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Mind Mapping: An Experiential Approach to Syllabus Review

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ABSTRACT

On the first day of class most management faculty review or "go over" the syllabus, typically through an instructor-led presentation. However, research indicates that students retain little, if any, of the syllabus material, leading to frustrating outcomes for both students and instructors. Here we report the results of a post hoc natural experiment, where we compared the effectiveness of the traditional, review-and-discuss method to the effectiveness of a mind map approach used in another undergraduate management course. Before we conceived of the natural experiment, each faculty member reviewed the syllabus using his or her preferred method. One week later, the faculty members administered the same unannounced quiz in each section to measure both the amount and type of information the students recalled. Overall, the mind map approach was more effective, with mind-mapping students correctly answering more questions, especially regarding higher order concepts like course learning objectives and the nature of major assignments.

KEYWORDS

syllabus review; mind mapping; natural experiment; first day of class; information recall

Introduction

Few college teaching documents are more ubiquitous than the course syllabus. Most institutions of higher education require that all faculty members provide one to their students for every course. These documents serve many purposes, but they are most commonly viewed as a communication device to convey information about the professor, the course itself, and grading and other policies (Doolittle & Siudzinski, 2010). Interestingly, research has shown that the document often includes the information faculty members want to see, rather than what students would like to see on the syllabus (Doolittle & Siudzinski, 2010). Some argue that syllabi are course contracts, laying out the rights and responsibilities of each party—faculty and students (Matejka & Kurke, 1994)—although that view has not held up in the courts (Kaufmann, 2015). Syllabi also function as course plans, listing the topics to be covered, assignments, and their due dates. Finally, the document can also serve as a cognitive map of the intellectual journey the class will be taking during the semester (Matejka & Kurke, 1994).

Review the "to-do" list of nearly any management professor for the first day of class, and you are likely to see "go over the syllabus" somewhere on the agenda. Traditionally that entails the professor standing in front of the classroom, highlighting key aspects of the syllabus such as learning objectives, required materials, major assignments, and exams. Some faculty members use syllabus quizzes (see, e.g., Glascoff, 1984; Raymark & Connor-Greene, 2002) to ensure that students pay adequate attention. Many of these approaches, however, are somewhat ineffective, as students are often unable to recall key course information that is clearly included in the syllabus. For example, Smith and Razzouk (1993), in a study of 152 students enrolled in advanced undergraduate marketing classes at a major Southwestern state university, found 30.9% of surveyed students could not recall any course objectives, and 14.5% could not recall how many exams were to be given.

Despite these findings, the syllabus remains a critical tool for student success (Becker & Calhoon, 1999). Given the issues with current approaches, what other tactics besides quizzes can faculty members use to improve recall and generate energy in the typical undergraduate classroom? Two concepts inspired the mind-mapping approach presented here. First, the conceptualization of the syllabus as a cognitive map for the course seems to lend itself to the idea of using a mind-map approach to review its contents. Second, research has found that mind mapping is a good technique to "improve factual recall from written material" (Farrand, Hussain, & Hennessy, 2002, p. 427). With that in mind, we decided—post hoc—to test the efficacy of an

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exercise in which small student groups created a mind map of the course syllabus during the first day of class in an undergraduate management course.

Mind mapping

Mind mapping, a technique developed and trademarked by Tony Buzan, "can be used to make teaching and learning more stimulating, enjoyable and effective" (Buzan & Buzan, 1993, p. 221). It has been used in educational fields as diverse as nursing (Rosciano, 2015), medicine (Edwards & Cooper, 2010), science (Dhindsa, Makarimi-Kasim, & Anderson, 2011), foreign language instruction (Wilson, Copeland-Solas, & Guthrie-Dixon, 2016), engineering (Dixon & Lammi, 2014), and education research methods (Murtonen, 2015). The approach has been used in business education contexts as well, including economics (Budd, 2004), marketing (Eriksson & Hauer, 2004), and accounting ethics (Guo, 2014). Its flexibility means it can be used at any educational level, from grammar school (e.g., Merchie & Van Keer, 2016) to executive education (Mento, Martinelli, & Jones, 1999), and at every level in between.

The only supplies needed for mind mapping are a large, unlined writing surface, such as flip-chart paper or a whiteboard, and some colorful fine-point markers. While other colorful writing implements can be used, such as colored pencils or even crayons, the markers result in a stronger, more visible line. Alternatively, there are several mind-mapping software packages available, and some of them are even free, like Coggle (https://coggle.it) and FreeMind (http://freemind.sourceforge.net/wiki/index.php/Main_Page). However, there are some advantages to drawing mind maps by hand (Tucker, Armstrong, & Massad, 2010), especially when group interaction in a classroom setting is desired.

As Buzan describes, the mind-mapping process is driven by a few simple rules. To create a map, start in the center of the blank page. Draw a picture or symbol that captures the central idea you are mapping. From that center point, draw curved lines radiating outward, with each line representing a category of concepts related to the central idea. Keep dividing the key concepts into related subconcepts, branching out in a radial fashion and using a different color for each branch. Label each branch and sub-branch with one keyword or illustration that captures the gist of the concept. If some of the outer concepts are related to others on a different branch, connect them with a curved line. The result is a colorful diagram of the central idea and its related concepts. For more information about Tony Buzan's approach to creating mind maps and to see multiple examples, see www.tonybuzan.com/about/mind-mapping/or www.youtube.com/watch?v=MlabrWv25qQ.

In the next section of this article, we explain how the syllabus was reviewed in two undergraduate management courses on the first day of class. First the traditional review-and-discuss approach is described, then the mind-mapping technique. The subsequent section describes the student's anonymous, qualitative reactions to the exercise. Also in that section, we assess the students' retention of key syllabus items, as measured by an unannounced quiz. The results are compared to the class in which the instructor used the more traditional syllabus review method. We conclude with a section on limitations and next steps.

The first day: reviewing the syllabus

In the second author's undergraduate management course, the syllabus was reviewed in a traditional, conversational manner. The instructor provided the students with copies of the syllabus and then verbally walked the students through each section (objectives, competencies, standards, assignments, etc.). The important points were covered, examples or explanations were given where appropriate, and any questions the students had were answered. It was a straightforward review, partially a presentation from the instructor and partially a discussion with the students. This approach took approximately 35–40 minutes, which is similar to the amount of time it took for the other management class to complete the mind-map approach.

As noted already, in the other management course, the first author independently chose to review the syllabus using a mind-map exercise. The first step in this syllabus review was to convey the instructions on creating a mind map to the students, using the references described in the preceding section. Given the visual nature of the concept, the instructor showed the students multiple examples of completed mind maps, especially of differing levels of artistry. Two sources of illustrative mind maps are www.biggerplate.com/top-10-mindmaps and www.tonybuzan.com/gallery/mind-maps. For this class the instructor included some examples that were very artistic, and others that were more basic, so that students could see that you don't need to be a talented illustrator to use the technique successfully.

Next, the instructor randomly assigned the class of 34 students into small groups of about three classmates each. They were told to introduce themselves to each other and then pick one person to come up to the front of the room for supplies. Each team was given a set of printed copies of the syllabus (one per person), one large sheet of flip chart paper, and a handful of colorful

felt-tip markers (each team had five or six different colors). They were then given about 20 minutes to draw a mind map of the syllabus.

To debrief the exercise, the completed mind maps were hung up around the room. Each team was asked to nominate one person from the group to explain their mind map to the rest of the class. After the first presentation, subsequent presenters were asked to just highlight what was different about their map to minimize duplication. Some variations included alternative approaches to organizing the radial branches, including more or less detail, and highlighting different pieces of information contained in the syllabus. After all the teams presented, they were asked whether anyone noticed anything important from the syllabus that was still missing on the mind maps. The instructor then opened the floor to general questions, and reemphasized any key points. The review of the completed mind maps took an additional 15–20 minutes.

A natural experiment

A major aspect of the current study's distinctiveness is its utilization of a natural experiment methodology. While talking a few days after the first class, the instructors realized they had unintentionally created a natural experiment, which can be defined as "any event not under the control of a researcher that divides a population into exposed and unexposed groups" (Craig, Katikireddi, Leyland, & Popham, 2017, p. 40). In this case, two management courses, taught by experienced, highly rated faculty, used different approaches to reach the same goals. Both faculty members wanted the students to remember the important information contained in the syllabus, such as course learning objectives, assignments, and number of exams, yet, independently and without prior consultation, one chose the traditional review-and-discuss approach and the other chose a mind-map exercise. Each expected to achieve the same desired outcome. Comparing these outcomes seemed a worthwhile endeavor, even though they did not emerge from a randomly controlled experiment.

We acknowledge that randomized controlled experiments are considered the "gold standard" in determining causality, since many potentially confounding factors can be controlled. However, findings from such studies are often plagued by external validity concerns. More specifically, the lab settings or manipulated environments themselves can have an influence on the outcomes, which can potentially limit the applicability of the findings to the "real world" (see, e.g., Goldberg, 1990).

Natural experiments fall on the opposite side of the spectrum. Given they are conducted in the phenomenon's normal environment, their external validity is high (Gerber & Green, 2011), but confounding factors can be an issue. In the situation reported here, we argue that potential confounding factors, while not nonexistent, were held to a minimum. Both instructors are experienced and highly rated. Coincidentally, both instructors allotted nearly the same amount of time (roughly 40–45 minutes) to review the syllabus on the first day of class. The courses were from the same business field (management), at the same level (undergraduate), of the same size (34 students in each class), from the same population (daytime business students). Due to departmental guidelines, the two instructors' syllabi were similar in content and format. They contained the same kinds of material, such as contact information, teaching format, course textbook, learning objectives, assignment weightings, grading scale, course schedule, academic integrity policy, and so on. The information on both documents was also presented in approximately the same order, and used bold headings to separate sections.

Once the idea to measure the results of the natural experiment arose, we continued to be cognizant of the potential for confounding factors. Thus, we used the same measurement instrument on the same day, which was the first class meeting after the add–drop period had ended. The conditions under which the assessment was administered were the same: paper based, not announced, in class, and students were not permitted to reference the syllabus during the quiz. Lastly, neither faculty member planned to measure the retention of syllabus information ahead of time, since the idea for the study emerged post hoc. Thus, teaching to the syllabus quiz in one section and not the other was not a factor in this case.

It should be noted that natural experiments are found in the literature of many fields, including economics (Meyer, 1995), public health, management (Flammer & Kacperczyk, 2016; Younge, Tong, & Fleming, 2015), and business education (James, 2011). Their strength lies in the fact that they "simulate as closely as possible the conditions under which a causal process occurs, the aim being to enhance the external validity" (Gerber & Green, 2011, p.2) of the findings. In addition, the post hoc nature of this particular natural experiment was, in a way, necessary. If the instructors had known in advance that they were participating in a research study to test the efficacy of their syllabus review approach, they might have consciously or unconsciously altered their behavior and thereby prejudiced the results.

Comparing syllabus review outcomes

After we determined that comparing the efficacy of the two different approaches— traditional review-and-discuss versus mind mapping—would be a worthwhile endeavor, we designed a short quiz that would apply in both of our undergraduate management courses. We opted to use one universal instrument to reduce some of the potential confounding factors. The intent was to measure whether or not the method used to review the syllabus had any impact on the students' retention of key information.

Questions included those assessing retention of information pertinent to students, such as the number of exams and the types of assignments, as well as information deemed important by the faculty members, namely, the school's mission statement and the respective course's learning objectives (Doolittle & Siudzinski, 2010). Among the questions on the assessment were whether or not students chose their project groups, whether or not attendance was taken each class, and the policy about class notes in the case when a student misses class. Two options were listed for each of these questions: One of these was correct in the mind-map course, and the other was correct in the traditional course. While it could be argued that students had a fifty–fifty chance of guessing correctly, there is no reason to think that one class would disproportionately guess right more than the other class. Ultimately, we were not interested in such slight differences resulting from random variance, but were instead more interested in any observed systematic variance attributable to treatment effects (i.e., mind mapping).

Students were also asked to indicate the graded coursework by indicating the assignments that were applicable in their particular class from a list of 10 possibilities. We scored these in two different ways. First we looked at each item individually: Was this graded coursework in the student's section (scored as a 1 if the student's response was correct, 0 if not)? Then we created a composite score that measured the total number of assignments the student correctly indicated were elements in the final grade.

The final question asked students to describe the learning objectives for the course. Given the wide range of possible answers in this category, we opted to use an open-ended format. For scoring, we once again used a 1 for an essentially correct response, and a 0 for either an incorrect response or no response at all. See the appendix for a copy of the quiz.

Both courses met twice a week for 75 minutes on Tuesdays and Thursdays. During the fourth class session, after the add–drop period closed, both instructors administered the unannounced assessment (i.e., a "pop quiz"). Therefore, it is unlikely that students in either section reviewed the syllabus or prepared for the quiz in any way. The assessment was closed book, in that students were not permitted to look at the syllabus during the assessment. After the quiz was completed, students were told that their quiz score would not count toward their grade. We did not announce this prior to the assessment to ensure that students took it seriously, a problem noted in prior research on syllabus quizzes (Raymark & Connor-Greene, 2002). Students were told that their names would not be associated with any responses, and that scores would only be reported in the aggregate.

After the in-class quiz was completed, the students were sent an electronic, anonymous survey, so that we could capture some qualitative data regarding students' attitudes toward the syllabus review approaches. The first question asked students to self-report whether they were or were not in class on the first day. If they were present, they were then asked in an open-ended question to describe how they felt about the syllabus review portion of the class.

In general, students were very satisfied with the method used by the instructor who implemented the traditional, review-and-discuss approach. For example, one student said: "[the instructor] … reviewed the syllabus really well and thoroughly on the first day." Another shared, "The professor adequately reviewed the syllabus by reading the necessary information expressed directly in the text, as well as providing further explanations in some areas that required clarification or specific details." The only negative comment was focused on the length of the review, not the method: "It should've been shorter and focused more on the grades and expectations of the professor."

The qualitative remarks regarding the experimental, mind-mapping approach to reviewing the syllabus were overall positive. Most students, like this one, felt the approach was useful: "[It was] effective getting students to understand how various components of the syllabus come together." Another respondent agreed: "It was interactive which helped [put] more focus on it, but I think it would have been best to draw a mind map of the 'important dates' in class, since most of the syllabus is [standard operating procedure]." One student said, "The mind map actually forces the student to look over the syllabus and dissect it. If the professor just discusses it, some kids just ignore it because it's not captivating their attention."

There were, however, a few dissenting voices. This may be expected since, as one student noted, "It was

different." One student was a little skeptical: "Using a mind map was very interesting. I am not sure whether it worked or not, but it was fun." Finally, two students reacted somewhat negatively. One commented that she or he would have preferred that the professor just "Go over it the usual way." The other student noted, "It wasn't much more engaging than a typical read-over."

The quantitative results of the syllabus quiz yielded an answer to the skeptical student's question. Each instructor graded his or her own class's quizzes, after jointly reviewing some samples to ensure our expectations were calibrated. Table 1 presents means, standard deviations, and *t*-test results for the variables in the study. There were a number of items where there were no statistically significant differences between the control group (traditional review-and-discuss) and the experimental group (mind mapping), namely, the question regarding the format of the course reading materials, the number of exams, attendance policy, academic integrity policy, and school mission. However, overall the difference in total student scores between the mind-mapping group and the traditional group were statistically significant, with the mind-mapping approach resulting in higher overall quiz scores ($t_{(60)} = 5.02$, $p < .01$) than the traditional review-and-discuss group.

The two most compelling findings related to recall of learning objectives and correct identification of graded assignments. Given the nature of the quiz, we did not expect the students to quote verbatim from the syllabus; rather, we were looking for their ability to articulate the gist of the learning goal. Student recall of learning objectives was scored on the following scale: 0 for omitted or wrong; 1 = one element of the learning objectives correctly identified; 2 = a few learning objectives correctly identified; and 3 = most of learning objectives correctly identified.

The result was that the mind-mapping class outperformed the traditional class on recall of learning objectives ($t_{(60)} = 7.56$, $p < .01$). Twenty-six percent of the students in the review-and-discuss group, like 30.9% of the students in Smith and Razzouk's (1993) study, could not identify any course learning objectives (i.e., they scored a zero for question 11). However, all students in the mind-mapping group were able to articulate at least one course goal. Nearly all were able to describe at least two.

A similar finding was observed for correct identification of graded class assignments. Summed scores for assignments correctly identified were totaled and a comparison between the two classes was conducted. The mind-mapping class was more effective at correctly identifying graded assignments ($t_{(60)} = 2.04$, $p < .05$). Taken together, these findings suggest that the mind-mapping approach had a positive effect on student recall of learning objectives and graded assignments.

For some items, the traditional approach scored higher. In particular, students in the mind-mapping group incorrectly indicated that the course included a service learning project and a peer evaluation assignment; as a result, the review-and-discuss group scored statistically significantly higher on this item ($t_{(60)} = -2.17$, $p < .05$). However, roughly a quarter of the students in the mind-mapping group had the instructor for a previous class in which there was a major service learning project that included peer evaluation. It is possible that some of the students were confounding the classes. Since we combined all responses for question 8, which asked students to correctly identify graded assignments, into one global measure (total score for graded assignments), we have provided scores for each individual item from question 8 in Table 2. This was done in an effort to provide a fuller picture of participant responses.

The review-and-discuss group also scored statistically significantly higher on question 10, which measured the reason why students are not permitted to step

Table 1. Means, standard deviations, and t-test results.

Item	Mean mind map	Mean control	*SD* mind map	*SD* control	*t*-Test[a]
Present first day of class	1	1	0	0	N/A
Number and type of exams	.82	.91	.39	.29	−1.05
Type of textbook or required readings	1	.97	0	.17	.91
Way in which students are assigned to groups	.82	.91	.39	.29	−1.05
How to make up work when absent	1	.41	0	.50	6.22**
Attendance policy	1	1	0	0	N/A
Mission of business school	.57	.65	.50	.49	−.60
Academic integrity violation consequences	.61	.47	.50	.51	1.07
Leaving during class policy	.57	.85	.50	.36	−2.56*
Learning objectives	2.14	.94	.53	.69	7.56**
Total score for graded assignments	8.89	8.18	1.40	1.34	2.04*
Total score	18.43	16.29	1.62	1.73	4.99**

Note. Independent samples *t*-tests were conducted for all items with the exception of total score for graded assignments and total score, where summary independent samples *t*-tests were conducted. $N = 62$.

[a]$df = 60$.

*$p < .05$, **$p < .01$.

Table 2. Means, standard deviations, and *t*-test results for question 8: correct identification of graded assignments.

Item	Mean mind map	Mean control	*SD* mind map	*SD* control	*t*-Test[a]
Self-selected assignment	1	1	0	0	N/A
BCG Matrix presentation	.82	.94	.39	.24	−1.49
Reading quizzes	1	.91	0	.29	1.62
Team challenge presentation	.93	.41	.26	.50	4.94**
Service learning project	.75	.94	.44	.24	−2.17*
Statistical project on controlling	.86	.53	.36	.51	2.88**
Graded cases	.89	.85	.32	.36	.46
Attendance and class participation	1	.71	0	.46	3.36**
Exams	.96	1	.19	0	−1.10
Peer evaluation assignment	.68	.88	.48	.33	−1.99[b]

Note. Independent samples *t*-tests were conducted for all items. $N = 62$.
[a]$df = 60$.
[b]$p = .05$.
*$p < .05$, **$p < .01$,

out of class for a few minutes during a session ($t_{(60)} = -2.56$, $p < .05$). The instructor using the traditional syllabus review approach spent considerable time discussing professional behavior and how the class was a good opportunity to practice. In the mind-mapping course there was only one line on the eight-page syllabus stating that students should not step out of class because it is disruptive to the students and professor. One student in the mind-mapping section did note that stepping out of class was not allowed on his or her mind-map review in front of the class, but did not include why it was not permitted, and the instructor did not emphasize why stepping out was inappropriate either.

Discussion

Overall, the study supports the efficacy of mind mapping as a syllabus review technique. The most notable finding was the one related to student recall of course learning objectives. The mind-map group outperformed the traditional group by a wide margin. This is an important finding as it suggests the mind map helps students develop a better understanding of the aims and objectives of the course. Also of note is the difference in correct identification of graded assignments. While there were some mixed results for this section of the survey, the overall finding is that students who participated in the mind map scored higher at identifying which assignments were a part of the course. Having students who have a strengthened grasp of course learning objectives and an increased knowledge of the assignments they must complete is a desirable outcome, as most faculty members dislike "wasting time" answering student inquiries on these topics.

Taking an even broader approach, the combined scores (across all survey items) showed higher performance for the mind-map group. This suggests that when we simply consider overall recall (as defined by cumulating scores on all survey items), mind mapping has a positive impact on information recall. In an era where faculty often find themselves competing with other stimuli (e.g., smartphones, tablets, smart watches, etc.) for the attention of their students, the mind-map approach appears to deliver the advantage of grabbing students' attention and engaging them in ways that allow for increased encoding and retrieval of course-related information.

The external validity of our findings is further enhanced by the fact that they were observed during a natural experiment. The students and faculty members were not engaged in a simulated experience, as is often the case in lab experiments, but instead were engaged in an actual real-life experience. The professors had the simple goal of effectively conveying course information to the students. Likewise, the students had the simple goal of understanding the course requirements for their class. All parties involved had a vested interested in obtaining the best possible outcomes and were doing so in the course of an intentional and expected environment. It is hard to imagine an environment with more experimental realism, and as a result, the external validity of the current study is greatly enhanced. While natural experiments run the risk of not controlling for confounding variables, as was noted earlier, many of the likely confounds (e.g., time spent reviewing syllabi, class size, type of class, etc.) were not discernibly different, allowing for greater confidence in the internal validity of our findings.

Final considerations

In randomized controlled experiments, researchers typically begin with theory and then derive hypotheses to test. Given the process of natural experiments, however, such formal hypothesis development cannot, by definition, be done a priori. Yet to even notice the opportunity for such a study, researchers need to have a clear theory of change, which is defined as a logical explanation of how and why an intervention will bring about a particular outcome (see, e.g., Burbaugh, Seibel, & Archibald, 2017). In this case,

our theory of change was that the mind-mapping activity would result in better learning outcomes than the traditional approach to syllabus review. Specifically, we posited that the mind-map approach would result in higher retention and recall due to increased student interaction with the material: Students had to read, organize, discuss, and display the syllabus contents. "Having a clear theory of change based on a sound qualitative understanding of the causal mechanisms at work [may be considered] just as important as sophisticated analytical methods" (Craig et al., 2017, p. 51).

Although our findings are compelling, we acknowledge that more research is needed. Given the study design, it was not possible to determine whether the higher recall in the mind-map section was due to the mind-map tool itself, or to some other factor related to the tool, such as its hands-on nature, its novelty, or the social interaction involved. It is conceivable that other syllabus review activities with these characteristics would be as effective as or even more effective than the mind-map approach. Future research should also seek to replicate and extend our findings by examining possible underlying social and/or cognitive processes that allowed the mind-mapping class to experience greater recall of important course information.

In conclusion, in this natural experiment, student recall was used to measure the efficacy of using mind maps to review the course syllabus versus a more traditional, discussion-based method. The results of this study indicate that, in general, mind maps are a more effective approach, especially in terms of student recall of higher order concepts like the course learning objectives. While more research is needed to determine whether this finding holds in other contexts and to better understand underlying cognitive processes that led to improved recall, the technique is likely worth trying if an instructor is looking to vary instructional methods to generate student interest and engagement. Having small groups of students draw a mind map of the syllabus taps into a number of situational factors associated with increasing classroom interest, including hands-on activities, novelty, and social interaction, and, as such, appears to be an effective way of going over this material on the first day of class.

About the authors

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Appendix—Unannounced Syllabus Quiz

1. I was:
   a. Absent on the first day of class when the syllabus was reviewed
   b. Present on the first day of class when the syllabus was reviewed
2. In this class:
   a. There are three exams
   b. There are two exams and a cumulative final
3. The textbook:
   a. There is no textbook for this course, but there are required readings
   b. Can be purchased at the bookstore or online retailers
4. For the group project:
   a. You can choose your own group
   b. Groups will be assigned by the instructor
5. If you are absent:
   a. Check the lecture notes posted in Blackboard after class
   b. Get the notes from a classmate, because the professor does not post lecture notes
6. Attendance
   a. No formal attendance is taken at class meetings
   b. The professor takes attendance at every class
7. The mission of the Stillman School of Business includes:
   a. "To advance the world's prosperity"
   b. "to create ideas that deepen and advance our understanding of management"
   c. "Transforming concepts into practice"
   d. "Transform Lives Through Knowledge Creation & Sharing"
8. The graded assignments in this class include (**check ALL that apply**):

a. _____ Self-selected assignment	f. _____ Statistical project on controlling
b. _____ BCG Matrix presentation	g. _____ Graded cases
c. _____ Reading quizzes	h. _____ Attendance and class participation
d. _____ Team challenge presentation	i. _____ Exams
e. _____ Service learning project	j. _____ Peer evaluation assignment

9. In this course, **any** violations of academic integrity:
   a. Result in an automatic failure for the course
   b. Result in either a zero for the assignment or failure of the course depending on the severity of the infraction.
10. Stepping out of class for a few minutes:
    a. Is not permitted in nonemergency cases because it is disruptive
    b. Is not permitted in nonemergency cases because it is not professional
11. What are the learning objectives for this course?

_____
_____
_____
_____
_____