40  
41 Smith, P. L. and E. F. Oakley (1996), "The value of ethics education in business school  
42  
43 curriculum", *College Student Journal*, Vol. 30 No. 3, p. 274.

44  
45  
46 Trevino, L. K. (1992). Moral reasoning and business ethics: Implications for research, education  
47  
48 and management. *Journal of Business Ethics*, 11(5,6): 445-459.

49  
50  
51 Victor, B. and Cullen, J.B. (1987), "A theory and measurement of ethical climate in  
52  
53 organizations", *Research in Corporate Social Performance and Policy*, Vol. 9, pp.51-71.

54  
55  
56 Victor, B. and Cullen, J.B. (1988), "The organizational bases of ethical work climates",  
57  
58 *Administrative Science Quarterly*, Vol. 33, Nov. 1, pp.101-125.

## Learning Styles Interaction

22

1  
2  
3  
4  
5 Weber, J. (1990), "Managers' moral reasoning: assessing their responses to three moral  
6  
7 dilemmas", *Human Relations*, Vol. 43, No. 7, PP.687-702.

8  
9  
10 Wenger, E. (1998). *Communities of Practice: Learning, Meaning, and Identity*. New York:  
11  
12 Cambridge University Press.

13  
14 Zhong, C. B., Ku, G., Lount, R. B. and Murnighan, J. K. (2010), "Compensatory ethics",  
15  
16  
17 *Journal of Business Ethics*. Vol. 92 No. 3, pp.323-339  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

For Peer Review

## Learning Styles Interaction

**Table1. Descriptive Statistics and Correlations**

	Mean	SD	1	2	3	4
1. Engage in Ethical Behavior	22.29	3.47				
2. Took Business Ethics Class	0.23	0.42	0.18*			
3. Experiential Learner	0.29	0.45	0.01	0.09		
4. Percent Cheating	66.26	27.75	-0.01	0.17*	-0.01	
5. Percent Caught Cheating	22.09	18.49	0.18*	-0.09	-0.06	0.32**

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

Pre Peer Review

## Learning Styles Interaction

24

**Table 2. Regression Analysis of Likelihood of Engaging in Ethical Behavior**

	<i>B</i>	Std. Error	<i>t</i>	Sig
<i>Step 1:</i>				
Took a Business Ethics Class	1.678	.611	2.746	.007
<i>Step 2:</i>				
Took a Business Ethics Class	.760	.750	1.014	.312
Experiential Learner	-.526	.661	-.796	.427
Experiential X Class	2.662	1.290	2.064	.040
	<i>B</i>	Std. Error	<i>t</i>	Sig
<i>Step 1:</i>				
Percent Cheating	.002	.009	.241	.809
	<i>B</i>	Std. Error	<i>t</i>	Sig
<i>Step 1:</i>				
Percent Caught Cheating	.038	.014	2.739	.007
<i>Step 2:</i>				
Percent Caught Cheating	.037	.016	2.277	.024
Experiential Learner	.326	.871	.375	.708
Experiential X Caught Cheating	.004	.031	.145	.885

Learning Styles Interaction

25

**Table 3a. Means of Learning Styles by Direct Effects**

Grouped By:		Mean	sd	F	Sig
Experiential Learner	Business Ethics class	24.87	3.54	10.02	.003
	No Business Ethics Class	21.44	3.38		
Non-Experiential Learner	Business Ethics Class	23.00	4.07	1.05	.307
	No Business Ethics Class	22.20	3.46		

Grouped By:		Mean	sd	F	Sig
Experiential Learner	High Percentage Caught*	22.83	3.42	.64	.428
	Low Percentage Caught	22.56	4.28		
Non-Experiential Learner	High Percentage Caught	23.06	3.30	5.23	.024
	Low Percentage Caught	21.89	3.71		

\*High and low defined as above or below the mean

**Table 3b. Regression Analysis by Learning Style of Direct Effects**

Grouped By:		Beta	Std. Error	t	Sig
Experiential Learner	Took Business Ethics Class	3.344	1.072	3.118	.003
	Percent Caught	.037	.027	1.398	.169
Non-Experiential Learner	Took Business Ethics Class	1.001	.731	1.368	.174
	Percent Caught	.040	.016	2.536	.012

## Appendix A. Scenario-based Survey for Likelihood of Engaging in Ethical Behavior

**Below are three situations which a person observe or experience in an internship or in a job. Indicate how likely you would be to report the situation to a supervisor.**

1. You have been working part-time at Joe's Pizzeria and Restaurant as a waiter/waitress for about six months. One night while working you observe that one of the bartenders has not been putting all the cash from the checks in the register. Twice you have handed him a check with cash, and it seems that he is pocketing the cash and ripping up the check.

How likely would you be to say something to the bartender about what you observed?

\_\_\_ Not at all \_\_\_ Probably not \_\_\_ Possibly \_\_\_ Probably \_\_\_ Definitely

How likely would you be to say something to Joe the owner about what you observed?

\_\_\_ Not at all \_\_\_ Probably not \_\_\_ Possibly \_\_\_ Probably \_\_\_ Definitely

2. Your dad put you in touch with a friend of his who is the president of a marketing firm that specializes in exactly what you want to do after college. The interview went well, and you were offered a paid internship at the company. The group that you work in has about 20 people, and you really like your job. There is another intern who works in the same department. You have only been there for about 2 weeks, but you notice that the guy who is in charge of your group is always hitting on the other intern-- making sexually related comments about her and to her. She is really uncomfortable with the situation, but does not know what to do.

How likely would you be to say something to your father about what you observed?

\_\_\_ Not at all \_\_\_ Probably not \_\_\_ Possibly \_\_\_ Probably \_\_\_ Definitely

How likely would you be to say something to human resources about what you observed?

\_\_\_ Not at all \_\_\_ Probably not \_\_\_ Possibly \_\_\_ Probably \_\_\_ Definitely

3. You and your friend were both hired for summer jobs at a local golf course doing grounds work. The head grounds keeper has a board of what you are supposed to be doing each day, and usually checks on you two or three times a day. Otherwise you and your friend are on your own and just expected to get the work done. Your hours are 8am to 3pm every day for the summer. Your friend is continually late for work. He asks you to punch him in at 8am so he does not get into trouble. He is a good friend so you just do. One Sunday morning you punch him in at 8 as always, but it is 11am and he still hasn't shown up. You get a text from him that he is with his girlfriend at the beach and wants you to cover for him for the day.

Learning Styles Interaction

How likely would you be to say something to your friend about what has happened?

\_\_\_\_ Not at all    \_\_\_\_ Probably not    \_\_\_\_ Possibly    \_\_\_\_ Probably    \_\_\_\_ Definitely

How likely would you be to say something to the head grounds keeper about what has happened?

\_\_\_\_ Not at all    \_\_\_\_ Probably not    \_\_\_\_ Possibly    \_\_\_\_ Probably    \_\_\_\_ Definitely

For Peer Review

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60