USING THE CASE STUDY METHODOLOGY TO PROMOTE ACTIVE LEARNING

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Use of the case study is a technique used by educators teaching students of various levels to promote active learning. The case study technique is closely associated with graduate schools, particularly with the study of medicine, law, and business. Use of the case study methodology is widely used in professional schools because it “enable[s] today’s students to walk in the shoes of yesterday’s decision-makers and to learn how to devise solutions to tomorrow’s issues.” (Helms & Biggs, 2007). In “law and business schools, instructors and students analyzed realistic stories as exemplars of good and bad practice.” (Herreid, 2005). This technique works well for these student populations, but its utility is not limited to preparing future M.D.s, J.D.s, and M.B.A.s.

The use of case studies in classrooms serves several important purposes. Lader (1973) noted that law students benefit from the method because it uses “law cases as means of ensuring historical continuity and doctrinal consistency in a legal system.” Besides substantive knowledge, case studies can teach critical thinking. One study found “relevant and interesting case studies motivated the students and initiated the analytical cognitive processes.” (Lee, 2007). By exposing students to numerous cases of varying complexity, students gradually evolve from possessing a cursory understanding of the material to an expertise in the subject. This expertise is achieved “by introducing them to the kind of mental stimulation that is critical to successful decision-making in ambiguous and time-sensitive contexts.” (Helms & Biggs, 2007).

The case study is effective in non-traditional learning environments where important lessons are taught outside of the classroom. As any parent knows, young children are quickly able to learn lessons from stories that they can apply to their own lives. These stories can be works of fiction, such as fables, or real accounts of others’ experiences, that capture a teachable moment. When done properly, in either case, after reading or hearing the story the listener will appreciate the moral of the story and learns the lesson. Lessons from case studies can focus on negative lessons gleaned from the mistakes made by the characters, or positive lessons as represented by the good judgment and corresponding good fortune shown in other circumstances. An example of this technique being used with older learners is the use of Cadet X/Cadet Y cases that are occasionally published to the Corps of Cadets following a violation of the Cadet Honor Code at the United States Military Academy.

Case study methodology offers advantages over other teaching methods. For instance, a carefully selected case “allows an instructor to choose the level of depth for discussion of a topic, as well as which topics, theories, and practices are discussed.” (Buffington & Harper, 2001). It is highly adaptable and teachers are free to make use of this technique in several ways that encourage active learning. Herreid (2005), whose work focuses on case study methodology in the science curriculum, notes the method permits some flexibility to teachers who can choose
from among five variations of the method: lecture, whole class discussion, small groups, individual case discussion, and mixed.

The use of case studies for undergraduate education has slowly increased over the years. Case studies have long been used in certain undergraduate programs, such as nursing, with great success (Jenney, 1936). However, nursing case studies are noticeably different than typical case studies found in law or business classrooms. For instance, Jenney’s piece describes how the undergraduate nursing curriculum was revised to reduce to fourteen the number of case studies a student would complete over the three year course of study. Completion of a case study in the nursing context refers to a close examination of a particular real-life patient over a prolonged period of time, with supervision and input provided to the student by the head nurse. Even the law, a field that historically embraced the case study methodology at the graduate level, could not apply the method at the undergraduate level without modification, and arguably it may not even be the only way to successfully teach law in college. (Lader, 1973). Reasons for this include the time involved “in preparation and teaching,” the overly complex nature of even well-edited cases for undergraduates, and the fragmentary character of “information on legal history or the legal process” in most cases. (Lader, 1973). Nevertheless, other undergraduate applications of the case study method have occurred, and the disciplines in which the method now is utilized are quite varied. The case study method is “routinely used in a number of [Management Information Systems] courses.” (Buffington & Harper, 2001). It has also been proven effective in teacher education. (Lee, 2007).

Beyond graduate and undergraduate education, the case study method has been employed even in the primary school setting. Although “[t]he use of case study instruction in elementary and secondary schools is relatively new,” what researchers have seen is encouraging. (Olgun & Adali, 2008). The study “suggested that students improved their achievement and attitude toward science by using the case study instruction.” (Olgun & Adali, 2008). However, in an article concerning teaching science at the undergraduate level, the author suggests the case study method alone is not a complete solution to improving learning. In fact, the cited study showed “when used as a supplement to lecture [it] is a good method for teaching and learning genetics at the college level.” (Murray-Nseula, 2011). It is likely this observation has broad application meaning the use of case study methodology will work best in many disciplines when it complements other traditional techniques such as lecture, and teachers should be cautious before moving to teaching solely through case studies.

Criticism and Calls for Concern

As mentioned above, the case study method has progressed far beyond its professional school roots for which it is especially suited. When students do not have the requisite background knowledge, or just plain worldly experience, difficulties can arise when they are asked to learn using this method. While this is readily apparent for child learners, it is also true of undergraduates who “generally lack the same level of real-world experience that postgraduate students so readily draw on to assist with their analysis of the forces that influence individual and organisational behavior in a case study.” (Walker, 2009). Some students who prefer to remain quiet will not appreciate the method because it relies on their participation and can entail use of a “cold calling strategy” that might make them uncomfortable. (Rebeiz, 2011). Other concerns
surround what size class is needed to make the method successful. Classes that are too small will lack a diversity of opinion while classes that are too large will make assessment of individual students too difficult for the instructor. (Rebeiz, 2011).

**Recommendations**

When considering the inclusion of the case study method or what types of case studies to use in the undergraduate classroom, instructors should consider the following recommendations derived from previous research and experience:

- Teachers require an increased level of energy and concentration compared to lecture. Keeping the discussion moving and mapping out general points of emphasis takes constant teacher involvement, and requires active listening on the teacher’s part as he or she listens for cues to relate back to the case.
- Students should be able to see each other when seated (e.g. use a circle or horseshoe) to promote good discussion. This communication can involve both verbal and nonverbal aspects necessitating face to face sight among teachers and students when possible.
- Consider using some cases that do not have a “right” answer. Open ended cases can prompt some of the best discussions and learning.
- Aim for cases that are not too long, yet are detailed enough to tell a story.
- Include structured controversy to keep the students engaged with the material.
- Choose cases that are relevant to the students.
- When teaching in areas that are very dynamic, strive to select contemporary cases (from the last five years).
- Use a variety of sources for cases to represent a broad range of experiences.
- Real cases are preferred to hypothetical cases created by teachers or others.
- Draw out individual responses from students when eliciting relevant facts or decisions that are central to the case.
- Allow the discussion to drift throughout the lesson. The case should be used as a point of departure to provoke thought and discussion rather than a strict route that must be followed. There are several ways to get to the learning destination and students should have the freedom to choose their own paths.
- Teachers have successfully employed the case study methodology in a broad range of fields. Make attempts to inject the case study methodology in disciplines that historically did not use it as a central teaching technique.
- Ensure the class is of optimum size, not too small or too large (groups of 12-15 are best).

Depending on teacher goals, the case study methodology is worth considering for classroom use. Whether the goals include developing expertise through exposure to complex decision-making, engraining an appreciation for principled resolution in convoluted situations, or simply to enhance critical thinking skills by defining the root issues and proposing solutions to problems, case studies are a means to their achievement. Students of all backgrounds and ages are familiar with stories and storytelling, making case studies natural instruments through which to present important concepts across the curriculum.
References


Annotated Readings


The main point of this article by Helms and Biggs is the suitability of the case study method to teaching policymaking. The authors discuss how using case studies is effective for exposing policy students to complex situations. The idea is that by critically examining the real-world problem they will be better prepared to solve issues in the future.

This article is an introduction to the case study methodology and is a good summary of how teachers and learners are affected by this teaching technique. Kantar asserts “[t]he overarching goal of case-based teaching is developing learners’ higher order thinking dispositions such as conceptualizing the significance of the date, interpreting the information, and creating ideas.” Kantar also cautions teachers new to the method that “it is essential that discussion be structured and skillfully led” on real-world situations.

Mostert, Mark P. & Sudzina, Mary R. Undergraduate Case Method Teaching: Pedagogical Assumptions vs. the Real World, February 1996.

The authors comment on the fact that use of the case study method for teaching educators was a recent occurrence. They looked at the literature and concluded there are “a number of tentative undergirding principles suggesting that cases are a valuable instructional method in educating preservice teachers.” What is especially helpful is the authors’ inclusion of specific advantages and disadvantages of the method, and for those interested in undergraduate education, specific issues for that level.


Murry-Nseula writes about case based teaching (CBT) and how it “encourages active learning and requires students to analyze and think critically, thus fostering the development of a higher order of thinking.” This statement is generally why educators choose the case study method. The article points out that the widespread use of CBT in the science curriculum is a relatively recent event, unlike business, law and medicine.


Rebeiz makes several important points in his article that are useful to teachers considering adopting the case study method. Teachers must recognize important differences, starting with the teacher assuming “the role of the facilitator of a discussion rather than the sole provider of unidirectional information.” By incorporating the students into the lesson and initiating student to teacher and student to student dialogue, teachers must accept a “visible departure from the traditional lecture style.”


This article examines the benefits of case studies that are written by students themselves, notably improvements in the creative-writing process and a gained appreciation for the complexity of seemingly simple situations. Most important, “by challenging the students to choose their own topic and then develop a case, the assignment promoted active, student-centered learning and allowed them to explore a topic they viewed as particularly salient.”

Tracing the history of the case study method in business schools to pre-World War I, the authors conclude that since its inception the method has come to dominate business education. The article contains an interesting section devoted to what it calls the two modes of case teaching. Mode one focuses on the development of professional expertise, and mode two focuses on critical thinking and cognitive skills.


The authors examine the use of engineering failure cases in the engineering curriculum, and in particular the “2010 Deepwater Horizon catastrophe as a teaching case study for enhancing students technological literacy.” According to the engineering students who used the method, the case study method successfully inspired “then to learn and help them understand the importance of nontechnical issues in engineering practice” and might make students “more knowledgeable of current issues and, possibly, become more informed decision makers.”


This article discusses the use of case study methodology and its effectiveness through a study performed at two separate colleges. The students were given case studies to learn the material and then were asked questions about their experiences. Comparisons were made between the populations at the two schools and conclusions reached about case studies in general. Most students liked the use of case studies (only 25% at one college and 9% at the other college did not find them beneficial). Of the students who found them beneficial, the students credited the case studies with helping them to learn to perform research, make effective slide presentations using PowerPoint, and improving critical thinking and decision making skills. This idea that the students perceived a benefit from the use of case studies is intriguing in that the method builds confidence. Of course, if the newly acquired confidence is not accompanied with any actual newly acquired knowledge, skills, or abilities, the result is problematic.


The author starts with an overview of the history of the case study method and discusses what disciplines have used it for professional development. Tripathy provides practical tips for how to select cases. The article is aimed at those teaching future practitioners, and recognizes the study of complex real-world problems “challenges students to learn the skills that will be appropriate to deal with the practical problems at the workplace.”