THE CASE-STUDY METHODOLOGY AND INSTRUCTIONAL DEVELOPMENT

ALEX ROMISZOWSKI
Syracuse University, USA
MARTIN MULDER & JULES PIETERS
University of Twente, The Netherlands

Abstract: This study examines the relationship between the case-study methodology and instructional development from two viewpoints:
a) Case studies on/about the Instructional Development (I.D.) process - to what extent is the case-study methodology appropriate for the teaching of instructional development/design.
b) The Instructional Development/Design processes that are appropriate/useful for the production of case-study materials/exercises.

In the first part, the authors examine some of the theoretical justifications for the use of case studies in education and training, identifying aspects of the I.D. process that may be good candidates for teaching by means of this methodology. In the second part, they examine some specific approaches to the design, development and use of the case-study methodology, illustrating these with examples related to aspects of the I.D. process.

Case Studies on/about Instructional Development

Characteristics of the Case-Study Method

The case-study methodology is, in its essentials, the presentation of information about a situation or a process-in-action, for analysis and discussion by a student, or (more frequently), by a group. In general, the case presented is expected to act as an example situation, from which something of more general applicability can be learned.

As a methodology of instruction, the case study offers many potential advantages. Significant among these are: the pooling of the experience of a group of students; the promotion of the process of synthesis of several concepts and principles into one multi-faceted explanation or plan of action (strategy); the promotion of a problem-solving-based learning situation that is a close simulation of the real-life situation from which the case data is extracted. Several other potential advantages are listed by Eitington (1984). These include: personal involvement; group cooperation; relationship to a known situation; recognition of different personal viewpoints; realisation that there is not always one unique solution to a problem; improved interpersonal skills; improved communications skills; attitude change.

There are also some difficulties and disadvantages in the use of the case-study methodology. Notable among these is that it is very time-consuming as compared to more direct, expositive teaching methods. Another is that the ultimate objective, of developing a generalisable skill and ability to apply it across a wide range of real cases, requires more than just exposure to and discussion of the specific case. It also requires the participants to engage in deep-processing of the general principles involved, through a process of reflection and abstraction. The promotion

and control of this process in turn requires special skills and expert knowledge on the part of the session leader. Other potential disadvantages identified by Eitington (1984) are: simulation of the decision-making process is incomplete; the stress and constraints of reality are missing; the process is incompatible with some learning styles; it overstresses the need for a solution.

There are many variations of the case-study methodology. The best known (or "classic") one is referred to as the "Harvard" case method (McNair, 1954; Glover, 1947/73). This involves the presentation of a very detailed "dossier" of information about case for group discussion and problem-solving. A characteristic of the method is that there is no one correct solution. Many possible avenues may be explored. The session leader is supposed to act as facilitator of the discussion, but should avoid forcing it in a given direction. Other variations of the case study method include: short, one incident cases; the "mousetrap" technique; multiple-case techniques; audiovisual/mediated presentations of case situations to supplement/substitute printed case-histories; live, acted-out case situations. These and others are further described and illustrated in Eitington (1984).

The case-study methodology can be seen as one group of techniques that attempt to use "reality" as the context for learning, but reality in a simplified/packaged/simulated form. Percival and Ellington (1980) suggested that the case study is related to other reality-based methods, such as role-play, simulations and games. An analysis of the various examples described by Eitington (1984) illustrates that sometimes it is difficult to draw exact boundaries between case studies, role-plays and simulations.

Case-Study Methodology Applied to the Teaching of Instructional Development

The nature of the Instructional Development process is such that reality-based, problem-solving-based methodologies of instruction would seem to be particularly appropriate to its teaching. The case-study method should be of great value whether part of a basically expositive or experiential strategy.

In an experiential strategy, the case would be studied at the beginning, and the general principles of I.D. would be "generated" by the course participants in subsequent reflective discusFions, led but not dominated by the session leader/facilitator. This process is referred to by some authors (e.g. Schon, 1987) as "coaching the reflective practitioner."

In an expositive strategy, the principles of I.D. would be presented, perhaps by means of assigned readings, and would be illustrated by means of example cases of their application. Further cases would then be used as practice exercises in the application of the previously presented principles. This is the approach currently being used by the present authors in the course they teach and in the structure of a forthcoming textbook based on the case-study methodology (Romiszowski, Mulder and Pieters, in press).

We shall return to the consideration of the design and development of such case-study materials later on. For the time being, we are concerned with the use of such materials and methods as part of one's overall approach to the teaching of instructional development.

Eitington (1984) states that the case study alone can be a very academic exercise. He suggests that, to ensure greater involvement, the method should be used with other techniques (viz., group work, role-plays, fishbowls, brainstorming, etc.). We would stress, particularly, the need for expert debriefing of all these activities to ensure that the participants progress from considering the specific case to reflecting on the general principles that are at play and to considering how they would be relevant to other situations.

In an experiential (or "guided discovery") lesson, the debriefing process is of paramount importance, as it is in this phase that the instructor, by means of questioning and prompting, helps the students to reflect on the events and data of the case in question, in order to generalise the cause-effect relationships observed, generate (discover) principles or concepts and build (schematise) new theories or strategies applicable to further similar cases/real-life situations.

In an expositive instructional sequence, much (if not all) of the relevant knowledge base (concepts, principles, theories, and strategies) is presented "up-front" either by the instructor or by means of instructional materials. This first phase will, ideally, incorporate exercises and corrective feedback at the "understanding" level of Bloom's taxonomy (Bloom *et al* , 1956). In I.D., we are almost always involved in heuristic problem-solving situations, the instructional plan then proceeds to the presentation of case examples that closely resemble the real-life problems that may be encountered in the future. This provides opportunities for the evaluation of learning at the "applications" level of the taxonomy,

There remains, however, the question of "transfer of learning" to a wider range of possible real-life situations and the development of competence at the "analysis, synthesis and evaluation" levels. In a formal course on Instructional Development, there is a limit to the number of different cases that can be studied or projects that can be attempted. Therefore, a debriefing phase that causes the students to reflect on the more general implications of the cases studied is also a desirable part of an expositive strategy. In this phase, the student should be helped to form a cognitive schema, which links the earlier presented theoretical knowledge base to another that represents "practical reality".

It appears, therefore, that there are three important aspects to the case-study method: the facts of the case and their relation to a broad reality; the methodology of integrating the case-study into the overall instructional plan; the final debriefing discussion and the depth of reflection that it promotes.

The Design and Development of Case Studies

The Design/Development of Case Materials/Descriptions

Traditionally, (e.g. Andrews, 1953) guidelines for the development process are restricted to the design of the initial "stimulus" case materials and to some guidelines for the instructor/ facilitator on how to lead the session and exploit the materials effectively. There may be some "questions to guide participant's thinking about the problem presented" (Boyd, 1980). Less frequently, a plan is provided to guide the instructor in conducting the debriefing process (Van Ments, 1983).

There are two typical approaches to the design of case materials. The first proceeds from the principles (theory base) you wish to point up, to the selection or design of a situation (practice base) that demonstrates the "theory-in-action" (Boyd, 1980). The second proceeds from the identification of a problem area in "reality," which requires attention (this gives us our case), to the analysis of the case in order to identify the principles/concepts/theories which help to explain or solve the situation (that is, from the "practice base" to the "theory base" (Romiszowski, *et al.*, 1988). Both approaches then proceed to the design of the case structure and the development of the materials.

The Design of an Appropriate Case-Study Methodology

Once the case description is developed, one may wish to plan and (possibly) instrument the case-study session. Eitington (1984) suggests several useful ideas and approaches. However, he does not distinguish, as we do, between questions that focus on the facts of the case and questions

that focus on the theoretical/conceptual structure on which the facts of the case can be hung. These are, in our view, two distinct stages (case-analysis and reflection-for-transfer) that should both be the subject of specific design/development effort. The first of these may be part of the case's instrumentation. The second is the debriefing plan.

Let us concentrate here on the instrumentation of the "case-analysis" phase. This may be in the form of an "instructor's guide" of questions to explore with the group, or may be written out for students to analyse what type of final decision/action/solution is called for. A third possible approach is yet more rigorously "programed" in that the final "findings" or "recommendations" are prompted/facilitated by first addressing a sequence of subsidiary or "lead-in" questions. In one application (Romiszowski, 1986), this sequence of questions follows a particular theoretical model/ procedure for "performance problem analysis" (Mager and Pipe, 1970). When using this case study as part of an experiential learning lessons, the students are later encouraged to discover the general form of this model and to reflect on the general applicability of the model across a wide range of job-performance-difficiency problems.

In contrast, an expositive approach to the teaching of the same "performance-problem-analysis" skills, also used by the authors (Romiszowski, Mulder and Pieters, in press), is based on the assigning of basic readings and "worked" case examples as initial study material. This is followed by an "interactive case study" reading assignment, developed and instrumented according to the "Structural Communication" methodology (Hodgson, 1974/75; Romiszowski, 1986). This assignment includes its own multi-faceted evaluation of the individual student's thinking on the case problem presented and a complex "debriefing feedback" protocol. Only after this assignment is completed does further group-based work seek to establish transfer to other case contexts and lead the students to take "reflection-in-action" to get greater depth of generality.

The Design of a Debriefing Methodology

We have already discussed the importance of debriefing in both experiential and expositive applications of the case-study method.

The danger of overlooking, or skimping, the debriefing stage was dramatically illustrated by some research performed on the effectiveness of "DECISION POINT," a commercially available interactive-video simulation-game (described by the developer, Digital Equipment Corporation, as a "Living Case Study"). It has long been demonstrated that the presentation of case materials in film or video may often be beneficial (Green and Cotler, 1973). In particular, this has been found to enhance the acceptability of the case, its realism and the affective involvement of the participants in the exercise. When the interactive dialogue possibilities of modern computer-controlled interactive video are added, one could expect an exceptionally motivating and effective instructional product.

However, evaluative research showed that the product was indeed strong on motivation, but weak on the teaching of the general principles of management that were involved. This weakness was demonstrated to be correctable by the addition of a de-briefing session that took the participant to the appropriate level of abstract reflection on the concrete facts of the case (Romiszowski, Grabowski and Damodaran, 1988). Furthermore, this debriefing could be designed for interactive computer-based, delivery, rather than requiring group-based discussion with a skilled and knowledgeable facilitator (Romiszowski, Grabowski and Pusch, 1988).

The instructional design approach used in this automated debriefing exercise was "Structural Communication", a methodology that had earlier proved itself effective of the automated discussion, at a distance, of "Harvard" case-study materials (Hodgson and Dills, 1971). In current work, the Structural Communication methodology is being further extended as a basis for the

design of cas

Conclusion :

The progressi ranging refle case. The phil 1987) approa instigated by of real (profe

Boxer (1985) encouraged th "instructional these paradig encouraging

Our reply is t developers), t Case-study is cation method promote, in o Boxer. Thus "revelatory"

The fact that methodology over distance extending our look for a dif

References

Andrews, K.
      Ca
Bloom, B.S. e
      Mo
Boxer, P., Ju
      ex
Boyd, B.B.,
Eitington, J.
      Ho
Glover, J.D.
      Ho
Green, T.B.
      Jou
Hodgson, A.
      Pa
Hodgson, A.
      of
Mager, R.F.
McNair, M.
      19

design of case analysis and debriefing materials.

Conclusion : A Paradigm Shift?

The progressive states of debriefing attempt to lead the participant(s) into ever deeper and wider-ranging reflection on the generality and limits of applicability of the principles illustrated by the case. The philosophy behind the design of the debriefing discussions is similar to Schon's (1983, 1987) approach to "educating the reflective practitioner", One difference is that the reflection is instigated by selected cases, rather than the actual problems and events encountered in the course of real (professional) life.

Boxer (1985) argues that this distinction is of great importance, in that prepared case studies encouraged the "revelatory" teaching paradigm when used in an experiential manner and the "instructional" teaching paradigm when used as part of an expositive strategy. He considers both these paradigms to be inferior to a fully reality-based approach, involving "reflective analysis" and encouraging what he calls the "conjectural" teaching paradigm.

Our reply is that for certain professions (for example doctors, consultants and indeed instructional developers), the professional reality is the analysis and solution of an ever changing range of cases. Case-study is so close to reality as to make no difference. Furthermore, the Structural Communication method of debriefing a case investigation, coupled to the endorsements described above, promote, in our view, a form of reflective analysis not much different from the one advocated by Boxer. Thus, aspects of the "conjectural" teaching paradigm may be embedded into either the "revelatory" or "instructional" paradigms, rendering these distinctions somewhat fuzzy.

The fact that such reflective analysis and open conjecture can be promoted effectively by a methodology that is in large part pre-designed, pre-packaged and capable of replication, or delivery over distance, is also significant. Do we continue to call such systems "instructional systems", thus extending our concept of "instruction" way beyond the meaning ascribed to it by Boxer? Or do we look for a different name?

References

Andrews, K.R. (ed.), *The case method of teaching human relations and administration* Cambridge, Mass: Harvard University Press, 1953.

Bloom, B.S. et al., *Taxonomy of educational objectives, handbook 1: Cognitive domain* , New York: McKay, 1956.

Boxer, P., Judging the quality of development, in Boud, D. et al. (eds.), *Reflection: Turning experience into learning* , London: Kogan Page, 1985.

Boyd, B.B., Developing case studies, *Training and Development Journal* , June 1980.

Eitington, J.E., Maximizing participation and learning in the case method, in *The winning yrainer*, Houston, Texas: Gulf Publishing Company, 1984.

Glover, J.D. et al., *The administrator: Cases on human aspects in management (5th edition 1973)*, Homewood, Illinois: Irwin, 1947, 1973.

Green, T.B. and Cotler, M., Do filmed cases improve the case method? *Training and Development Journal* , May 1973.

Hodgson, A.M., An experiment in computer-guided correspondence seminars for management, in Packham, D. et al. (eds), *Aspects of educational technology VI* , London: Pitman, 1971.

Hodgson, A.M., Structural communication in practice, in Romiszowski, A.J. (ed.), *APLET Yearbook of educational and instructional technology* , London: Kogan Page, 1974/75.

Mager, R.F. and Pipe, P., *Analysing performance problems* , Belmont, California: Fearon, 1970.

McNair, M.P. (ed.), *The case method at the Harvard Business School* , New York: McGraw Hill, 1954.