

A Basic Set of Criteria for Evaluation of Teaching Case Studies: Students' Perspective

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Abstract

A study was performed to identify and evaluate characteristics, properties, and attributes of teaching cases that provide value to students. The items identified can be used to create an instrument to evaluate teaching cases during the review process for publication or by instructors to identify cases that would be most appropriate for courses.

Keywords: case, teaching case, case study, evaluation, student, structured group process

1. INTRODUCTION

The benefits of using teaching case studies include: applying conceptual, "textbook" knowledge to actual business scenarios, enhancing students critical thinking skills, learning how experienced practitioners analyzed problems and implemented solutions, reviewing the results of these decisions, improving the contextual complexity of decision-making in today's business environment (ethical, technological, cultural, and regulatory considerations), increased active learning, and the transfer of knowledge from others' experiences. Some of the drawbacks of teaching case studies are that they are historical in nature and may no longer be applicable or relevant and the decisions or problems may be so unique as to be non-generalizable to other functions, firms, or industries. The "case" for using teaching cases in IS education has been well-made by other scholars (Harris, 2002;

Hackney, McMaster, & Harris, 2003) in editorials and a special issue of the *Journal of Information Systems Education* devoted to teaching cases.

The sources for teaching cases with information technology (IT) subject matter include the usual suspects (Harvard Publishing, Ivey, Darden, Stanford) as well as several outlets focused on IT including the *Communications of the Association for Information Systems*, *Journal of Information Systems Education*, *Information Systems Education Journal*, *Journal of Information Technology Case and Applications Research*, and *DATA BASE for Advances in Information Systems*. Each of these outlets has their own process for reviewing and publishing cases, some of these being more transparent than others. While it would be expected that the different outlets have different approaches based on their focus and objectives, it would also be expected that high quality teaching cases would share certain properties,

characteristics, or attributes regardless of the outlet in which they are found.

Nearly all of the outlets mentioned above include a guide or guidelines for preparing and writing good cases (Cappel & Schwager, 2002; Farhoomand, 2004). Each of these guides suggests properties that a good teaching case should exhibit. For example, Cappel & Schwager (2002) suggest the following as "characteristics of a 'good' case" (specifically for an IT course):

- Addresses IS subject matter
- A clear sense of purpose
- Provides realism
- Is of appropriate length
- Is objective in presentation and tone
- Has a hook
- Addresses a timely topic
- Has been "pre-tested"

They also suggest that the first five of these characteristics are essential to an IT case.

In his reference guide for writing teaching cases Farhoomand (2004) suggests several design questions to consider (e.g. what theories are being taught), principles to follow (e.g. use simple and clear English), and characteristics of a good case (e.g. enough information for analysis, without providing the diagnosis).

The *Journal of Information Technology Case and Application Research* provides a review form that includes criteria for evaluating submissions. It includes criteria for the case such as the case being logical and well-written, appropriateness for an IT course, including enough data to address the discussion questions, and the case addressing issues not addressed by other cases. The form also includes several criterion focused on the teaching note such as whether it includes a logical plan, includes questions that will generate useful discussion, and provides logical alternative answers to questions. *JITCAR* also requires the submission of a research note to provide theoretical or conceptual information to be applied in analyzing and answering the case questions.

All of these guidelines and criteria are based on the viewpoint or perspective of the instructor or case writer and are based primarily on "best practices" developed anecdotally by instructors over the years. Little, if any, empirical evidence exists to validate whether these characteristics provide the best or most desirable learning experience to the student. To initially address the students' perspective of the relative value of

the properties, characteristics, or attributes of teaching cases a field study was performed using a nominal group technique to identify and evaluate the criteria that students perceive to be most valuable to their learning.

2. APPROACH

A structured group process, the nominal group technique (NGT), was used to solicit the perceptions of a group of 27 MBA students in the final week of an IT strategy course that heavily used teaching cases throughout the term and was one of the last courses required in the program. The students in the course had substantial amounts of work experience prior to entering the MBA program, the average being greater than five years, with the minimum being three years. The NGT has been used in management (Van de Ven and Delbecq, 1974; Van de Ven and Delbecq, 1971), accounting (Havelka, Sutton, & Arnold, 1998), and in information systems (Havelka 2002, 2003) to collect qualitative data for exploratory and theory building research.

Structured group techniques have been used where fact gathering is a primary concern for group problem solving. When the desired objective of the research is the generation of a maximum number of ideas or alternatives, there is evidence that NGT is superior to personal interviews and surveys (Van de Ven and Delbecq, 1974; Van de Ven and Delbecq, 1971). Given the objective of this research, to identify a set of criteria to be used to evaluate teaching case studies, this approach has several advantages compared to other possible methods. First, by eliciting the constructs from participants without presenting *a priori* information, it is possible to identify new and different criterion compared to what has been suggested. Second, by using individuals that have experience with and interest in using the "object" under consideration, i.e. teaching cases, the most relevant criteria can be identified. Lastly, this approach allows the interaction among participants in a time efficient and cost effective manner to encourage synergistic creation of additional criteria.

The assumption that individuals who perform a task can provide valuable insight into the important factors influencing their ability to achieve a high level of productivity when performing the task is a key to the usefulness of the NGT. The basic notion is that fundamental concepts involved in a process can be identified by soliciting individuals that have experience and

expertise in an area of interest. In the current study, students that have read, analyzed, and discussed teaching cases in several courses and are currently finishing a case-based course in IT strategy were asked to identify the characteristics, properties, or attributes that make a teaching case valuable. These students also were working full time and had substantial work experience prior to the course.

The technique used in this study is a variation of the approach developed by Delbecq, Van de Ven, & Gustafson (1982). The technique consists of five steps. All five steps were conducted during a single session that took approximately two hours. The technique is summarized below.

1. Introduction. An explanation of the purpose of the activities is given and the activities to be performed by the group during the session are presented. This is followed by a short presentation of the scope of the problem being considered (i.e. what criteria make a teaching case valuable?) and a description of the nominal group technique.
2. Generation of Factors. Each participant is asked to silently and individually generate a list of factors that they believe is an important characteristic, property, or attribute of a teaching case.
3. Listing of Factors. The factors generated in Step 2 are listed in a round-robin fashion on a flip chart (or white board or on a projection screen) for all participants to view and discuss for clarification. Discussion of the merits of an item are dissuaded at this point, the focus is on defining and understanding each item.
4. Evaluation of Factors. After all the potential factors are listed, the participants are asked to individually evaluate the factors by first separating them into two categories, critical or noncritical, and then ranking only those factors they deemed critical.
5. General Discussion. All participants are invited to continue the discussion in an informal location (or manner). This is useful to gather information about differences in views of the participants after they have performed their individual evaluations.

The output of the structured group process is a set of items that the group has identified as valuable characteristics, properties, or attributes of teaching cases. Additionally, the items have

been evaluated as to their relative importance to the quality of teaching cases by the sorting and ranking procedures. This results in a set of criteria for judging the value of teaching cases from more to least important.

3. RESULTS

The results of the data gathering process are presented in Appendix I. All of the items identified during the session are presented in order based on the average ranking performed during the last step of the process. The ranks were calculated by averaging the ranks assigned by each participant and using a "placeholder" of 10 for the items that the participant did not consider to be critical (the greatest number of items considered to be critical by any one of the participants was 9).

Table 1 below gives an overview of the data collected. The table presents some information regarding the relative importance of the items identified by the number of participants that considered the item "critical."

Total number of items identified	38
Number of items identified but not considered critical by any participant	5
Number of items considered critical by at least one participant	33
Number of items considered critical by at least five participants	13
Number of items considered critical by at least 10 of the participants	6
Number of items considered critical by more than half (15) of the participants	3
Number of items considered critical by at least 20 (the most) of the participants	1

TABLE 1: OVERVIEW OF RESULTS

Based strictly on an evaluation of the counts, it appears that there are very few items that the participants agreed on as being critical properties for a case study to be valuable. The exceptions to this are probably the top three items: Adequate information, multiple plausible alternatives, and a clear issue.

Logically, it seems that these three properties must be present for a teaching case to have value as a learning tool. If a case does not have enough information to allow the students to make a decision or evaluate alternatives its value would be limited to presenting or identifying the problem to be solved. This may be an appropriate learning objective in some

situations, but this is probably in entry level or introductory course where shorter problems or scenarios would be more useful.

Similarly, if a teaching case is presented in a manner that would allow students with different perspectives, backgrounds, or prior knowledge to come to different conclusions or solutions to the same problem, this would increase the amount of knowledge sharing or critical thinking by forcing the students to logically defend their positions and by introducing them to a different perspective that they may not have considered.

The third property that should be required is the presentation of a clear conflict or issue to be resolved or debated. Without an issue or question to be addressed the students are not being asked to think themselves, they are being presented additional data to use in future problem-solving or decision-making. Again, this is appropriate in some situations where the case is being used to teach how a technique was applied or about an innovative solution, but this type of case is more like an exemplar.

3. ANALYSIS

To further analyze the data produced by the structured group process, the items identified were analyzed for similarities among one another to determine if their appeared to be any "groups" or "categories" of items. Based on this analysis seven different themes or categories of items emerged:

1. Case Selection & Course Fit
2. Problem Related
3. Problem Depth
4. Organization
5. Writing
6. Story
7. Information & Data

These themes are presented in Appendix II and defined and discussed in the following paragraphs.

Case Selection & Course Fit

Several of the items identified by the group are really not properties, characteristics, or attributes of a teaching case, rather these items are related to whether the case is appropriate for the course or how well it is prepared and presented by the instructor. These items are clearly important but are not relevant criteria for evaluating a teaching case.

One notable item that was included in this category that definitely is related to the evaluation of a teaching case is the use of teaching notes. This was the only item identified by the participants related to the teaching notes. This is not surprising given the participants', i.e. students, perspective. They are only aware of the teaching notes for cases based on the pre-class discussion questions and the "execution" of the discussion of the case by the instructor.

Problem Related

A set of items identified appear to be characteristics of the problem being posed in the case itself and included whether the problem was understandable, how difficult (structured v. unstructured) it was, whether it had multiple solutions, and was unique or extended other more common problems. For instructors, the actual problem or problems presented in a case are most likely directly related to the learning objectives trying to be achieved.

Problem Depth

Another set of items that also seemed to be characteristics of the problem presented in the case, but that were in substance different than the previous set, focused on how narrow or broad the problem was. This primarily focused on whether there were multiple "aspects" of the problem such as financial/economic, social, cultural, governmental/regulation/legal, or ethical considerations. This theme also seemed to capture how "generalizable" the case problem was to different industries or functions.

Organization

The next set of items was related to the organization of the case. This includes the appropriate inclusion of exhibits, the proper use of "extraneous" details, flow of the story, and the logical sequence of sections in the case (nuance and building tension). This set of items captured the "overall" quality of the writing of the case. The next set of items captured the "technical" aspects of the case writing.

Writing

This set of items focused on the technical writing aspects of the case, such as grammar and spelling, the explanation of acronyms, the style, how easy or difficult to read, and the voice of the writer, i.e. was the case written from an unbiased point of view.

Story

Several of the items identified focused on the story being told; whether it was interesting, timely, and relevant. The currency did not seem

as important as whether the events depicted were still relevant, so a case focused on selecting an appropriate technology would not necessarily need to include the most cutting edge technologies. However, this theme does also include whether the case introduces new information such as new techniques, technologies, or tools.

Information & Data

The last theme that emerged focused on whether enough data or information was provided in the case to analyze or solve the questions given. Background data on the function, company, and industry being discussed should be included. This included whether the case included information regarding the business environment, and competitors, when relevant.

These seven themes emerged as higher level constructs that may be useful for improving the evaluation of cases published and used.

4. CONCLUSION, IMPLICATIONS, AND FURTHER WORK

Using data gathered from a structured group process conducted with a class of MBA students in an IT strategy course, a set of criteria (properties, characteristics, or attributes) useful for evaluating the value of teaching cases from a student perspective was identified.

Based on the group's evaluation of the criteria identified, it would appear that there is a wide, diverse perspective toward which criteria are most important for a valuable teaching case. Out of 27 student participants only three of the criteria identified were considered "critical" by more than half of the group.

There was not a single criterion identified that all the students agreed was critical. The item that received the most "votes" as being critical, *adequate information to make a decision*, was considered to be critical by (only) 20 of the 27 students.

This implies that the students had a wide difference of opinion about what makes a teaching case valuable to them. One implication of this observation is that it makes it more challenging for instructors to select cases that all or most of the students will find valuable.

Comparing the results of this research exercise to the characteristics of a good case suggested by others there are several similarities and some differences. One similarity is that the case must

relevant to the course. For IT courses this means that the case needs to have some content that at least overlaps with the learning objectives of the course being taught.

Also consistent with the prior literature is the criteria that the case should have an explicit purpose, that it is clear what the case is trying to teach. Other similarities with suggested criteria include:

- Adequate information to make a decision or address the questions being asked.
- Provides a realistic and relevant set of facts.
- The case grabs the readers' attention, i.e. has a "hook" or catchy introduction.
- The problem being presented is new, different, or unique in some way.

Several differences were also found. From a "big-picture" perspective, one aspect that appears to be different for the students is the relative importance of some of the criteria. The students want the case to have a clear issue or issues and a problem with alternative solutions possible. On the surface, these may be self-serving wishes by the students. Instructors may want the students to identify the issues to be addressed as well as the solutions to be evaluated. Also, students may think that a problem that has many plausible correct solutions would be hard to get wrong (unfortunately, this is not the case in the classroom or the boardroom).

Several other differences were observed including:

- The case should provide "learning" that is transferrable across functions and industries.
- The problems should be complex enough to allow multiple viewpoints.
- The currency or "timeliness" was not as important as the relevance and generalizability of the problem.

These differences may indicate a need on the part of the instructor to consider the perspective of the student in the course, or it may simply be that the students' goals and objectives are not always in sync with the instructors and these differences are due to those discrepancies.

Another implication of the results is the importance of the selection, preparation, and presentation of the cases in the course. As noted earlier, the student participants included several

criteria that were more teaching effectiveness criteria rather than teaching case quality criteria.

Based on the results of this study a Teaching Case Evaluation Criteria instrument was prepared for use by teaching case evaluators. This instrument is presented in Appendix III. The instrument was pilot tested by the same student participants of the IT strategy course. Each of the students participated in the writing of a teaching case during the course (a group project). They were then assigned one case each to review using the evaluation instrument. Based on the feedback from the students, the instrument captures most of the important criteria considered valuable by the students.

The results of the study can be used by IS educators and potentially educators in other disciplines as well, in three ways. First, the set of criteria can be used to evaluate teaching cases submitted to journals, or publishers, for publication. Second, the criteria could be used by instructors when selecting cases for use in the classroom. Instructors could weigh the criteria based on the specific learning objectives to be achieved or the type of course being taught. Lastly, the criteria can be used as additional guidance for case writers to improve the value of their cases to the student audience.

Additional development is needed to improve the evaluation instrument. Particularly, a study that captures the perspective of instructors that use teaching cases would be most valuable and would certainly result in additional criteria. Also, it would be valuable to get additional input from students to determine if the criteria generated here are applicable to other situations.

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Appendix I

Rnk	Criteria	Cnt	Avg
1	Enough info to make decision	21	4.52
2	Multiple plausible options - able to debate	19	5.48
3	Clear conflict/issue to be solved	15	5.63
4	Story - interesting, characters, catchy intro, good location	12	7.00
5	Relevant issue that's transferrable across industries	11	7.33
6	Complex enough to be real	11	7.74
7	Identify critical items that are important (time, money, etc.)	8	8.15
8	Unbiased	7	8.44
9	Clear premise for learning opportunities (old but still teachable)	7	8.59
10	Background information to company, competitors, industry that is applicable to the decision	6	8.67
11	Financial impacts	5	8.70
12	Minimize extraneous details	5	8.89
13	Don't need to be in that industry to learn	5	8.96
14	Enough financial information to understand scope and boundaries	4	9.04
15	Teaching notes that help bring out insight and create conversation	4	9.15
16	Perfect grammar and spelling	4	9.19
17	Relevant to material in class	4	9.19
18	Recent / applicable to current business	3	9.37
19	Not long-winded - concise statement of problem	4	9.41
20	Inclusion of political/economic factors that are relevant	2	9.52
21	Includes new methods, tech, tools, etc.	2	9.52
22	Solution is multi-faceted	2	9.63
23	360 degree view (suppliers, buyers, etc.)	3	9.67
24	Org charts if there are numerous characters	1	9.70
25	Style / not dry	2	9.74
26	Memorable	1	9.78
27	Build tension	2	9.81
28	Unique issue or unique spin on common problem	1	9.85
29	Know internal, external competitive (be able to look it up)	1	9.85
30	Includes subtle nuances	1	9.85
31	Proper and good questions	1	9.85
32	Data for decisions	1	9.89
33	Body flows	1	9.93
34	Explain acronyms	0	10.00
35	Should include well-known firms	0	10.00
36	Several cases -> represents a variety of industries, styles	0	10.00
37	Client definition of technical jargon	0	10.00
38	Not too many exhibits / flip back and forth too much	0	10.00

Appendix II

Case Selection & Course Fit
Teaching notes that help bring out insight and create conversation
Proper and good questions
Relevant to material in class
Recent / applicable to current business
Several cases -> represents a variety of industries, styles
Problem Related
Multiple plausible options - able to debate
Clear conflict/issue to be solved
Complex enough to be real
Solution is multi-faceted
Unique issue or unique spin on common problem
Problem Depth
Financial impacts
Enough financial information to understand scope and boundaries
Inclusion of political/economic factors that are relevant
Relevant issue that's transferrable across industries
Don't need to be in that industry to learn
360 degree view (suppliers, buyers, etc.)
Organization
Org charts if there are numerous characters
Minimize extraneous details
Build tension
Includes subtle nuances
Body flows
Not too many exhibits / flip back and forth too much
Writing
Unbiased
Style / not dry
Perfect grammar and spelling
Not long-winded - concise statement of problem
Explain acronyms
Client definition of technical jargon
Story
Story - interesting, characters, catchy intro, good location
Clear premise for learning opportunities (old but still teachable)
Includes new methods, tech, tools, etc.
Should include well-known firms
Memorable
Information & Data
Know internal, external competitive (be able to look it up)
Enough info to make decision
Background information to company, competitors, industry that is applicable to the decision
Identify critical items that are important (time, money, etc.)
Data for decisions

Appendix III

TEACHING CASE STUDY EVALUATION CRITERIA

For each of the following items, indicate how well the case under review demonstrates that characteristic.

The case study includes enough information to make an educated decision about the issues involved.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

There are multiple plausible alternatives or options to allow reasonable debate and disagreement about the issues involved.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

There is a clear conflict, problem, or issues to be solved.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The story is interesting, it has a catchy introduction, the characters are believable, the setting/location/context is good.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The case contains issues that are relevant across multiple industries and functional areas.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The case presented is complex enough to be realistic and demonstrate the intricacies and nuances of business decision making.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The case identifies critical items, data, time, money that are important to the issues being presented.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The case presents the relevant information in an unbiased fashion.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The case presents a clear premise for learning opportunities, it is relevant to the current business environment/climate.

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

The case contains the appropriate amount of background information applicable to the issues about the company involved, competitors, the industry, and business environment. (not too much or too little)

Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

What are the strengths of the case?

1.
2.
3.
4.
5.

What could be done to improve the case?

1.
2.
3.
4.
5.

Other comments or suggestions?

1.
2.
3.
4.
5.