
How to Use Case Analysis as an Entire Semester Course in Aviation

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ABSTRACT

The purpose of this paper is to discuss the use of the case analysis method as an entire semester course in aviation. The author taught a sixteen week course entitled Case Analysis in Aviation at the University of Nebraska at Omaha (UNO). This paper will provide a summary of that experience and will include a description of the course, the pros and cons to conducting such a class, and a review of how the students evaluated the course. The author hopes to justify using case analysis as the primary methodology for an aviation course and provide guidance on how to develop such a course for other faculty members who may be interested in using this method.

INTRODUCTION

The case method of teaching has been widely accepted in many disciplines as an excellent supplement to a traditional teaching style such as lectures. But, what about using case analysis not as a supplement for a lecture course but as the primary methodology for an entire course? The question is, how does one go about developing a course in case analysis and what kind of experiences should be anticipated? To answer this question, results of teaching a course in which analyzing previously written cases was the primary teaching format are discussed.

DEFINING THE CASE METHOD

There are many definitions of a case. Taylor (1991) defines a case as "a description of an organization or organizational situation" (p. 58). According to Sperle (1933) a case is a description of a decision or decisions involved in a real-life situation. A case is also defined as a report used to provide the opportunity to generate new knowledge (Jain, Gooch, & Grantham, 1975). Whether a case relates to an issue of the past or present, or whether it provides an in-depth look at an organization, a case is a written report about a real-world situation that a student can analyze through application of previously learned skills.

Advantages of the case analysis method are numerous. This method allows the student to put what has been learned into action (Ross & Headley, 1983). The ability to apply previously learned skills to a real--world situation is invaluable. The student will see "the relationship between what he or she has studied and how he or she can apply the knowledge beyond college -- for example in the workplace -- so that instead of being controlled by the environment and by a job, he or she can master it" (Gordon, 1976, p. 110). In addition to applying lessons from the past, students can develop new skills using the case method. "The case method encourages creative thinking and open--minded discussion" (Mallenby, 1983, p. 18) and is "designed to assist in the development of a mind which has superior ability to transfer its powers from familiar types of problems to new ones" (Hunt, 1951, p. 177).

There are many sources for locating cases. Some texts have a supplemental casebook such as "A Casebook for Air Transportation" by Alexander Wells (1990). Aviation cases can also be located in case books from other disciplines such as "Case Studies in Finance" by Bruner (1990). An additional source for a large variety of cases is the Harvard School of Business. Close to fifty different aviation cases can be ordered from Harvard. Professors are encouraged to contact case organizations such as the Midwest Society for Case Research. Of course, instructors and students can also write their own cases for use in the classroom.

The case methodology has traditionally been used as an additional teaching tool in lecture based courses. Implementing case analysis in this manner has been well received. According to Taylor (1991), case research methodology has been successfully demonstrated to have significant impacts on the teaching and learning process. In addition, research conducted at Wichita State University (WSU) suggests using cases in addition to the traditional lecture class provides students with the potential for enhanced learning (Ross, Headley, E., Headley, D., 1988). These studies all involved various amounts of case analysis used in conjunction with a traditional lecture course. According to the literature, there does not appear to be any such studies using case analysis as the primary teaching method for an entire course. So the question remains, can the case analysis method be implemented successfully as an entire semester course?

CASE ANALYSIS AS AN ENTIRE SEMESTER COURSE

Course Description

Since students who use case analysis need a strong foundation in their field of study (Ross & Headley, 1983), the case analysis course was a senior level class with prerequisites. Students had to complete the introductory aviation course and be a declared aviation major. The teaching objectives for a case analysis class were identified with the assistance of both internal and external peer review. The objectives for students are as follows:

1. develop critical thinking skills;
2. study past and present issues in aviation;
3. be able to communicate opinions and support them with documented information;
4. develop an ability to listen to other's opinions and keep an open mind in a discussion or debate;
5. writing clear and concise analysis based on case materials; and
6. develop team building skills;

The course was developed as a typical sixteen week model. The first two weeks were devoted to introducing the students to the case method. Since some students had no experience with this method, the components of a case as described in a case writing monograph (Bowen, 1994) were discussed in week one. A case from that monograph was introduced as an example in the second week. Using this example case, students were eased into case study by assigning simple worksheets that focused on only one section of the case at a time. These worksheets (see Appendix A) were discussed and reviewed in class until the students had good working knowledge of traditional case design. This was determined by successful completion of the worksheets.

In the weeks following, the class studied approximately one case a week. Students were expected to have read the cases prior to the start of each new week. Two or three students were assigned as researchers for the weekly case. As researchers, they were required to obtain and share with the class any recent developments related to the case topic. Therefore, a good case that may be out-of-date can still be utilized effectively. This method also allows for current events discussion and provides the opportunity for student research and presentations.

Each student was required to prepare a one-page abstract of each weekly assigned case. The major assignment was an in-depth written case analysis. For this final project, students selected a case (it could be assigned or the student could locate the case), wrote a seven page analysis, and presented it to the class. Guidelines for this assignment can be seen in Appendix B.

As mentioned, there are numerous sources for cases. A course can be tailored to a specific area based on the selection of cases for the class. For example, all cases for a course could focus on airline management, airport management, flight training, etc. Case subjects that were used in this class included ATC Privatization, Denver International Airport, Mesa/Air Midwest Buy Out, Deregulation of the Airline Industry, and Product Liability. These particular cases were selected in order to maintain a broad based topic approach and to allow for the discussion of several aviation issues. Since the course could easily be directed to either a particular discipline or can take a general approach, a case analysis class

may be designed for use as an effective capstone course for a variety of aviation programs.

Teaching Methodology

Using the case method allows the opportunity to incorporate a variety of teaching methods. For the first weeks when introducing the case method, lecture was the primary teaching style used. In addition, some discussions, both as a class and in a small group setting, were conducted to review the first case provided and ensure that all students had an understanding of the components of a case.

For analyzing the weekly cases, instructor--guided discussion was often used. Students could discuss in either a large group setting or in several small groups with reports back to the class as a whole. Discussion questions provided by the instructor included the following:

- What is the primary issue of the case?
- What are the advantages and disadvantages to the alternative solutions the author provided?
- Do you agree with the author's recommendation? Why or why not?
- What would you do in this situation?
- What recent events have taken place that affect this topic or issue?
- Did the author fulfill his or her case objectives (if provided)?

The students were asked to respond to these questions using the information provided in the case, their written one--page analysis, and previous knowledge gained from other courses.

To add some variety (and fun) students also participated in role playing. A continued memorandum (see Appendix C) was provided to the students to set up the scenario. The role play was based on a case that addressed a possible merger between two airlines. Students were assigned management positions from various departments at one of the two organizations. A board meeting was conducted and the managers from both airlines discussed a buy out versus a merger. Students were expected to be familiar with issues affecting their particular operational area and participate in the discussions accordingly. Once a decision was made as to the course of action, negotiations over the terms of the agreement were conducted. With the uniqueness and flexibility of the case method, many innovative teaching methods can be used.

There were a few problems that developed during the course. One was time. The course was taught as a three day a week, 50 minute class. This was just enough time to get really engrossed in a discussion about a case only to have to stop because the class session was over. Often we had to break some excellent

discussion in the interest of time and it is not always easy to simply pick up where the discussion. It is recommended that the course be taught as a three-hour evening course, if possible. Another problem will arise if students do not have the appropriate experience with the topic area. Students must have the background information on a given subject area, such as airline management, in order to fully participate in the case analysis process. The faculty should pay close attention to the prerequisite courses established for a case analysis class in order to address this issue.

FEEDBACK FROM THE STUDENTS

“Instructional effectiveness in higher education can be measured in two ways: the first being an evaluation of the instructor and the second being the evaluation of the students in the subject matter” (Harford & Meadows, 1991, p. 41). To provide some feedback from the students and some insight to the effectiveness of the course, results from three surveys will be used. Two different teacher evaluations were completed by case analysis students. The first evaluation tool was the UNO Student Perception of Teacher Performance. For additional comparison, the WSU Student Perception of Teacher Performance questionnaire was also provided. To identify the student's perception of this method as an entire semester course, one additional survey, the Case Analysis Survey was developed particularly for this course and asks for student reaction to the case method.

Of the twenty-one enrolled in the course, fifteen students completed all three surveys in class, without the instructor present. Of the fifteen students, thirteen were upperclassmen (Juniors or Seniors). Given the small sample size, the results are provided to simply develop a sense of how these students reacted to the course. The majority of the students (13) were aviation majors. The remaining students had varied majors but were allowed in the class because they were aviation minors and/or had completed several aviation courses prior to enrolling in the case analysis course.

ANALYSIS OF RESULTS

Using the first survey from UNO, students consistently gave high marks throughout the evaluation. All students (100 percent) agreed or strongly agreed that the instructor stimulated thinking. Even though some students had no previous experience with the case method, 100 percent agreed or strongly agreed that the instructor was able to explain and clarify subject material. This was probably due in part to the fact that 100 percent of the students agreed or strongly agreed that the materials assigned were effective. Students were also satisfied with the grading process. 80 percent strongly agreed that grading was fair. The most substantial finding in the WSU survey is that 87 percent of students sur-

veyed responded with the highest available mark ("very much so") to the worthwhile nature of the course.

The Case Analysis Survey provides information indicating the student's perception of the case analysis method and how it compares to other learning techniques. It should be noted that this survey only indicates the student's opinion of information learned. Another study would be required to examine the quantity and quality of subject matter students obtain using case analysis versus a more traditional teaching approach. The results of the Case Analysis Survey revealed that students thought the course was worthwhile and 93 percent would recommend it to other students. All respondents (100 percent) strongly agreed or agreed that they learned more using case analysis than they learn by reading a textbook. Since most students (thirteen out of fifteen surveyed) were Juniors or Seniors, it is not surprising that 73 percent strongly agreed or agreed that the course should remain an upper level course. Although few (13 percent) identified case analysis as their favorite learning technique, not one student indicated a dislike for this method. The majority of students strongly agreed or agreed that case analysis helps them to understand complicated subjects (86 percent) and helps them remember concepts (87 percent). All students also indicated that they have more interaction with the instructor and 80 percent of students strongly agreed or agreed that the activities in class improved their speaking skills. In addition to the data obtained from the Case Analysis Survey, a few student comments were made. One student stated that the course "gives students the opportunity to express individual opinions, comments, and arguments on all aspects of aviation." In regards to workload, a student wrote, "I know a lot of students would say otherwise, but I feel one case a week would not be too hard although it was a lot more fun fighting it out in class than writing [the case analysis]." Several students commented that it was a fun class. There were no negative comments.

CONCLUSIONS

The surveys reveal that students accepted and enjoyed the case analysis course. Survey results show that they believed the course was worthwhile and would recommend it to others. Students indicated they improved in areas such as communication and comprehension and retention of complicated concepts. The assignments and in-class activities were also acceptable to students as indicated by the positive response to the class policies, procedures, and grading. Based on the results of the surveys and experiences of the instructor throughout the development and implementation of the course, the case analysis method can provide the opportunity to create a full semester course that offers a unique and enjoyable alternative for students and faculty.

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**APPENDIX A
CASE ANALYSIS WORKSHEET**

NAME: _____

After reading the entire case, answer the following questions:

1. What are the critical factors (the most important facts) of the case?
2. What is the single, main strategic issue or problem? (Be specific)
3. Do you agree with the authors solution? Why?
4. Did the author fulfill the teaching objectives? Why or why not?

APPENDIX B GUIDELINES FOR WRITING CASE ANALYSIS

I. Summary

The summary should be concise and briefly recap the case. The primary purpose of the summary is to refresh the reader's memory of the case. Keep this section no more than one page in length.

II. Problem

Begin this section with a clear statement of the problem. Elaborate on what caused the problem if need be. The problem should be specific and action oriented. The problem or issue statement reflects a situation that must be addressed. However, do not confuse SYMPTOMS of the problem with the problem itself. This entire section should be no longer than one page.

III. Critical Factors

Identify the most relevant FACTS you considered when thinking through the problem, possible alternatives, and outcomes. Critical factors are such things as industry decline, weak financial position, etc. Briefly state critical factors pertaining to your case and tell why you believe these to be critical. This section should be no more than one page in length.

IV. Development of Alternative Actions

Each alternative should provide a feasible, realistic way to solve the problem. Describe each alternative in two or three sentences. Then briefly list the primary advantages and disadvantages for each alternative. Be consistent with critical factors. Some cases may have only two or three alternatives while others may have several. This section should be no more than two pages in length.

V. Recommendations

Select ONE alternative and elaborate on it. Explain why the alternative you selected is superior to the other alternatives and why its advantages outweigh its disadvantages. How might disadvantages be overcome or minimized? What is involved in implementing this alternative? (How long will it take? How much will it cost? etc.) What results do you anticipate? Make sure your recommendations are appropriate and actionable in relation to the situation. **BE SPECIFIC!**

You may have to make assumptions in formulating your recommendations. Assumptions are acceptable to the extent that they are reasonable and clearly articulated. Use the information you have and work with it. Rarely do decision makers have all the information they would like to have. This section should be no more than two pages.

APPENDIX C

TO: Air Midwest & Mesa Board Members

From: Negotiations Consultant

Date: March 1, 1994

RE: Buy out Talks

All interested parties are invited to attend the next round of negotiations regarding the proposed Mesa/Air Midwest buy out. As a reminder, in our last meeting the following issues were addressed:

- Air Midwest President and VP to gain a seat on the Mesa board.
- All other employees to remain in current positions.
- Air Midwest to become a wholly owned subsidiary
- Air Midwest will not receive more than 49% voting share
- Air Midwest and Mesa will keep separate and distinct route structures

The current offer from the Mesa board to Air Midwest is as follows:

- purchase value \$30 million
- \$1 cash per share of stock
- golden parachute for each Air Midwest board member, value -- \$1 million, 3 year clause
- 15 percent of Air Midwest annual revenue to Mesa

Our next meeting is scheduled for 12:30 p.m., Wednesday, March 2. I request that the following people be present:

President and V. President Maintenance Rep.
Pilot Rep.
Ground Crew rep.
and any other employees representatives that you feel should attend (i.e., marketing/advertising, ticket sales, etc.)