

Contributed Article

Case Methodology in Teaching & Research: A Critical Review

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The increasing use of case method in teaching and research ushered in a paradigm shift in pedagogical approach in recent years. It underscores the relevance of traditional learning discourses in professional education. Cases focus primarily on the individual development, cognitive behaviour, personality, learning, interaction pattern and examine the interplay of all variables. A form of qualitative and descriptive research, it looks intensely at an individual, a group or an event and draws conclusions in a specific context. This article explores the domain as a learning tool and the underlying issues and challenges to the design, analysis and pedagogy of case form.

Introduction

The increasing use of case method in teaching and research ushered in a paradigm shift in pedagogical approach in recent years. It underscores the relevance of traditional learning discourses in professional education. The teaching methodology has undergone rapid changes and paradigm shift in mode times with the advent of e-methods on line education and uninterrupted flow of information through Internet. The focus has shifted to the learner's involvement rather than isolation and subjective class preparation, thereby reducing the role of instructor more or less as a facilitator of ideas and arguments. The role of the instructor is not limited to rigorous classroom teaching based on one-way communication and the marginal involvement of learners.

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The modern day cases are not the stories of the past but tools of experiential learning, which evokes sharp critical thinking, analysis, interpretation and application. Case method is a form of qualitative and descriptive research; it looks intensely at an individual, a group or event and draws conclusions in a specific context. Yet case studies can be theoretically exciting and data rich. So it is important to analyse their strengths and weakness as well as provide a practical guide on how to conduct and manage them. They can shed light on the fine-grain details of the social process in their appropriate context. The counter-argument is that case studies are lacking in rigor and reliability and that they do not address issues of generality, which can be so effectively tackled by quantitative methods. The literature contains numerous examples of applications of the case study methodology. The earliest and most natural examples are to be found in the fields of law and medicine where 'cases' make up the large body of the students work. The evaluative applications were carried out to assess the effectiveness of instructional and educational initiatives. Mere dependence on quantitative techniques tended to obscure some of the important information that the learners needed to uncover, so case studies can be seen to satisfy the three tenets of the qualitative method: describing, understanding and explaining.

Genesis of Case Based Learning

The history of case form of teaching is not too old; in fact it originated in early

20th century. The earliest use of this form of teaching can be traced to Europe, predominantly to France. The University of Chicago Department of Sociology adopted this methodology in the US in the early 1900's. Those were turbulent times in Chicago, since it was marked by large-scale immigration to the US and various aspects of immigration of different national groups to the city were studied and reported on (Hamel *et. al* 1993). Issues of poverty, unemployment and other conditions deriving from immigration were ideally suited to the case study methodology. The popularity of case studies as research tools has developed only in recent times. One of the areas in which case studies have been gaining popularity is educational evaluation. Case studies have, of course, also been used as a teaching method and as part of professional development. It has its antecedents in many disciplines, including psychology, medicine,

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business and legal education. Recently, a number of medical schools have revolutionized their curricula and set up physician education completely around the study of cases. Small group of students and faculty tutors work through one case after another as they learn about medicine. This is the problem based learning curriculum pioneered by Mc Master University in Canada. Schools of business have been most aggressive in the implementation of case based learning, or "active learning" (Biosjoly

& De Michiell 1994). Harvard Business School has been a leader in this area, and cases developed by the faculty have been published for the use of other institutions. Harvard professors introduced cases for the first time to give students practical experience for use in real world. They invited businessmen into the classroom to tell students about actual problems. The students held discussions and offered solutions heralding the era of case method in management education. It has become a model that is emulated around the world with thousands of cases now offered for sale.

In India, IIM, Ahmadabad and ICFAI Business Schools are closely associated with case based teaching and adopted this methodology, which was followed by other institutes mostly in management education. Although many classic cases have been taught over the decades, often the firm in the case ceases to exist after a few years or bought over or has completely changed their lines of business. In a networked communication era, this leads to redundancy of case facts in the minds of students who have access to the latest information on companies referred to in the cases (Mustafi 2000).

Case Selection

Cases are best used to teach people about realistic decision-making situations. Little can be learned from a case without preparing it carefully and discussing with others. Cases are not designed to present a right answer, which

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one can memorise in the hope that can be applied in similar situations. Cases are the raw materials that permit simulation in the classroom of actual discussions carried on informally among the participants. The learning comes from actually participating in the search for solutions. Cases can be selected with complete information through which students quickly understand the case, or incomplete information may be provided through which students must engage in conversation and considerable reasoning to reach an informed decision. The case literature extensively relies on theoretical interpretation of diverse viewpoints on designing cases. There is a broad understanding of what represents a good case presented as follows: A good case i) tells a story, ii) focuses on an interest, iii) is set in the past five years, iv) Creates empathy with the central character, v) includes quotations, vi) is relevant to the readers, vii) must have pedagogic utility, viii) contains an element of structured controversy, ix) is conflict provoking, x) is decision forcing xi) has generality, xii) is not too lengthy.

There is arguably no such thing as a typical instructional design for the selection of cases. Each is influenced by a variety of factors including the educational philosophy of the teacher, characteristics of the students, the institutional setting and the availability

of human and financial resources, all of which must be assessed and reassessed throughout a design phase. Goel and Piroli (1988) argue that design problems by their very nature are not amenable to rule based solutions. The ill-structured nature of instructional design problems means that not only are there multiple paths towards a 'solution', but that there are multiple interpretations and solutions as well. Cases present solutions to past problems that may compensate for learners' lack of experience and may help learners develop an understanding of concepts and strategies useful in similar situations. One of the most difficult problems in selection of cases is shorting through the mass of information and evidence. Often cases involve conflict with different actors providing selective information and courses of action to support their claims. As in real life, one must decide what information is important and what is not and evaluate apparently conflicting evidence. Designing a case is not as simple as it looks from the outset; there is a lot of struggle in visualizing a complex problem and multiple perspectives involved in understanding the directions, decisions and dilemmas.

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Analyzing Cases

Case analysis is most complex and requires activation of multidimensional

thought process. The cases are normally treated as puzzles and offer no readymade solutions. The problems are rather complicated though look simple at the outset and generate fair amount of debate with diverging opinions. Debates on specificities leads to unending dialogue, but hardly facilitate consensus or unanimity. The reliability and validity of data poses a major challenge to decode the issues and problems therein. The case analysis normally starts with comprehending a case situation, which includes a look at the data and identification of relevant facts such as prevailing environment, productivity and satisfaction parameters, ideal outcome and creative assumptions. The identification of problems is probably the most crucial part of the analysis and sometimes we fail to identify the problem, hence solve the wrong problem. Sometimes, we even state the problem as a disguised solution or confuse symptoms with causes, differentiate fact from opinion and prematurely judge people and action in order to substantiate our point of view. Basically, the case analysis method calls for a careful diagnosis of core issues and already identified problems that appropriate strategic actions can be recommended. The learner's preparation is critical to successful use of the case analysis method. Without careful study and analysis, active learners lack the insights required to participate fully in the case discussion. Instructors adopt different approaches in their application of the case analysis method. Some require active learners to use a specific analytical procedure to examine the

case; others provide less structure, expecting students to learn by developing their own unique analytical method. The instructor often determines the specific approach learner takes.

The case analysis provides an opportunity to apply concepts from class to real-world situations. These are some of the necessary steps and guidelines normally followed in analyzing the cases. The learner generally work out on a situation taking a synoptic view that describes the background information about the case or an overview of the case followed by: i) Identification of the key issues/factors in terms the roles of the key players including only those issues that impact the identified problem. ii) Definition of the problem - identification of one key problem, while there may be several problems and a multitude of symptoms. Attempt should be to identify one problem, the resolution of which would alleviate most of the symptoms found in the case. iii) Diagnosis of the problem- the problem requires careful diagnosis, all possible diagnostic tools as wrong ones may lead to wrong solutions. iv) Alternative solutions - two or more alternative solutions to the defined problem must be developed with a view that alternative actions could correct the problem at hand and pros and cons of implementing each alternative need to be evaluated. v) Selected solution to the Problem- one of the alternatives must be selected with adequate explanation why it would be the best as most of the work is already done if the alternative solutions clearly point out advantages and disadvantages

to each. Additional study or research can be a part of the recommendation, but should not be the primary solution. The learner's job is to identify an action, not put off action. vi) Expected results and rationale for the solution- conclusions and recommendations must be detailed with supporting rationale including concepts from the text or other sources and the learner must relate how you would have handled situations, problems and people and write a clear and concise conclusion with sources to substantiate what you say. vii) Positive and negative results- the learner should describe expected positive results and identify possible negative results of successful implementation of the solution, in other words, what are the negative consequences of success and preparedness for any eventuality.

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Learning Strategies

The case method is a rich and powerful approach to the development of cognitive skills in students. It is also a flexible approach, in the sense that lecturers can use it in alternative ways. Case teaching grounds academic instruction in reality by engaging students in discussion of specific situations. The case method is based on a philosophy of professional education which associates knowledge directly with action (Boehrer 1995). Case

method teaching extends this principle to make preparation for class and the class session itself an active learning experience for students. By using complex real-world problems as the focus, it challenges students to learn the skills that will be appropriate to deal with the practical problems at the workplace. Teaching through the case method allows educators to address specific pedagogical issues and to develop higher-order skills in students. Case teaching is learner centred, characterized by intense interaction between instructor and student as well as among students in a group. Conceptually, case pedagogy assumes that learning is more effective if students discover or construct knowledge with faculty guidance than if they sit passively and receive content from a distant "sage on the stage." Students in a case-based course actively engage course material. They simultaneously learn curricular content—knowledge—and *how* to learn—skills and competencies such as writing, speaking, listening, and critical thinking. Sperle (1972) contended that the case study has a clearly defined structure. Regardless of discipline, the structure includes three primary steps: (1) Students receive information about a case or problem in advance and initially study it by themselves. (2) Students then participate in group discussions facilitated by a faculty member (sometimes preceded by small-group work). (3) Students and faculty then reflect on the case, discuss any proposed solutions, and reflect on actions, attitudes, and behaviors. Most classes, however, are not designed solely

on this structured case-method active learning strategy. Some teachers will include a single case study activity in a semester to sharpen debate and increase student participation. Some will utilize what Colbert et al (1996) call "mini-cases" or "case-lets." These are typically anecdotal narratives used to illustrate critical events and stimulate discussion. All authors agree that the case method invites student analysis stimulated by discourse, application of appropriate theory in problem analysis, and consideration of alternatives. Students reach solutions, as opposed to teacher-manufactured solutions. Students evaluate, reflect, and are sometimes stimulated to conduct further research.

The successful utilization of cases is dependent on a teacher's ability to provide an open environment for critical inquiry and lead case discussions to bring sharper analysis and deeper insights.

The role of the teacher in case-based methodology is variously described as guide, facilitator, probe, referee, overseer, resource, coach, leader, tutor, moderator, or questioner. The successful utilization of cases is dependent on a teacher's ability to provide an open environment for critical inquiry and lead case discussions to bring sharper analysis and deeper insights. Wassermann (1994) and Meyers and Jones (1993) call it "debriefing a case"; it is also called "discussion teaching." Discussion teaching or debriefing differs from traditional class discussions that

are usually teacher dominated. In the case method, a teacher asks questions and waits. Teacher and student preparation is crucial for the successful use of a case, because successful case study emerges from solid, fundamental understanding of a subject, students need basic terms, concepts, theoretical background, and techniques before they can effectively participate in the process. An initial case should be carefully chosen to reflect clear and extreme differences before moving to more subtle complex cases. The teacher must know the case thoroughly, anticipating the various issues that will be raised in discussion. Following the discussion, the teacher can report the results or resolution of the actual case-it may not have been an optimal outcome. Discussions may remain open-ended and the instructor limits himself to facilitating meaningful interaction in class.

Learning Outcomes

Teachers can evaluate case-study participation by judging the quality of student contributions, whether or not a student seemed to be prepared to address the major issues of a case, what one's analysis was, and what were the level of communication skills and behaviors. An instructor can have students reflect and write about the case, the conclusions of the discussions, or how the learning derived from the case might be applied to the eventual real world of a discipline. The teacher can present examinations and can have students self assess and assess the participation and contri-

butions of peers. The role of the teacher is to help students bridge the gap between knowing and knowing how to transfer a set of skills derived from the knowledge to learned application (Tripathy 2008). Students' learning processes in the case method are active and require student thinking, not just recall; they encourage application of knowledge in the examination of ideas, sharpen analytical skills, and train students to defend positions, collaborate, problem solve, reflect, and evaluate. Students are empowered to participate in reflective discourse and critical analysis in a collaborative culture. Students negotiate meaning, build conceptual understanding, and seek answers from resources and feedback from each other. Discussions create cognitive dissonance that motivates the desire for resolution. Students develop group interaction skills. They respond to the ideas and contributions of their classmates, and knowledge becomes that which they construct by talking together and reaching agreement. One of the major case teaching dilemmas is the tension between validating responses and pushing students to think critically and to articulate difficult arguments. Case teaching is a collaborative enterprise. The safety of the collaborative experience encourages students to venture intellectually. Therefore, confrontational approaches could alienate students and be counter productive; if some students appear to be intimidated, others in the class may sense that it is not safe to venture ideas or opinions. Case teaching generates complex, complicated, and even

ambiguous answers; they are seldom obvious and indisputably right. Sometimes, saying something “silly” may advance the discussion as much as an apparent insight. The instructor can validate and challenge students without sacrificing learning or taking casualties: If a student goes out on a limb, come back to the comment and note how it triggered a valuable discussion. The student needs to be reintegrated into the group experience and the validation for participating in the process of collective discovery must be separated from the merit of the contribution’s content. This way the instructor can signal students that venturing into the discussion—whether right or wrong is valued and in a case class, students can justify their point of view with a greater clarity and freedom.

Case Study Research

Case study research is one method that excels at bringing us to an understanding of a complex issue and can add strength to what is already known through previous research. Case study research emphasizes detailed contextual analysis of a limited number of events or conditions and their relationships. Researchers have used the case study research method for many years across a variety of disciplines. Pioneer work in this field is thought to be those of William Thomas and Robert Parks from the University of Chicago in the early 1900s (Hamel, Dufour & Fortin 1993). However, as Herling et al (2000) noted, the concepts of a case, case study, and case study research are often used interchangeably in the literature. Case

study research is defined as “scholarly inquiry that investigates a contemporary phenomenon within its real-life context, when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used” (Yin 1994).

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Case study research is an essential research methodology for applied disciplines. Regardless of how it is used, for either theory building or theory testing, it is a process of scholarly inquiry and exploration whose underlying purpose is to create new knowledge (Herling et al. 2000). Case study can also be thought of as a research strategy. As a strategy, case study research attempts to examine a contemporary phenomenon and the associated contexts that are not clearly evident (Dooley 2002). For example, experiments differ in that they isolate the phenomenon from its context; histories also differ in that they are limited to phenomena of the past. These distinctions among types of evidence, data-collection method, and research strategy are critical in defining case study research. Like all other forms of research, case study research must be concerned with issues such as methodological rigor, validity, and reliability. This also follows the same process such as definition of the research questions, selection of data-gathering

and analysis techniques, preparation and collection of data in the field, documentation, evaluation, analysis and preparation of report.

A major strength of case study research is the ability to use multiple sources and techniques. Case study research is viewed by many to be qualitative; however, and this is very important, it can also be quantitative. Tools used in this type of data collection are usually surveys, interviews, document analysis, and observation, although standard quantitative measures such as questionnaires are also used. One challenge with case study research is for the researcher(s) to communicate the wealth of information and understanding acquired. Writing the results of the case can be carried out in several ways. Simon *et al* (1996) also documented the key benefits and difficulties associated with case study research, some of which are identified below:

1. Collaborative research either on a national or international scale can offer rich insights into similar issues and themes in different geographical, economic, social, political and other contexts. Collaboration also reduces the time-consuming problem normally associated with case studies.
2. Case studies provide a wealth of examples and stories for use in teaching and training
3. courses. Such examples always add interest to lectures and seminars, particularly where practitioners are among the audience.
4. Cases permit multiple sources of information and materials.
5. One or several cases can lead to a range of further research needs being identified authors. Looking at this the other way around, cases can make a valuable contribution to themes which may be explored.
6. One of the most rewarding aspects of case study research is that it enables the researcher to get the “feel” of what people really think about a particular discipline.
7. Apart from good cases and examples to use in teaching, detailed case study also allows the academic to acquire ideas for future work.
8. Case study research helps the academic build up a network of people who can be used as guest lecturers, potential research sponsors, and potential sponsors of visitors and so on. They also provide opportunities for student visits to work sites.
9. Case study work helps bridge the gap between academia and industry.
10. Findings of case study research tend to be widely accepted by industry. This may be related to individual curiosity about what others have done. Also, the style of writing is often more readable than is the case with much quantitative research.
11. The use of interviews allows the researcher to gain rich insights to issues which are normally not amenable to questionnaires. Unstruct-

- ured interviews or parts of interviews enable people to tell “real” stories, and observation, particularly of team meetings and presentations, permits the researcher to see, analyse and interpret real activities.
12. Personal contact enables long-term relationships to be maintained which helps in further research.
 13. Case research enables varying perspectives from a range of organizational personnel on selected research focuses to be developed. Questionnaires usually reach only one person, whereas an extensive case study programme can involve many interviews with a cross-section of people.
 14. Case studies often unearth new issues, insights and directions in the research focus which can then serve as the basis for further work. Thus, it can be exploratory in nature and can help generate theories.
- d) Tendency to be overtly descriptive in the writing of cases.
 - e) Cases capture the experience of an organization only at a particular period in time.
 - f) Caution needs to be exercised in gaining the trust and support of host organizations.

The scope of the conceptual framework is quite broad regarding disciplines. This bears the risk of becoming mundane and raises the question about field specific adaptation. More specifically, can there be only one case research strategy or do we need several adaptations? The notation of case layers also raises some issues, namely how it is possible to determine the number of case layers and how to separate the layers from each other (Grunbaum 2007). More interestingly, to determine in which situations it is recommendable to operate with numerous case layers and in which situations it is not possible let alone desirable.

Difficulties

There are a number of difficulties associated with case study research, some of which are mentioned below:

- a) Obvious difficulty is the labour-intensive nature of such research.
- b) Research “purists” (quantitative advocates?) may tend to see case studies as lacking academic rigor.
- c) Conclusions may be statistically limited in that often only a handful of cases are used to generalize about certain questions.

Conclusion

The fact that cases emphasise analysis and hypothetical action was accepted by many as weakness, and by some critics as a disabling characteristic of the method. The issues like lack of emotional involvement of all concerned, particularly the learners have none of the immediate identification with the characters in the case, as they would have if the case were actually their own real problem. Some theorists argue that limiting this kind of emotional

involvement is thought to be productive in terms of focusing on issues of a functional concern, rather than stereotyped or inward looking approach. The reminders in case based teaching is too many and too broad. The information in the cases is too limited. Identification of problem area is complicated enough to arrive at correct diagnosis and analysis of consequences.

The cases offer no readymade solution and symptoms are often confused with the problems.

The cases offer no readymade solution and symptoms are often confused with the problems. Case teaching is a lab experience. It is low risk and participative. Learner's often-express dissatisfaction with cases such as information is ambiguous, redundant or irreverent. It must again be emphasized that, despite the difficulty or undesirability of summarizing case studies, the method in general can certainly contribute to the cumulative development of knowledge. Though case study research is becoming popular in social science disciplines, it is good to note that good social science is problem-driven and not methodology-driven, in the sense that it employs those methods that for a given problematic best help answer the research questions at hand. More often than not, a combination of qualitative and quantitative methods will do the task best (Flyvbjerg 2004). However, the case study experience provides a learning platform to the educators to address specific pedago-

gical issues related to implicit and tacit knowledge and develop higher-order skills in students.

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