

# Using MultiMedia Content to Present Business Ethics: An Empirical Study

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## Introduction

The traditional method to teach material in undergraduate management classes is based on lectures presented by the instructor. While this method is reliable and somewhat effective, students continue to evolve in embracing new technologies in their everyday lives. From text messaging to twittering every action, students want more and more technology to be incorporated in their learning process. As a result, there is an increasing need to develop additional presentation formats that can capture the attention and enhance the learning experience of the technology savvy students. Therefore, the use of multimedia presentations can significantly enhance the level of learning of students in a classroom setting. By using different mediums such as video, pictures and audio files, instructors can increase the level of interest the students have in the material that is presented in the classroom. The multi layering of different formats allows students to enhance their sensory experience that can result in a much richer learning experience. As a result, a more provocative sensory experience improves learning and retention [1]. The purpose of this study is to examine whether the presentation of a multimedia case study can enhance the perception students have related to the areas of management and business ethics.

## The Benefits of Multimedia Case Presentations

Previous research by Yaverbaum, Kulkarni and Wood [2] found that college students overwhelmingly support the use of the multimedia format for lectures. The students responded to the multimedia format by reporting both an enhanced interest in the material as well as a higher level of content clarity and organization. These are critical goals of the presentation of any material in the classroom. The instructor wants both a high level of interest in the material as well as clarity of the content that is presented to the students because these are the foundations for enhanced learning. Khalili and Shashaani [3] conducted a meta-analysis on computer-enhanced learning and found

that student learning was enhanced using this format. The use of different medium allows the instructor the freedom to move beyond a traditional lecture approach to learning and encourage the interaction with the students. Sankar and Raju [4] stated that the goals of a multimedia presentation of a case analysis are: (1) to provide opportunities for students to improve their decision making skills; (2) introduce the complexities of real world problems in the classroom discussion; and (3) to improve the student's higher level cognitive skills.

Multimedia presentation of material makes transfer of knowledge more effective and efficient. A visual image helps the students in their ability to remember the point the instructor is presenting. In their comparison of the presentation of case studies in the classroom, Sankar, Kramer and Hingorani [5] found that a multimedia format including the use of picture phones had a significant impact on the students based on the level of teaching effectiveness related to usefulness, attractiveness and challenge of the case studies. They concluded that the multimedia format enhanced the ability to present real-world issues to the students and the students were more engaged in the material presented. Raju and Sankar [6] describe five reasons why case studies are a useful instruction tool in the class room. They address the issue of actual "as is" events instead of "might be"; a case study focuses on both analysis and action; a requirement of the case study is student involvement; it broadens the role of the instructor to become both a teacher and practitioner and a case study allows for the holistic approach to problem solving. Barrett [7] demonstrated that a multimedia case approach allows for the in-depth exploration of information on demand and at one's own pace. Jonassen [8] argues that multimedia cases allow for a natural presentation of information with coincides with the thought process of the human mind. Nielson [9] found that the use of multimedia presentations in the classroom allowed for non linear access to large amounts of information. Therefore, the use of a Laboratory for Innovative Technology and Engineering Education (LITEE) case study can greatly enhance the learning experience for

## Abstract

The purpose of this study is to empirically examine whether presenting a multimedia case study enhances the learning experience of students in an undergraduate management class. A questionnaire was administered before and after the presentation of the case study and the results showed that the multimedia case did indeed enhance the learning experience of the students. The students were positively impacted on their attitudes related to both management and business ethics constructs. The results demonstrated that multimedia case studies are valuable tools that can be used by instructors to develop a more interactive learning environment. The study extends previous research by demonstrating that students can be impacted by a multimedia case study from both a management and business ethics perspective. There are a number of limitations of this study including the relatively small sample size, the administration of the questionnaire in only one class and the inability to compare the impact of the multimedia case study with a control group.

students. A LITEE case study can facilitate the interaction between the student and the instructor as it enhances the learning experience for the student. In addition, the LITEE case study can also visualize information in a more effective form for the student to understand and remember for future reference.

However, other researchers have found only minimal impact of multimedia case presentations. Dillon and Gabbard [10] reviewed thirty five previous empirical studies and found no convincing evidence that there was increased learning in multimedia environments. Clark [11] argued that the novelty of the multimedia presentations was the cause of any increase in the learning levels of the students while Landauer [12] questioned the scientific validity of previous studies that showed enhanced levels of student learning. Despite the questions raised on previous research that challenged the effectiveness of multimedia presentation, it is proposed that presenting information in a multimedia format will have a positive impact on the student's view toward management and business ethics issues. This impact will be determined based on a measurement tool that has been used in the past to evaluate the effectiveness of the LITEE case study. A survey designed by LITEE identifies seven major constructs to be evaluated. They are: general attitude toward subject matter; relevance of subject matter to life and society; higher-order cognitive domain of learning; self-efficacy; ease of learning subject matter; impact on team working and communication skills. Therefore, the first seven Hypotheses will be based on evaluating these seven constructs as they relate to management issues. Therefore, Hypotheses 1 through 7 are:

H1: The presentation of a multimedia case will have a positive impact on the general attitude students have toward management issues.

H2: The presentation of a multimedia case will have a positive impact on the perception of the relevance of the management issues to life and society.

H3: The presentation of a multimedia case will have a positive impact on the level of higher-order cognitive domain of learning of the students.

H4: The presentation of a multimedia case will have a positive impact on the level of self-efficacy of the students.

H5: The presentation of a multimedia case will have a positive impact on the ease of learning of management issues.

H6: The presentation of a multimedia case will have a positive impact on the level of team work among the students.

H7: The presentation of a multimedia case will have a positive impact on the level of communication skills of the students.

## The Benefits of Multimedia Case Presentation of Business Ethics

It is a significant challenge for any instructor to present the complexities of business ethical issues in the classroom. For many students, business ethics is an abstract term which has little or any relevance in their day to day activities. This belief is especially true for traditional undergraduate students who may have never had to address ethical issues in their previous work experience. As a result, it is expected that multimedia presentation of a real world case would enhance the learning capabilities of the students as it relates to business ethical issues. Schapp and Lane [13] found that enhancing ethics lectures with newspaper articles enriches the learning experience of the students by incorporating real events into the discussion. They found that adding this additional medium made the topic of discussion more relevant to the student and the student becomes aware that there may not only be one easy answer to an ethical issue.

In their empirical study examining the impact a multimedia presentation on business ethics had on their students, Smith, Smith and Mulig [14] found the multimedia presentation was useful and contributed to their learning experience and reinforced their appreciation of the importance of ethics in society overall. Shipley, Coombs, Govahi, Kim, Lavis and Rocher [15] used a web based multimedia interactive case analysis to help students understand the complex issues related to ethical decision making. The results of the presentation of the case study were that the students considered the multimedia presentation a valuable tool which was easy to use and was informative. In addition, the multimedia case was responsive to the educational needs of the students and made the students think critically about the ethical issues related to the case. Carlson and Burke [16] found that teaching ethics in the classroom lead to an evolution of the student's thinking about ethical dilemmas. At the end of the ethics classes, the students were more flexible with their thinking on ethical issues and were able to appreciate the complexity of the situations related to ethical behavior. Therefore, a LITEE

case study presents a perfect opportunity for an instructor to present, visually, business ethics concepts which can be difficult to grasp and understand. In addition, the LITEE case study allows enhanced interaction between the student and the instructor so that the real world ethical issues presented in the case study can be interpreted and established in the cognitive processes of the student.

Therefore, it is proposed that a multimedia case presentation would enhance the student's learning experience as it relates to business ethics based on the same seven constructs that were presented in the previous discussion. Therefore, the second seven Hypotheses will be based on evaluating these seven constructs as they relate to business ethics. Therefore Hypotheses 8 through 14 are:

H8: The presentation of a multimedia case will have a positive impact on the general attitude students have toward business ethics issues.

H9: The presentation of a multimedia case will have a positive impact on the perception of the relevance of the business ethics issues to life and society.

H10: The presentation of a multimedia case will have a positive impact on the level of higher-order cognitive domain of learning of business ethics for the students.

H11: The presentation of a multimedia case will have a positive impact on the level of self-efficacy related to business ethics of the students.

H12: The presentation of a multimedia case will have a positive impact on the ease of learning of business ethics issues.

H13: The presentation of a multimedia case will have a positive impact on the level of team work related to business ethics among the students.

H14: The presentation of a multimedia case will have a positive impact on the level of communication skills related to business ethics for the students.

## Design of the Study

The design of the study was based on the determination of whether the presentation of a multimedia case study would enhance the student's attitudes toward management and business ethics concepts. The STS-51 L case study (Challenger disaster) developed by the Laboratory for Innovative Technology and Engineering Education (LITEE) was selected. This case study was chosen since there are a number of ethical issues that were raised during the deci-

sion process related to whether the Challenger should be launched in January 1986. The case was presented over two class periods in an undergraduate course on Strategic Management for the spring 2009 semester at a large Southern University. Before the case was presented to the students, the instructor presented a brief summary of theoretical ethical concepts from both a teleological (ethical egoism, utilitarianism, Sidgwick dualism) and deontological (existentialism, contractarianism, Kant's ethics) perspective. After the summary was presented, the problem statement and timeline of the case study were presented to the students. During the presentation of the case analysis, justification for different decisions was discussed in class. After the completion of the case analysis, the instructor presented critical management issues that were related to the decision process to launch. Some of the management issues that were discussed were: group think, dysfunctional cultures, organizational structure, diverse management styles, poor communications and the role of stakeholders in the decision making process. After the discussion was completed related to these management topics, the post-survey was administered to the students. A course map which shows the link between the concepts measured in the questionnaire and the multimedia case study is shown in Figure 1.

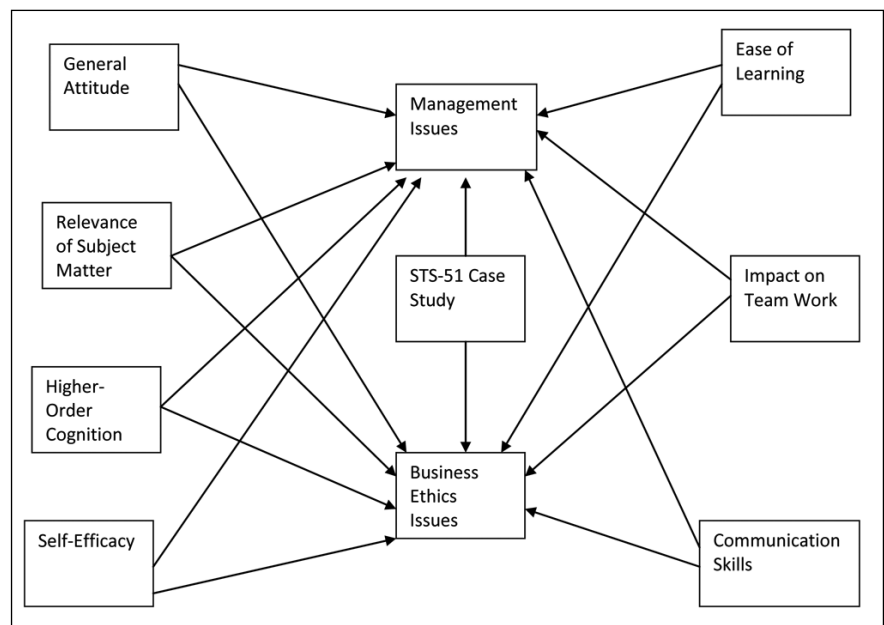


Figure 1. Course Map For Using STS-51 Case Study in an Undergraduate Management Class

## Methodology

A pre-case questionnaire was given to the students during the class period before the presentation of the STS-51 L case. A sample of the items in the questionnaire are shown in Appendix 1. The mapping of the items to the constructs is shown in Appendix 2. The presentation of the case lasted two class periods and concluded with the administration of the post-case questionnaire to the students. The total enrollment of the class was 56 students in which 53 students (94.64%) completed both the pre and post case questionnaire. The items on the questionnaire were based on the same items that had been used in previous empirical studies incorporating LITEE cases and measures factors such as the student's general attitude toward the subject matter; the relevance of the subject matter to life and society; the level of high-order cognitive domain of learning; self-efficacy; impact on team work and communication skills. A Likert scale was used to measure the responses on the questionnaire and were coded based on the following criteria: 1 Strongly Disagree, 2 Disagree, 3 Neutral, 4 Agree and 5 Strongly Agree. The data was analyzed using the paired sample T-Test. The means of the questionnaire items were compared using the data from the pre and post case surveys. The means and standard deviations were calculated for each item. The Pearson correlation was used to determine whether there was a significant difference in the means for each survey item survey. If the mean for the post survey was lower than the pre survey, that matched pair was not included in the analysis (unless it was a reverse item). Henry, Palmer, Palinkas, Glorioso, Caligiuri and Jeste [17] state that neutral or negative results do not demonstrate a lack of efficacy of the tools within a multimedia presentation. Henry et al. [17] state that the ability for the participants to start losing focus during the presentation can lead to negative results in the study. Henry et al. [17] reinforces the point that although multimedia presentations can enhance the learning experience for the participants, it cannot replace the interpersonal discussion between the presenter and the participants. Campbell, Goldman, Boccia and Skinner [18] also support this view by stating that it is easy for a participant to lose focus by passively watching a multimedia presentation. Campbell et al [18] state that multimedia presentations are a valuable tool in transferring information, however, there will always be limitations in the transferring of all the relevant information to the participants. In addition, the participants in this study may have

been exposed to the multiple-channel effect in which the presentation of multiple mediums can overload the visual information processing capability of the individual which leads to the splitting of their attention to different information sources [19]. Therefore, the results of this study will be based on an analysis of factors in which the presentation of the multimedia case had a positive impact on the participants.

## Results

The comparison of the data from the two sets of questionnaire has yielded very interesting significant results. The items which yielded significant positive relationships are presented in Table 1. The results have supported five of the fourteen hypotheses. In addition, two concepts were supported for both the management and business ethics items. The results showed that the presentation of the multimedia case study improves the general attitude toward the

### Management Items

<i>Questionnaire Item</i>	<i>Pre-Case Mean (s.d.)</i>	<i>Post-Case Mean (s.d.)</i>
<b>HYPOTHESIS 1</b> <b>General Attitude Toward Subject Matter</b> I understand how to apply analytical reasoning to Management	3.58 (0.84)	3.71(0.79)***
Management is highly technical	2.83 (0.83)	2.85(0.95)**
<b>HYPOTHESIS 5</b> <b>Ease of Learning Subject-Matter</b> Learning management requires a great deal of discipline	3.29 (0.86)	3.53(0.86)***
<b>HYPOTHESIS 7</b> <b>Communication Skills</b> My writing skills have improved as a result of this Management course	2.63(0.93)	2.67(0.88)**

\*\*Significant at 0.05 \*\*\*Significant at 0.01

### Business Ethics Items

<i>Questionnaire Item</i>	<i>Pre-Case Mean (s.d.)</i>	<i>Post-Case Mean (s.d.)</i>
<b>HYPOTHESIS 8</b> <b>General Attitude Toward Subject Matter</b> Business Ethics is better taught in a multi medium format	3.02 (0.72)	3.11(0.80)***
I understand how to apply analytical reasoning to Business Ethics	3.79 (0.69)	3.85 (0.79)***
<b>HYPOTHESIS 12</b> <b>Ease of Learning Subject-Matter</b> Learning Business Ethics requires a great deal of discipline	3.21(0.97)	3.36 (0.96)***

\*\*Significant at 0.05 \*\*\*Significant at 0.01

Table 1. Results of the Study

management issues, so Hypothesis 1 was supported. Two items under this concept were statistically significant and were “I understand how to apply analytical reasoning to Management” and “Management is highly technical”. The results did not support the Hypotheses 2, 3 and 4 which proposed a positive relationship between the presentation of the multimedia case and the relevance to management issues to life and society, higher order cognitive domain of learning and level of self-efficacy respectively. The results did supported Hypothesis 5 which stated that the presentation of a multimedia case would have a positive impact on the ease of learning management issues. This concept was represented by the questionnaire item “Learning management requires a great deal of discipline”. The results did not support Hypothesis 6 which stated that the presentation of the multimedia case would have a positive impact on the level of team work among the students. However, the results did support Hypothesis 7 which stated that the presentation of a multimedia case would have a positive impact on the level of communication skills for the student. The results also support a significant positive relationship between the general attitude toward the subject matter and the ease of learning the subject matter as it related to business ethics. The items “Business ethics is better taught in a multi medium format” and “I understand how to apply analytical reasoning to business ethics” were significant, so Hypothesis 8 was supported. The results did not support Hypotheses 9, 10 and 11 which proposed a positive relationship between the presentation of the multimedia case and the perception of the relevance of business ethics issues in society, the level of higher-order cognitive domain of learning of business ethics and the level of self-efficacy respectively. The item “Learning business ethics requires a great deal of discipline” was significant so Hypothesis 12 was supported. The results did not support the proposed positive relationship between team work related to business ethics (Hypothesis 13) nor did the results support a positive impact on the level of communication skills related to business ethics (Hypothesis 14).

## Discussion

The results of the study have empirically shown that a multimedia case presentation can have a positive impact on the learning experience for the students. The results showed that students do understand that management topics can be complex and highly technical. Furthermore, the results showed that students in-

creased their understanding of the importance that analytical reasoning has related to both management and business ethics decision making. It is important to note that the survey item “Business ethics is better taught in a multi medium format” was significant. This provides specific evidence of the impact the multimedia case study had on the students. By producing a positive significant result, this result demonstrates that there is value added in the development and implementation of multimedia case presentations in the classroom. Although there was not a written assignment that was linked to the multimedia case presentation, this survey item was significant for management issues. An explanation of this result could be that the visual presentation of material in many mediums increased the level of self-confidence the student in his or her ability to manage information which would be used in a written assignment.

There are a number of implications of these findings to instructors. From a qualitative perspective, there are a number of benefits of a multimedia case presentation. When asked how many of the students in the class were born before the Challenger disaster, one only student raised his hand. Therefore, a multimedia presentation makes these events come alive. Even though the students did not experience this tragedy first hand, they were able to understand the emotions of the decision making process through this multimedia case analysis. Another observation that was made during the presentation of this case analysis was the application of concepts related to business ethics. Since the average age of the class was 22 years or younger, the students have probably never had to encounter a business ethics dilemma in their previous work experience. Therefore, a number of business ethics concepts are abstract to them since they have never had to address these issues. The use of a multimedia case study allows the student to be empathetic to understanding the stressful conditions in which the decision makers at Morton Thiokol and NASA were under in determining whether to launch Challenger. Based on the visual and audio presentation of the facts, the students have a much clearer understanding as to why “good people” can make “wrong decisions”.

## Limitations

There are a number of limitations of this paper. The first limitation is the sample size used in this study. Although it did yield significant results, a sample size of 53 severely limits the

ability to generate comprehensive significant results. Another limitation is that only one multimedia case study was used in this study. The use of multiple case studies could allow for the development of a longitudinal case analysis.

Another limitation was that only one class was used for this study. The use of additional classes would increase the statistical power of the results. In addition, the study could have benefited if there was both an experimental and control group. Another limitation was that the case study was only presented to an undergraduate management class. This study would have benefited from a survey conducted in at a graduate level class.

There are a number of areas in which future research can be done. The first is to include more classes in the presentation of the case study. By including multiple classes at both the undergraduate and graduate level, the sample size would grow significantly. Another area of future research would be to include other constructs such as work experience and Grade Point Average [20]. Future research could also include presenting this case study in a business ethics class. Within a business ethics class setting, the multimedia case study could be used to help define and show the application of the business ethics concepts to the students. The net result could be that this case study could be beneficial for facilitating the learning process within a business ethics class.

## Conclusions and Summary

Instructors will continue to have to adjust their method of teaching based on the evolution of technology used by students in the classroom. Since students are technology savvy in their day to day activities, students also expect a high level of technology competency on what is presented to them in classrooms. The results of the study have demonstrated that students do believe that a multimedia case study enhances their learning process. Not only is it beneficial in the student's ability to have a more favorable attitude toward management and business ethics topics, but the results of the study also show that students agree that a multimedia case study is an effective tool in order to present business ethics concepts. The net result is that by bringing real world examples to the classroom through various mediums, both the instructor and the students are more fully engaged in the teaching and learning process. Therefore, the use of a multimedia case study is beneficial in enhancing the learning experience of the students.

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## Appendix 1

### Sample Survey Questions

Please rate the degree to which you agree or disagree with the following statements in this questionnaire by circling on the response according to the following 5- point scale.

A = Strongly Disagree (SD)

B = Disagree

C = Neutral (neither agree nor disagree)

D = Agree

E = Strongly Agree (SA)

1. Management is a subject learned quickly by most people. A B C D E
2. I have trouble understanding Management because of how I think. A B C D E
3. Management concepts are easy to understand. A B C D E
4. Management is irrelevant to my life. A B C D E
5. I get frustrated going over Management tests in class. A B C D E
6. I am under stress during Management classes. A B C D E
7. I understand how to apply analytical reasoning to Management. A B C D E
8. Learning Management requires a great deal of discipline. A B C D E
9. I have no idea of what's going on in Management. A B C D E
10. I like Management. A B C D E
11. Management is highly technical. A B C D E
12. I feel insecure when I have to do Management homework. A B C D E
13. I can learn Management. A B C D E
14. Management skills will make me more employable. A B C D E
15. I expect to learn how to identify Management tools that will assist me in decision-making using the instructional materials. A B C D E
16. I expect to learn how to inter-relate important topics and ideas using the instructional materials. A B C D E
17. I expect to learn how to identify various alternatives/solutions to a problem using the instructional materials. A B C D E
18. I expect to improve my problem solving skills using the instructional materials. A B C D E
19. I expect to learn how to sort relevant from irrelevant facts using the instructional materials. A B C D E
20. I expect the instructional materials, class activities, labs, and assignments to be integrated in a way that makes my learning easier. A B C D E
21. I expect use of the instructional materials to emotionally engage me in learning the course topics. A B C D E
22. I expect using the instructional materials to increase my self-confidence. A B C D E
23. I expect to achieve a sense of accomplishment in learning by using the instructional materials. A B C D E
24. I expect using the instructional materials will help me assume a greater responsibility for personal learning. A B C D E
25. If I become a top level executive, I will use my knowledge of Management to help in my decision making A B C D E
26. I expect using the instructional materials will help me improve my team-building and interpersonal skills. A B C D E
27. I expect using the instructional materials will help my teammates and me listen carefully to each other's statements and ideas. A B C D E
28. I expect using the instructional materials will help my teammates and me to arrive at decisions based on consensus building. A B C D E
29. I expect using the instructional materials will help my teammates and me share ideas with each other. A B C D E
30. I expect using the instructional materials will enhance my interactions with my teammates. A B C D E
31. I expect my writing skills to improve as a result of this Management course. A B C D E
32. I expect my presentation skills to improve as a result of this Management course. A B C D E
33. I expect my confidence in applying Management concepts to real situations to improve as a result of this Management course. A B C D E
34. I believe that an interdisciplinary focus is important in Management. A B C D E
35. I expect using the instructional materials to improve my attitude toward Management. A B C D E
36. I expect my informal communication skills to improve as a result of this Management course A B C D E



## Appendix 2

### Items Mapped to the Constructs

#### General attitude toward subject matter

1 (reverse), 3, 7, 11, 13, 35

#### Relevance of subject matter to life and society

4 (reverse), 14, 25, 34

#### Higher-Order Cognitive Domain of Learning

15, 16, 17, 18, 19, 33

#### Self-Efficacy

10, 20, 21, 22, 23, 24

#### Ease of learning subject-matter

2 (reverse), 5 (reverse), 6 (reverse), 8 (reverse), 9 (reverse), 12 (reverse)

#### Impact on team working

26, 27, 28, 29, 30

#### Communication skills

31, 32, 36

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