

Case Writing: A Tool for Teaching and Research

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Introduction

On the pedagogical battlefield, there are many weapons from which an instructor may choose. In practice, however, this choice is more limited. Many disciplines demonstrate a preference for particular techniques because the instructors were taught via the same method when they were students. The availability of alternative teaching materials may also hinder this variation. The contention of the authors is that, in the engineering and decision sciences, case studies are an underutilized resource. This article will outline some of the areas in which case studies are most likely to be effective. It then describes the process by which an instructor can develop effective cases for use in the classroom and for publication.

We will begin with a brief discussion of the different types of case studies and the various teaching objectives and learning styles associated with each type. The article will then describe the process of finding suitable companies or issues for cases, and gaining access to this information. We discuss some of the conventions of case style and organization as well as the process of testing and refining the case draft. Finally, the teaching note or instructor's manual, an integral part of the case writing process is covered in detail.

Why Cases?

A case study is a description of a real situation. It may be short and descriptive, essentially demonstrating the effectiveness of a particular technique or it may be highly focused, identifying a problem and providing the information needed to solve that problem. Some describe an actual event, decision, or the results of that decision as the basis for analysis of forces, trends, and important issues that were (or should have been) considered. Such cases are longer and provide not only the information directly involved in the situation, but also enough background that the reader can evaluate how effectively the situation was managed. Another, more complex, type of case provides not only

the background for a decision, but also information about the decision-maker, allowing the reader to put her/himself in that manager's position and make recommendations that are appropriate for the particular values of that organization.

This very brief summary illustrates several of the important reasons why an instructor might choose to use, and ultimately write, case studies for classroom use. Cases allow students to take part in their own learning. Even the simplest type of case described in the previous paragraph gives students a picture of how theories and techniques are used in the real world. More complex cases give students practice in analysis, evaluation, and decision-making. Thus, they are exposed to "real world" issues in an environment where it is safe to experiment because jobs, profits, and worker safety are not in jeopardy. As in the "real world," often there is not a single solution. The facts presented in the case may lead to different interpretations, creating the need for students to explain and defend their conclusions. Not only are students learning to use analytical tools and theoretical models, they are developing cognitive skills.

A good case has multiple objectives. It has the specific facts, models, or tools that tie in to the content of the course. A course in dynamics of motion may be designed to include teaching friction in more than a basic manner, such as within the context of theories of acceleration and related material. Case studies can be effective in teaching the basic material and a relatively brief, straightforward case could be used for that course. However, a more complex case study could be developed to present a situation where there is a necessity to develop and design a product that will be used in an uncertain environment or where multiple issues will be encountered. Each course will have its own specific needs, to which these content objectives should be linked.

Case studies are also effective in helping students learn analytical thought, a set of skills that can be transferred across

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courses. One useful model is Benjamin Bloom's taxonomy of educational objectives¹. His schema is in the form of a hierarchy, in which one level of learning skills serves as the foundation for the next, more advanced set of skills. It begins with *knowledge*, defined as the ability to remember, whether facts, theories, or techniques. Bloom's next stage is *comprehension*, which involves understanding that which is being communicated. Case studies are not an effective way to transmit learning of these types. Instead, these two levels of cognitive skills can be achieved by other educational means, including lectures and required readings.

Bloom's third level is *application*, in which the student begins to use the knowledge in new situations, such as applying a theory to a set of data or moving from the specifics of the situation to identification of more general principles or abstractions. *Analysis*, Bloom's fourth stage, involves working with the information, such as recombining facts to highlight relationships or looking to identify cause and effect. Cases give students and instructors an interesting, factual situation in which to practice these skills. These are the descriptive (examples) or focused problem solving cases.

Bloom's fifth level is *synthesis*, which builds on the analysis to create a new whole. Synthesis can take the form of a summary or reaction to the important factors in the situation. Evaluative cases present a wealth of material from which students must first determine what facts are most important as part of the analytical process. Synthesis may also take the form of a plan or recommendation for the

decision-maker based on the students' analysis concerning facts and analytical tools or models. Bloom's highest level of cognitive skill is *evaluation*, in which students learn to make judgments. Here, they would be asked to consider their own recommendations and evaluate their likelihood of success, or to match their ideas with the objectives of the organization or the values of the decision-maker. While other educational techniques may be equally effective in developing skills at the lower levels of Bloom's taxonomy, cases provide the richness and reality of description that will develop higher level skills by involving students in the complexities of organizational life.

A good case is memorable in the same way as a good story. It has a setting, a narrative thread, and one or more characters. Through its descriptions, and especially through its characters, students are drawn into the situation where they become interested, absorbing the lessons differently and more concretely than via lectures or texts. Months, even years, later, they may still remember a company or situation that intrigued them, and with it, the key issues of the case.

Why Write a Case?

A problem that often faces case teachers is a dearth of cases that meet our needs. This "gap" in the available case literature provides the impetus to develop a new case for pedagogical reasons. Often, we as case-writers, serendipitously, stumble upon a case opportunity through discussions with students, colleagues, friends, or acquaintances. Inspiration may strike while reading, listening or watching media events. In any event, we see or hear something that interests us and suggests a possible case study. We could be talking to someone who has just finished or is in the midst of a project dealing with technology that we are discussing in a course. Discussion of the project is a better way of introducing the topic to our students than through either a lecture, or the current approach we are taking. When such an unforeseen opportunity arises, it should be seized and a case study written.

Gaining Access and Data Collection

A Case is Real!

A case study is a depiction of an actual event. The difficulty, therefore, is gaining access to the data and information that depict the event in a manner that properly reflects that event. A case study, as noted and accepted by the AACSB, the major accrediting agency for business schools, is a form of research. No legitimate research is based on fictional data or information.

It is more difficult to gather and develop information for a factual case because the information has more depth than that in a fictional one. Additionally, the real case is more believable by the reader and depicts situations that more resemble a "real-world" work environment. Information for real cases can be developed from two basic sources.

Library vs. Field Cases

There is a preference for field researched cases on the part of journals which publish teaching cases. Field based cases provide the ability to develop greater depth of information. The writer is able to follow up with detailed questions to better develop information for the case. Clarifications can be made during field interviews. Moreover, the information is less biased, since it is only subject to screening by the case writer in regards to what will and will not be included.

Field research cases are likely to be more lively and realistic. The added depth allows the case writer to provide the kind of information that allows the reader to become more involved in the situation

and decision. This helps the case writer achieve the primary learning objective of the case method by getting the reader to learn in an active versus passive mode.

A library case relies solely on published information. As such, it undergoes two different layers of screening. The first involves the screening and bias of the original author as to what goes into the published article. The second, as with the field case, involves the selection by the case writer as to what will or will not be included.

Rarely will information from published sources perfectly match the needs and objectives desired by the case writer. The information derived from the published source is designed to meet the needs of the original authors since the case writer is not conducting the primary research.

The library case should obviate the need to go to the case source for information by providing enough research itself. Going to the source may be difficult in the situation where the event described is far removed from the case writer. The decisions surrounding the Challenger Space Shuttle disaster are such an example.

Even in situations like these there is concern as to whether enough information can be developed to provide a balanced, unbiased presentation of material. The field researched case allows for development of adequate depth including a narrative of the decision making process, as well as a description of the personalities involved in the situation. It also allows the author to add details from his/her direct observations. Often, these are the descriptions that make the case setting come alive for students.

Making Contact

There are many sources of case material. Our students and graduates frequently provide sources for case material. They are most familiar with the teaching needs and objectives of our courses. They are friendly to us and our institutions, and willing to participate in the learning process. Other sources include consulting and research projects, advisory board members, and friends of the university or college. Finally, as noted earlier, there is the situation that unexpectedly presents

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itself to the case writer who happens to be seeking exactly such a teachable situation.

In any of these situations, the first contact is always the most important part of the process. The initial contact sets the tone for the information gathering process. It is at this point that the case writer explains the goals of the interviewing process. The purpose of the specific case as well as the use of cases has to be described. Part of this process involves the development of a sense of trust and confidence between the case writer and the individuals involved in the interviews. This includes explaining that the senior person involved in the situation will have the opportunity to review the case in its final draft before it is released to wider distribution. The need for final release of all material provided by the organization should be discussed at this time. Of equal importance is the need to be clear as to just what information will be needed to achieve the objectives of the case. Organizations may be reluctant to allow wide dissemination of their research processes. It is best to know this at the first meeting, rather than to go through the entire information gathering and writing process only to discover that crucial information will not be allowed in the case.

During this initial meeting, it should be made known which people will need to be interviewed. The purpose of additional interviews is to provide balance to the case material. There is always the danger that cases relying on only one person for their information would be biased.

Planning for Release

The need for information from a variety of sources often causes concern within the organization. At the initial meeting, the case writer assures the top manager involved in the process that he or she will have final review of the case material. This generally overcomes any potential problems the case writer may encounter should the manager have second thoughts or should management change at the organization.

The case writer must be careful concerning inclusion of information from lower levels of the organization. Sometimes, people say things or provide information that might be damaging to them

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if it were included in the case given to the authorizing manager. It is the responsibility of the case writer, as with any reporter, to protect information sources.

The only material that does not need a release is that which is in the public domain. Even here, case writers need to be cautious about use of copyrighted material such as published articles. The usual rules pertain to the use of such material and, before using any published information or data, case writers should ascertain the policies of the publisher.

An authorization for release should be simple. It should include the right to use and disseminate the case as widely as possible, as well as allowing continued use in future cases. The authorization should also include the names of the author(s) and the title of the authorizing individual. If possible, the study should be authorized by the official one level above the highest ranking person directly involved in the case. The Instructor's Manual, which will be discussed below, is not part of this release since it should not contain any new information provided by the company.

Performing the Interviews

The actual interviews must be developed as carefully as possible. Where possible, the interviews should be taped and should occur only with the complete acceptance of any people interviewed. Taping is especially useful when the interviews are being conducted by only one person. When there are two interviewers, one should have the primary role in directing the discussion, with the other taking a secondary role. While both would be making notes, the secondary interviewer is responsible for taking extensive notes. This lessens the need for taping of the interview. However, a tape provides concrete evidence of the actual conversation.

Videotaping the interviews is becoming

increasingly useful. This provides a potential added resource for development of the case. It is also useful to show the degree of emotion of statements made by the individuals being interviewed. Such evidence is difficult to describe in a written version of the case. A combination of a written case with videotape adds richness and depth to the overall case.

A video is especially useful in cases where one must describe the physical facilities. Many of our students have little experience with work facilities, especially manufacturing sites. The video tape provides the readers of the case with a much better understanding of the site. In cases dealing with industrial design and engineering, such an understanding is frequently important to the development of a solution regarding the site or process.

It is always best to gather too much information during the initial interviews rather than too little. When writing the case, it is more difficult to go back for more information than to eliminate unneeded information.

Conventions of Case Writing

Tone and Tense

Case writers are reporters when writing the case. They should be presenting the material in a factual manner. Where possible, the case should be presented not only from the perspective of those involved in the case, but also in their own words. Direct quotes create an interesting, personal depiction of necessary information. In this manner, the case writers do not intrude on the factual nature of the material by interpreting what has been said. Case writers must be careful that they do not include their own values in their description of events, facts, or statements. The Instructor's Manual, not the case, is the place for presenting any personal opinion.

The case should start by including the reader in the problem, issue, or decision involved in the case. There should be a "hook" to draw the reader into the case. In today's world of thirty second sound bites and the MTV generation, we need to provide the readers with a reason to continue reading the case. Readers

should not have to wait until the third or fifth page or even the end of the case to find out why they are reading the case.

Knowing how much information to include in the case is always a problem. The amount of material to include depends on the purpose and objectives of the case. Initially, it is always best to include more information in the case than is necessary. It is always easier to cut material than to add it. Techniques to determine whether more information is necessary are discussed in the following sections.

Case writers need to determine if they want to present a study to be used for learning a specific technique, such as an optimization routine. In this situation, little more than the required data might be included in the case. Where the case is to be used to help readers learn to determine the problem to be studied, the writer may include additional, often irrelevant information, or “noise,” so that the reader has to sift through the available material to decide on the appropriate course of action. The more complex the learning objective, the more information is needed. Case writers should always keep their objectives in mind when deciding what to provide in the case and what not to provide. Organization of the data may also be affected by the author’s learning objectives. For example, an illustrative case would provide information in the order needed to solve the problem, while a problem identification case could provide data by department with underlying relationships not clearly identified.

Cases should also be written in the past tense. Particularly where technical data or timed information is present, writing in the present tense can confuse the reader. A published case will often be many months or even years old by the time students get to use it. Since the purpose is to use the material as presented in the case as the basis for discussion and analysis, the fact that it has already occurred should be stressed, rather than hidden. This overcomes the problem of changes that have occurred in the environment or technologies since publication of the case.

Testing and Revising

Once the case is drafted, it is very important to receive feedback from other

readers. As with any writing, the author knows what is meant, but this is not always obvious to others. An outside reader will help to identify points where the discussion or description could be clearer. This reader need not be an expert in the field of study, nor an experienced proof-reader. What is needed is a view of the case as the student might read it.

It may also be difficult for the author to judge whether the case contains enough information, or the right information, to achieve its purposes. The author typically knows much more about the situation than it was possible to include in the case. However, other readers can help to identify where more information will be needed, before students can successfully achieve the author’s objectives. These readers should have some knowledge of the subject. This enables them to find gaps and contradictions in the case data,

Testing a case in class creates dual responsibilities: to the students, to ensure that they are learning from the day’s discussion, and to the case, to identify its strengths and more importantly its weaknesses.

and to suggest what changes should be made, based on experience. Valuable feedback can be obtained by providing these readers with additional information, such as the author’s objectives for the case or the questions for class discussion. Knowing how the case will be used, these readers will concentrate on whether there is sufficient information for those objectives to be achieved. A colleague who teaches with cases would be a good reader for this purpose. There are also a number of organizations that sponsor case writing workshops in which participants read and critique each other’s cases².

The best test of a case’s effectiveness, of course, is to use it in class. This is not simply a matter of inserting the case draft into the author’s course syllabus. Advance preparation is still required, even for the author. It is even more important to plan the discussion when class testing a case than for normal teaching purposes.

The key is to develop a set of questions that will be used to lead and direct the discussion. These questions should cover all of the projected key issues. They should also be structured to lead students into the case. One way to accomplish this is to begin with questions that utilize the students’ existing skills in comprehension and application. Identifying key facts and summarizing the most important issues (problem identification) familiarize students with the case’s situation. Subsequent questions should build on these skills and utilize more complex learning, such as analysis (e.g., of the underlying causes of the problem) and synthesis (e.g., selecting appropriate theoretical constructs to apply, or working through the data to achieve a solution or recommendation for the decision maker). It is often easier to develop the more advanced questions; they are, after all, the focus for which the author wrote the case. However, it is important that the students become actively involved in the discussion, if the author is to learn whether the case is an effective teaching tool. For this purpose, authors should also have the more introductory questions prepared in advance.

Testing a case in class creates dual responsibilities: to the students, to ensure that they are learning from the day’s discussion, and to the case, to identify its strengths and more importantly its weaknesses. It will be difficult for the author to both teach and take notes. Having a colleague read the case in advance and sit in on the discussion, pencil in hand, is a luxury that most case writers do not have. Again, advance planning is essential. In the absence of a transcript of the class discussion, the author/instructor should schedule time immediately after class to make personal notes. These should include the responses to the case questions, in as much detail as possible. The pattern of the discussion is important to note, because it reveals how students arrived at their conclusions. Patterns will aid in identifying “red herrings” and dead ends, and ways students made assumptions concerning facts or relationships among the data. Starting with the most complex questions is easiest, since they are the focus of the students’ new learning and are likely to have been the last ones discussed.

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It is also helpful to look immediately at the list of key issues, particularly at any that were not fully discussed. The author should ask, whether an issue was overlooked because the questions led students in a different direction, or because they were reluctant to talk about that topic? Did they run out of time by spending more of the class than expected on other aspects of the case? Reluctance to discuss a topic may occur if students feel they do not have adequate information. The author should check the case carefully to ensure that the relevant facts have been included, adding information, if necessary. A danger is that the author may be providing additional bits of information, not found in actual case content, in order to assist the discussion. Identifying these missing, but obviously important, pieces of information without an outside observer can be difficult. They can also be located through careful reading, as will be covered in the next section. A reluctance to speak may also occur if students don't sufficiently understand the issue or theory. In this situation, one or more additional questions may be needed to guide the students.

If the class lacked the time to discuss all aspects of the case, it may be that the case is richer and more complex than anticipated. The author may choose to use the case differently in the future, either allowing an additional class period or positioning the case later in the course. Students may spend extra time on topics that they particularly enjoy at the expense of other issues. It may also be that students spent too long discussing one or two points. As with reluctance, this may be due to insufficient information or not understanding key concepts. Here, the difference is that students chose to talk about, rather than avoid, the issues.

The ultimate test of a case is whether

its objectives can be achieved by another instructor. At this point, the case must contain all of the data and descriptions that students will need. However, for colleagues to use the case effectively, they should understand the author's objectives for teaching content and developing learning skills. They would also benefit from the author's superior knowledge of the case and from his classroom experiences with the case. This can be done informally through conversations or tutorials with the author. More commonly, this knowledge is transmitted through the author's Instructor's Manual, a separate document written specifically for colleagues rather than students. The manual should reference only information that is in the case and assist other instructors in utilizing this information.

Instructor's Manual

The Instructor's Manual (IM) serves at least two important purposes. First, it is the means by which the case writers transmit expertise in using cases to other instructors. This is not just a convenience for colleagues, but an essential component for distributing the case beyond the author's own institution, and particularly for publishing it. A good Instructor's Manual increases the likelihood that a case will be adopted for use in a text. If no IM is available, the author will most likely be asked to provide one, or the text authors will create their own, lacking the depth of knowledge the case's author provides.

Secondly, the Instructor's Manual is the place where case writers demonstrate their scholarship, the "research" part of case research. Cases come from a special form of research, with a very small sample size, ordinarily a single situation or organization. The case itself, as already noted, presents the data and the description of that situation, but does not include the author's analysis. It is in the Instructor's Manual that the theoretical basis of the case is described and analyzed.

Because of these dual purposes, a typical Instructor's Manual needs to include both theoretical and pedagogical material. (See Exhibit 1 for the outline of a typical Instructor's Manual for a publishable

case). Typically, the first sections are pedagogical, followed by the theoretical linkages, and finally return to specific pedagogical techniques and issues. This pattern allows potential users to easily identify whether the case might meet their classroom needs. Readers who are more interested in the research aspects also quickly acquire some background about the case's data and intended use, before being treated to the in-depth discussion of the case's theoretical basis. Specific information that would be most useful in a classroom setting is ordinarily located later in the IM, since it is not needed until after the case has been chosen for classroom use.

By this stage in the case writing process most of the content of the Instructor's Manual has already been developed, if not yet in written form. The case's objectives were determined at the beginning, as an

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integral part of the research process. The author wants the students to come away with specific knowledge of how to apply a specific model or technique, how to approach a complex situation, or how to make use of other content-based objectives. These are sometimes referred to as "student take-aways." Additionally, the author has determined the types of learning skills students will need, and constructed the case to reinforce all necessary skills. Both of these types of objectives should be identified in the IM. Instructors who are looking for new cases will look at both the specific learning and the skills to see if they are appropriate for their courses.

Similarly, the section on "Basic Pedagogy" has already been thought out. Most authors develop a case that they want to use themselves. If they have taught with

cases, they are most likely to model their own writing on the format of cases they, themselves, have used. The IM simply needs an explicit statement of the type of course for which the case was developed. This includes not only the academic subject, but also the level of students (undergraduate, graduate, etc.) If there are important concepts that students need as background to understanding the case, these should also be mentioned. This allows potential instructors to determine whether the case would be appropriate for their courses, and, in combination with the objectives, where and how it could be used effectively.

The case summary is both for the potential case adopter and for the reader interested in the case as research. The summary provides a brief description of the situation, the organization, and the relevant people and issues. It may also give the potential instructor a better idea of how interesting the case will be for students, who prefer to read about people with whom they identify. For the research-oriented reader, the summary is an introduction to the case's setting and information/data. It places the IM's analysis and discussion of theoretical applications and theoretical linkages in context.

The "Key Issues" section is an expanded version, typically in the form of a list, of the important concepts or issues raised by the case. It should also identify the theories or models that students would be expected to apply. While much of this material is available elsewhere in the

Instructor's Manual, this list is intended to help the instructor identify the topics for discussion. These not only help the instructor to position and prepare the case, but also to anticipate issues that the students may find and bring up in class.

At this point in the Instructor's Manual, the important theoretical models or applications have already been identified. However, they have not yet been discussed. The "Theoretical Linkages" section of the IM may overlap with material found elsewhere, notably in the section on "Suggested or Sample Responses." It is important that this material also have its own, more detailed discussion. This section is where the author can demonstrate the research aspects of the case writing process by analyzing the data that the case provides in terms of the literature of the field. No one knows the details of the case situation as thoroughly as the author, who should use this section to draw out its theoretical implications. If the case was written to explore cutting-edge issues, it is even more important that these relationships be explained. This is particularly important if the theoretical basis is not yet standard in the field's textbooks. Then, references and a paragraph of literature review would also be helpful, particularly to instructors who may not be as familiar with the field. If the theory or concept is not in texts, but is critical to understanding the case, it should be noted in the section of basic pedagogy so the instructor may assign an appropriate reading.

All of the sections discussed thus far can be written, or at least drafted, before the case has been completed and revised. In fact, it is often helpful to the case writer to get these ideas down on paper. Once they have been made explicit, they can be used to help determine what information should be included in the final version of the case. There should be sufficient information in the case so students can achieve objectives and make linkages to the theories. Expressing these relationships allows the author to check the case draft and add whatever additional information is necessary.

The potential discussion questions should also have been developed before the case is completed to ensure that there is sufficient information for students to be able to respond fully and completely.

Often, enough potential questions have been developed along with the purpose of the case, to provide the natural way to emphasize the learning inherent in the situation. Once the case is ready for class testing, the questions give the author an opportunity to lead the students in a structured discussion and, as already discussed, to learn from their responses. The questions themselves may be refined as a result of the class testing, particularly if the case has been revised. The discussion questions also provide the instructor with a possible segue into the case and its content. By including the questions in the IM, rather than attaching them directly to the case, the author is giving the instructor more flexibility. When the questions are included with the case, students may focus their attention only on aspects of the case that are relevant to the questions. The instructor can choose to assign one or more of the questions in advance, or may prefer to use them as guides in leading the class discussion.

The questions, accompanied by their "Suggested Responses," also help to transmit the author's knowledge of how to use the case effectively. While it is expected that the instructor will carefully review the case, the author has a much more extensive knowledge of the details and may provide a more complete response. This is particularly true if the case has been tested in class. The actual responses made by students are a strong indication of the kind and level of discussion that the instructor can expect. The author should also point out likely "wrong answers," if any, and note issues that differentiate a "C" student, who will accept case facts as they appear, and an "A" student who will probe further and perhaps arrive at different conclusions. The "Suggested or Sample Responses" enable instructors to use the case effectively by knowing what to look for and learning from the teaching experiences of the case's author.

In a quantitatively oriented case, it is also helpful to make sure that numerical problems and analysis are completely worked out. Instructors are sometimes assigned to teach courses outside their primary expertise, and having all data problems calculated will enable them to concentrate on presenting concepts, rather than on their personal problem-solving

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skills. Even the most experienced instructors have been known to make computational errors during active discussions. This section is often included as an exhibit at the end of the Instructor's Manual, so that it can be removed and made into an overhead or slide, or taken to class as a check against computations written on the board.

If there are other useful tables or diagrams, it would be helpful to include these at the end of the IM also. For example, a flow chart, developed from facts in the case, a time line of key events in a complex situation with multiple decision points, or even a short follow-up case or problem that can be handed out after the class has finished its discussion are all viable addenda. Placing such a case in the IM allows the instructor the option of using it for the next day's class, without giving students access to "the answer" while they are still discussing the original case.

If a case has been tested in class, the author may be able to provide potential instructors with other useful tips in addition to the suggested responses. A section of teaching pointers could include comments on the timing of the case— For what length of class is the case most appropriate? Can the discussion be segmented to split the case between classes? Some instructors look for suggestions as to how to lay out the blackboard, to group ideas or reinforce important linkages. The author may also have recommendations for ways, other than class discussion, that a case could be used. Not all cases are suitable for groups, while some may be sufficiently complex that group analysis would be preferable. Cases with multiple points of view may be suitable for students to act out, putting themselves firmly in the positions of the situation's characters. This section of pedagogy typically is placed late in the Instructor's Manual, since the instructor does not need its information until deciding on the specifics of how the case will be used in class.

Two other sections that may be included in the Instructor's Manual are an epilogue and a bibliography. Readings that are key to understanding the case or the applicable theories should already have been cited as part of the Pedagogy or Theoretical Linkages sections, as discussed above. However, it may be ap-

propriate to include related articles, videos, or websites, that instructors might be interested in reading to learn more about the issues or theories involved, or that they can use to direct students who want to follow up in more depth. If there are background sources which are not cited in the case itself, they could be listed here. However, many Instructor's Manuals do not require separate bibliographies.

Students often ask, "What really happened?" Instructors may appreciate an epilogue with this "inside information;" they have the option to tell students or not. If the actual result differed from the students' evaluation, there is a potential teaching point in discussing the reasons for the difference. Some authors feel, however, that what the decision maker actually did is not the point, since people (not just students) do make errors in judgment or follow a less than optimal path. It is not required that an IM have an epilogue.

Conclusion

Case studies are an important pedagogical tool. They involve the students in the learning process. As such, students are more likely to retain what they have learned through use of the case method. Cases are a form of research where $n = 1$. The case itself presents the data, information and related material necessary to develop the concepts, issues, or theories to students. The Instructor's Manual provides the hypotheses, analysis of the material, and discussion of the results of the study. A teaching case can also be used to both test and extend theory, as well as provide an interesting study vehicle. This is done through the use of a story describing the environment surrounding the situation.

Cases are the description of an actual occurrence. As such, it is necessary to gain access to the principals involved in the situation. Through interviews and other data collection, the situation can be accurately described. Care must be taken to develop this material in a manner that is both accurate and fair to the people involved in the situation. The Instructor's Manual is what makes the case a true research vehicle. The IM is usually not published along with the case, since students would then have access to potential solu-

tions. The IM is still necessary to complete the research portion of the case. The IM needs to be available to instructors using the case.

Case studies have long been published in text books to help present the material. Cases have also found increasing outlets in academic journals. The increasing use of case studies for teaching has added to their acceptance as appropriate means for professional development for faculty, especially those from schools with a major teaching emphasis. They can also be used for the development, testing, and expansion of theory. A well developed, balanced presentation of material, coupled with a reasoned and effective analysis in the IM can meet the objectives of research from both perspectives.

NOTES

1. Bloom, B.S., Hastings J. t. & Madaus, G. F. (1971). Handbook on Formative and Summative Evaluation of Student Learning. New York; McGraw-Hill. For a brief summary of the taxonomy of educational objectives, see the Appendix to Part 1, pp. 271-277. A more detailed explanation may be found in chapters 7 - 10 of the same book.

2. Leading organizations in the case writing field, and their web addresses, include the North American Case Research Association (NACRA) <www.nacra.net>; the World Association for Case Method Research & Application (WACRA), <www.wacra.org>; and the Society for Case Research (SCR) <www.sfcra.org>.

EXHIBIT 1

OUTLINE OF A TYPICAL INSTRUCTOR'S MANUAL

Objectives of the case

Basic Pedagogy

Course

Level (e.g., undergraduate, graduate, doctoral, practitioners or executive program)

Position in the course

Prerequisite knowledge needed (including other readings to be assigned)

Case Summary

Key Issues - List

Theoretical Linkages (if not fully covered under Key Issues and in the discussion questions)

Discussion Questions

Suggested Responses

Teaching Tips

Time or class length best suited for teaching the Case

Board layout

Other techniques

Bibliography or "For Further Reading"

Epilogue

Tables for the instructor's use (at the end, for ease in removal for reproduction, etc.)

Transparency masters and handouts

Data workouts

Source: Naumes, W. & Naumes, M. *The Art and Craft of Case Writing*. Thousand Oaks, CA: Sage Publications, 1999, p. 77.



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He has written in excess of one hundred cases and instructor's notes. These cases have been published in journals and more than one dozen texts, including

seven of his own books that include cases. These case studies demonstrated administrative decision issues in the areas of Entrepreneurship, Strategic Management, Corporate Social Responsibility, and Organization Behavior.

Professor Naumes has participated in numerous case workshops and case review panels. He has also presented several workshops on case writing, in the United States, Scotland, the Netherlands, Indonesia, Germany, and Denmark. He received a grant to develop and implement a case writing and teaching series in Indonesia during the Summer of 1993. He has served twice as the program Chair for the North American Case Research Association (NACRA). He served as NACRA president during 1996-97. Bill also served as Editor of the Case Research Journal, the pre-eminent publication in its field, from 1988-1991.

He has also served as one of the coordinators of the New Case Writers panel and the Case Writers Workshops at The Decision Sciences Institute for many years.

He and Margaret J. Naumes are the authors of *The Art of Case Writing*, published by Sage publications in 1999.



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