

Game Over! Debriefing as an Essential Part of the Learning Process

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ABSTRACT

Graduate schools of business use computer simulations to achieve a wide variety of pedagogical ends. They are venues for teamwork. They give students realistic experiences in a safe environment. They allow experimentation. However, the learning process is not complete unless students have the opportunity to reflect upon and criticize the events that transpire during the simulation. The purpose of this paper is to examine the debriefing process both as a means of student assessment and as an activity to further learning. This paper shall discuss the simulation and debriefing methodology followed by one Asian graduate business school conducts. This paper will also elaborate on the benefits the debriefing experience affords both faculty and students. Examples of these benefits include the following: the debriefings allow students to critique the business strategies they adopt during the simulation; students are able to verbalize the need for teamwork and cooperation; they express gratitude for jobs well done or else point out failures in communication; finally, the feedback also gave the professor a basis for improving the simulation and debriefing experience.

Keywords

Business simulations, debriefing, Asian Institute of Management, case method

1. INTRODUCTION

1.1 The Case Method of Instruction

Also known as discussion teaching, the case method is a systematic way of learning by drawing from the knowledge and experience of a group. It is grounded in the concept of active learning, that is, the creation of a context of learning, a community within the classroom where students enable each other's education [9].

When applied in a business school environment, case-based teaching assumes that management is not just a collection of techniques and concepts. Rather, it is a skill that is best experienced in a process that simulates the real world [8].

The class is presented with a case—a collection of conditions, practices, facts, attitudes, and other relevant data that depict the state of a company at a given time. The case describes a situation where a company faces new challenges. The class's job

is to determine the best course of action. Cases are not necessarily examples of good or bad management. They confront students with realistic, interesting business scenarios that best explain management principles [8].

Hartman [13] enumerates the steps in case analysis:

1. Understanding the case. Cases are analyzed in a group environment. Students read the cases, evaluating facts for relevance and importance.
2. Identifying the problem. Once students identify all the facts, they specify the problem or problems that require their attention.
3. Analyzing alternatives. Cases rarely have only one solution. Students should thus discuss clearly defined potential solutions.
4. Making recommendations. Students then decide on a course of action that has a high probability of meeting management requirements.
5. Presenting. Students discuss the possible solutions in class or possibly to an actual client corporation.

The case method of instruction is radically different from traditional, lecture-type classes. Garvin [11] postulates that, to be successful, case method instruction requires three fundamental changes:

- There is a change in the balance of power. The teacher no longer dominates the discussion. The students share in the decision-making. The political environment changes from an autocracy to a democracy.
- There is a change in locus of attention. Instructional content, classroom process, and the learning environment are given equal attention.
- There is a change in the essential instructional skills. Whereas traditional, lecture-based teaching requires teachers to declare explanations, the case method of instruction requires teachers to listen, question, and respond. It forces teachers to develop more interpersonal skills and sensitivity to the group's development.

Also essential to the case method is collaborative learning. This occurs when a small group of students work together to complete a problem-solving task. Knowledge is actively constructed through goal-oriented activities. Learning becomes a social process that fosters cooperation and teamwork. It requires

participants to explore a space of possibilities to arrive at solutions to problems [1].

The case method is used extensively because of its many advantages. Students develop decision-making and communication skills, they learn to look at problems from multiple perspectives, they gain a better understanding of the business environment and management processes, and they think analytically and objectively [13]. The collaborative nature of the learning environment promotes higher achievement, increases student satisfaction with the learning process, and cultivates more personal relationships [1].

1.2 Business Simulations

Simulations imitate the aspect of the world that is under study. Students learn by interacting with simulations in the way that they would react to the situation if it were real. Students must actually perform procedures or activities to be learned, thereby constructing mental models of how aspects of the world work [2].

Business simulations are, essentially, computer-based cases. Students form groups or management teams operating fictitious corporations that may be in competition with one another. Simulations immerse students in extended competition between companies, regularly reporting consequences of business decisions. They allow companies to interact either through the program or interpersonally [13].

Graduate schools of business use computer simulations to achieve a wide range of pedagogical ends. Business simulations provide students with opportunities to develop proficiencies in quantitative analysis and decision-making [10]. Simulations are venues for teamwork where students must work cooperatively towards a common goal [13]. Simulations also help students to develop their communication skills. Written and oral reports are normally integrated in the simulation activity, familiarizing students with the managerial reporting process [13].

Business professors universally measure student performance using bottom-line financial outcomes such as return on investment (ROI), return on assets (ROA), stock price, inventory turnover, or market share. Anderson and Lawton [3] estimate that these functions of profit account for 40 percent of simulation grades.

At this point, two observations must be made. First, there is no clear relationship between a group's financial performance and how much that group has learned [3]. In fact, there is little evidence to suggest a correlation between profitability and managerial capabilities [17]. Most professors therefore use a variety of evaluation methods to measure a group's performance accurately and fairly. Peer evaluations, written plans, written or oral presentations on team performance, and team performance

relative to written plans are just some of the other criteria that carry grading weights [3].

Second, the learning process is not complete unless the students have the opportunity to reflect upon and criticize the events that transpire during the simulation. It is important to unravel the learning process through a dialogue [18]. Participants' comments during the dialogue reveal their understanding of the experience and their commitment to the principles taught [5].

The purpose of this paper is to examine the debriefing process both as a means of student assessment and as an activity to further learning. Aside from references to literature, this paper shall discuss how an Asian graduate business school conducts one of its post-simulation debriefings and what benefits the debriefing experience affords both faculty and students.

2. THE DEBRIEFING PROCESS

A debriefing is an opportunity to maximize the simulation experience by reflecting upon it and transforming it into learning [4,7]. Its purpose may be to develop generalizations based on the interpretation of learner perceptions or to address cognitive conflict that has arisen from challenges to students' intuitive beliefs or prior knowledge [12]. A debriefing may also allow students and faculty to identify strategies used during the simulation, to decide which strategies were most successful than others, to assess the realism of the experience, and to discover ways in which the experience can be improved [13].

Successful debriefings occur in hospitable environments. Baker, Jensen, and Kolb [6] suggest ways to create spaces for dialogue. Each participant, whether student or professor, must make an effort to be heard and understood. Each participants' points must be received in an atmosphere of acceptance, respect, and flexibility. Participants must support exploration of differences. At the same time, they must try to build common ground.

The general procedure for conducting debriefings [12] begins with a description of the events that transpired. This is a non-threatening request that gives all participants a common starting point. Once past the basic events of the simulation, participants can then begin sharing their feelings and varying viewpoints. The group should address any concerns or conflicts that arise during this stage. Finally, the group can begin drawing generalizations. The participants should take note of events during the simulation that were not consistent with prior beliefs or theories. By examining these discrepancies, students can begin to extend their thinking to broader contexts.

Throughout the debriefing session, the role of the professor is not one of knowledge expert or judge. The professor's role is that of facilitator. He assists students in processing the events of the simulation and their feelings, and helps students relate these to larger events [12]. He urges participants to present their concerns, he listens, he encourages listening, and he moves

students towards constructive responses [7]. The professor also cites possibilities and views that the participants fail to consider [7].

The remainder of this paper shall examine one instance of the debriefing process as conducted by the Asian Institute of Management (AIM), a graduate business school in Makati City, Philippines. Note that the AIM faculty conducts business simulations several times a year, with different classes. There are variations in grading criteria, format, and process. This paper concentrates on one specific event.

3. METHODOLOGY

The game administrator's perspective was provided by one of this paper's co-authors, Professor Francis L. Huang. Prof. Huang conducted a business simulation with his Master in Management graduate business class from February 16 to 18, 1999. He then conducted two debriefings. The first one immediately followed the game. During this debriefing, the game administrator elicited a wide range of feedback, from course content to team dynamics. The game administrator and three AIM faculty members conducted the second debriefing during a two-hour afternoon session on the Monday (February 22, 1999) after the game. The debriefing concentrated on group dynamics and team interactions rather than the actual content of the game. The second debriefing was delayed for the purposes of allowing the initial after-the-game euphoria die down and to give the team members time to reflect on what actually transpired in the three day management game.

Data regarding the debriefings was gathered through observation of the process itself. The students expressed their perspectives of the gaming experience and the debriefing during the session. After the first debriefing, students also submitted answers to a written questionnaire that asked the following questions:

- What do you think you were supposed to learn from the game?
- What did you gain from the exercise (if anything at all)?
- Did you receive valuable feedback during the debriefing at the end?
- What did you like about the game and the debriefing process?
- What did you not like about the game and the debriefing process?
- What else would have helped you understand the game better?

The data from both debriefings shall be summarized and integrated later in this paper.

4. THE AIM EXPERIENCE

AIM is a business school that provides degree and non-degree managerial education [15]. Among AIM's offerings is a one-year full-time masters' degree program in Management (MM). The MM Program is an intensive graduate management program that prepares experienced managers to assume greater responsibilities and higher positions by broadening their skills, competencies, perspectives, and attitudes as general managers and leaders [16].

MM students must be at least 28 years old. They must have at least six years of work experience, three of which are at a managerial or supervisory level. They must also have proficiency in written and oral English. The current MM cohort is composed of individuals from the Philippines, Indonesia, People's Republic Of China, India, Malaysia, U.S.A., Bangladesh, Germany, Japan, and Vietnam.

AIM uses the case method as its primary means of instruction. AIM's use of simulations, essentially cases in software form [13], is consistent with the case method of teaching.

4.1 Simulation objectives

The MM program has a total of three modules. The first module concentrates on the general manager as a decision-maker, the second module emphasizes strategy, and the third module is on implementation and leadership. The management simulation was a culminating activity for the second module. The first purpose of the game was to integrate the lessons learned from earlier modules by having students apply them to a "real" situation. The game scenario was that of general management rather than specific functional areas.

The game's second objective was to bring individual students of varying backgrounds, cultures, and work experiences together to observe how they perform as a group. The game administrator ensured that grouping were "fair," that is, each group was multicultural and had strong and not-so-strong members.

4.2 Mechanics

This particular simulation exercise made use of a modified version of **Detergent scuffle battlefield: A strategy game in management** [4]. The game administrator divided an MM class of 71 students into 10 multi-cultural Management Committees (ManComs), each heading a corporation. Two ManComs working together composed one conglomerate. Set in the detergent industry of a fast developing nation in Asia, each corporation had to make a variety of decisions regarding market research, operations, product lines, financing, pricing, sales/credit terms, dividend pay outs, and so on. Members of the same conglomerate could confer with each other, share market research data, combine laboratory findings, and transfer funds to one other.

There were eight rounds of play in all, conducted over three days. Each round represented a six-month period in the game. At the end of each period, the ManComs wrote their decisions on worksheets and submitted them to the game administrator. The game administrator then encoded all figures into the simulation and generated financial statements, common industry information and news bulletins for use in the succeeding period. Before each new period began, the game administrator revealed the team results of the previous moves on the blackboard. Profitability and market share initially determined team rankings. News bulletins and explanations of new decisions were made as well after which the participants broke out into their own groups again to make the decisions for the next move. Students were generally given from an hour and a half to two hours to make their decisions. The game administrator provided additional help in between periods by going from group to group to answer questions and clarify game mechanics. Three moves were played on the first day, three moves on the second, and two moves on the third. The afternoon of the third day was spent discussing the final results of the game and the insights of the various groups.

Table 1 shows the game administrator's grading criteria to determine team ranking. Note that, aside from financial considerations, the teams were ranked based on socially desirable activities (such as buying local raw materials and giving steady dividends) and nearness to targets (goals set by the ManComs in the middle of the game). The rankings of two ManComs are combined to produce a conglomerate's ranking. The game administrator explained the grading criteria to the students one week before the game actually began.

Table 1. Grading criteria to ManCom ranking

Criteria	Weight
Profitability – cumulative profits of Periods 3 to 8 divided by the average value of the common equity.	45%
Market share – sum of domestic market sales volumes from Periods 3 to 8 of each company.	23%
Socially desirable activities – stability of employment, total cash dividend per share declared and paid, and national interest.	16%
Nearness to meeting targets – variances between corporate targets and actual performance.	16%
Total	100%

The final class standings of the students are determined by the criteria in Table 2.

Table 2. Grading criteria

Criteria	Weight
ManCom ranking – explained in Table 1	30%
Conglomerate ranking – emphasizes the need for each ManCom to work together with the	35%

other ManCom in their conglomerate	
Team assessment grade – students are asked for rank their team members based on their contribution to the group	25%
Faculty observer's grade – an AIM faculty member was assigned as an observer of a particular ManCom	10%
Total	100%

Note that, in this instance, the student performance during the debriefings was not part of either grading criteria.

In the first three periods of the game, each corporation acted as a trader of imported detergent. From Period 4 onwards, each group assumed the role of a manufacturer of detergent serving a particular sub-market (general purpose, dish washing, machine washing, hand-washing or household cleanser). Every ManCom could only manufacture and sell one type of product in one particular form (powder, cream or bar) in a given period (product and form switching was allowed). Each period was characterized by an increasing number of decisions of greater complexity. The game administrator graded based on team performance during Periods 3 through 8. The first two periods were exploratory in nature. The administrator assumed that by the third period onwards, students would have acquired a better understanding of the market and were ready to shift roles from a trader to a manufacturer. There were no practice moves allowed during the game. End game scenarios were avoided by setting limitations on the types of decisions students could make on the last move. These limitations were as follows:

- Credit terms could not exceed 150 days.
- Dividends could not be higher than RR 3.00 per period (RR is a fictitious currency that stands for RingRupes—a combination of Malaysian Ringgits, Indian Rupiahs and Philippine Pesos).
- Selling prices could not go above a certain level.

5. Debriefing results

As mentioned in the methodology, the game administrator conducted two. The first immediately followed the game. The second was conducted several days later.

5.1 First debriefing

Overall, the simulation experience was very positive. The students said that they enjoyed the pressure and excitement of the game and the anticipation of the results. For many, it brought together the different concepts that they had learned throughout the first and second modules of the program. They were able to practice the newly learned skills in class. Some found the game too short and there was a general clamor for another management simulation in the next module.

The debriefing gave the students the opportunity to share what they learned from the whole exercise. Foremost among the students' reflections were related to course content or subject matter. Officers and staff of a corporation generally only see that corporation from a single functional perspective—finance, marketing, production, and so on. The simulation demanded that students adopt a more generalist view. Students had to think like general managers, which is the objective of an MM program. They had to oversee the interrelationships of different functional areas and came to appreciate that decision-making in business involved integration of these various points of view. One student commented that a company's success lay in its ability to closely link each functional area.

Each group had a different experience and took away different insights from the game depending on their rankings. One team put its company in financial distress by pricing its product high above market tolerance. Another team resisted having an initial public offering (IPO) or taking advantage of a long-term loan. As a result, it had to resort to short term loans to finance the construction of its factory and building. These teams quickly learned lessons in crisis management. These experiences, and others like it, helped students realize the importance of shifting strategies as the need arises.

The students also appreciated the value of teamwork. This insight was most noted by groups that did not achieve a good level of synergy. These groups admonished themselves for not working together closely, for being distrustful of their conglomerate team, and for not sharing market research data. When one conglomerate decided, mid-game, to adopt a full-disclosure policy, their performance immediately improved. Unfortunately, the improvement came too late to pull their rankings up.

The class raised other teamwork-related insights. The class admitted that each member of the team contributed to that team's success or failure. Working in teams also demanded good interpersonal and communication skills. Each member had to listen and appreciate their teammates' strengths and weaknesses and some gained insight on the importance of cross-cultural communications. They had to learn to argue based on facts. They also had to learn to compromise.

In the written questionnaire, students commented on the debriefing process itself. Students acknowledged that the process was valuable and that the gaming experience would not have been as rich without it. It helped them understand the rationales behind each group's strategies. They understood what each group was thinking and how they were functioning internally.

The debriefing highlighted how a single event is experienced differently by each individual. One respondent remarked that the debriefing proved there was no single "right answer" in the

activity, a point that is also stressed in case method teaching. There were many different ways of achieving good results. Another student found that the richest sources of learning were those groups with very different experiences—whether in terms of opportunities, threats, or group dynamics—from his own.

Some students complained, though, that the debriefing was too disorganized. The class spent too much time on personal insights rather than on content-based discussions from which fellow students could have learned. Future debriefings should require each group to give short presentations regarding their strategies and expectations. They should also include detailed discussions of financial results.

Other students further complained that most of the comments during the debriefing were positive. No one gave any negative feedback. Rather, team members were very complementary. The game administrator noted in class that the class had become a mutual admiration group.

Finally, it was interesting to note that some members of the lowest ranking teams tended to blame the computer and label the games as unrealistic while all other teams did not even mention the computer's role in the simulation.

5.2 Second debriefing

A group exercise was given to the students to help them identify what their role was in their management game team. Students had to write down their perceptions of themselves and their group mates. These perceptions were then compared to the perceptions of the other team members. In some teams, they found that there were some roles that were lacking and they did not function very well.

The importance of group roles again materialized along with the function of group processes.

After the exercise, the class viewed the short film *The Abilene Paradox*. In the film, Prof. Jerry Harvey of George Washington University explains that how in many teams, the problems that arise may be because of a failure to disagree, rather than the failure to agree. The Abilene Paradox has been stated as follows: "Organizations frequently take actions in contradiction to the data that they have for dealing with problems and, as a result, compound their problems rather than solving them." [14].

One student voiced his comment that this second debriefing was felt to be more relevant than the one held immediately after the game because they could go deeper into other issues.

6. CONCLUSION

The game administrator and the students made the debriefing exercise highly successful by creating an atmosphere of

acceptance and respect. Each student listened attentively and responded to both the game administrator's questions and their fellow students' points.

The game administrator acted as a facilitator. His comments, questions, and redirections were non-threatening. He used them to explore issues such as mid-game changes in strategy, issues of contention between team members or conglomerates, and so on.

Participants explored the varied perspectives of the same event. During the debriefing, students shared how integrated and applied lessons from previous classes with data from the simulation to arrive at appropriate strategies. The described team dynamics—how they had to sell their ideas, listen to the ideas of others, and arrive at a consensus. From this exploration of differences came an appreciation of the diverse ways of achieving a single goal.

The debriefing and subsequent written questionnaire also raised ways of improving future simulation and debriefing exercises. The strongest suggestion was for better organization of the debriefing. A first debriefing should concentrate on content-related reflections. During this session, each group should present their strategies and results—what they did, what went wrong, what they should have done, what they will not do again. Focus should not be restricted to the teams that ranked the highest and the lowest. A second debriefing may then be used to examine group processes and team issues in greater depth.

Much of the time was spent analyzing the performance of the team that ended up last (which was seen everyone as being the most problematic). At the point after the game, they are more interested in why they lost/won, rather than group processes.

7. ACKNOWLEDGEMENTS

Our thanks to

- Wilberto Sison, Ma. Tesa Jose, Imelda Canlas, Rommel De Vera, Ina Villanueva, Tammy Honrado, and Melay Jimenez who helped during the prior play testing period as well as the days of the actual game.
- Prof. Enrico C. Angtuaco, the game's original author, for volunteering the use of his game and allowing us to make modifications and updates.
- The AIM Masters in Management class of 1999 for their enthusiastic participation.

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