Overview

Case studies depict real-life situations in which problems need to be solved. Scenario-based teaching may be similar to case studies, or may be oriented toward developing communication or teamwork skills. Both case studies and scenarios are commonly used methods of problem-based learning. Typically, using these methods, teachers aim to develop student reasoning, problem-solving and decision-making skills (Tunny, Papinczak & Young, 2010; Bloomfield & Magney, 2009).

Teachers in higher education are increasingly likely to use case studies and scenarios, particularly in business, law, medicine and the other health disciplines. Science and engineering teachers have made increasing use of them, as they give students opportunities to engage with current issues in a field, making their learning clearly relevant to real-world situations.

Case study is a powerful learning tool used by a small group of people for solving real-world organisational problems. The group meets to discuss ways to resolve these issues. Case study:

- thrives on a real and complex crisis requiring group members to draw from and share their experiences to help solve the problem (Garratt, 1997)
- involves developing problem-solving, teamwork and decision-making skills.
- allows participants to learn by doing, applying what they have learned to a real organisational issue
- can achieve multiple results simultaneously within a relatively short period (Serrat, 2008).

When to use

Use case studies to teach reasoning and decision-making skills, to prepare students to move on to a professional practice in-situ learning situation. With case studies students can see how their learning and skills can be applied in a real-world situation, without the pressure of being actually involved in that situation with constraints on research, discussion and reflection time.

Case studies and scenarios are particularly useful where situations are complex and solutions are uncertain.

You can present a single case to several groups in a class and require each group to offer its solutions, or you can give a different case to each group or individual.

You can present case studies on paper or make use of media. For help using media to create case studies, see Creative Development and Educational Media Production
Benefits

Case studies are effective in higher education because they:

- engage students in research and reflective discussion
- encourage clinical and professional reasoning in a safe environment
- encourage higher order thinking
- facilitate creative problem solving and the application of different problem-solving theories without risk to third parties or projects
- allow students to develop realistic solutions to complex problems
- develop students' ability to identify and distinguish between critical and extraneous factors
- enable students to apply previously acquired skills
- allow students to learn from one another
- provide an effective simulated learning environment even though they are considered low-level fidelity (Beaubien & Baker, 2004)
- encourage practical reasoning—thinking aloud if required
- allow you to assess individuals or teams.

You can use case studies to bridge the gap between teacher-centred lectures method and pure problem-based learning. They leave room for you to guide students directly, while the scenarios themselves suggest how students should operate, and provide parameters for their work.

Challenges

Tunny, Papinczak and Young (2010) found that a tutor is more likely to conduct effective case-based teaching if trained in this teaching strategy. However, one study at UNSW found that "the relationships between facilitator characteristics and student achievements were slight, not reproducible from one course to another and even if real have no practical significance" (Bloomfield & Magney, 2009). Build clear teaching and assessment criteria into your assessment strategy for case studies involving several tutors and groups of students. Include contingency plans, and take account of tutors' differing abilities.

Strategies

Assessment—preparation

Typically, the product assessed after case study or scenario work is a verbal presentation or a written submission.
Decide who will take part in the assessment—the tutor, an industry specialist, a panel, peer groups or students themselves by self-evaluation? Choose whether to give a class or group mark, to assess individual performance or to have the product assessed by peers.

**Assessment strategies**

You can assess students’ interaction with other members of a group by asking open-ended questions, and setting tasks that require teamwork and sharing resources.

With case studies, you may also need to assess a student’s demonstration of deeper understanding and cognitive skills, such as:

- identification of a problem
- hypotheses generation
- construction of an enquiry plan
- interpretation of findings
- investigation of results collected for evidence to refine a hypothesis and construction of a management plan.

**Assess the process of analysis**

The resolution of a case is only the last stage of a process. You can observe or evaluate:

- quality of research
- structural issues in written material
- organisation of arguments
- feasibility of solutions presented
- intra-group dynamics
- evidence of consideration of all case factors
- multiple resolutions of the same scenario issue.

**Use a variety of questions in case analysis**

The **Questioning** page discusses in detail various ways to use questions in teaching. If your students are using the Harvard Business School case study method for their analysis, use a range of question types to enable the class to move through the stages of analysis:

- clarification / information seeking (*What?*)
- analysis / diagnosis (*Why?*)
- conclusion / recommendation (*What now?*)
- implementation (*How?*) and
- application / reflection (*So what? What does it mean to you?*)
Use technology

Learning management systems such as Moodle can help you track contributions to case discussions. You can assess students' interaction with other members of a group by viewing their responses to open-ended questions or observing their teamwork and sharing of resources as part of the discussion. You can incorporate the use of various tools in these systems, or others such as Survey Monkey, into students' assessment of their peers, or of their group members' contribution to exploring and presenting case studies. You can also set this peer assessment up so that it takes place anonymously.

Case studies

Assessing by Case Studies: UNSW examples

These videos show examples of how UNSW faculty have implemented case studies in their own courses.

A Design for Case Studies with Undergraduate Students - Chris Walker

Authentic Assessment by Case Studies - Chris Walker

Additional information

External resources

- National Centre for Case Study Teaching in Science, Case Collection—contains more than 397 peer reviewed cases in all areas of science and engineering.

- Science Education Resource Center, Carleton College, Starting Point: What is Investigative Case-Based Learning?

Further readings

References used in writing this page


**Other reading**


**Acknowledgments**

The contributions of staff who engaged with the preparation of this topic are gratefully acknowledged, particularly those of Dr John Booth and Dr Ben Barry from Exercise Physiology in the School of Medical Sciences, and Chris