Teaching with Case Studies
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Case studies provide a versatile approach to teaching and are an increasingly popular approach to facilitating learning in higher education. Depending on the educational goal, either individuals or groups can work through a case. When used in groups, case studies foster the development of effective social interaction skills, appreciation of different perspectives, as well as an awareness that a case scenario is always dependent on the context where it unfolds. Case situations also provide an authentic context for learners, immersing them in actual places, social interactions, issues, and processes. Additionally, case scenarios allow an instructor to identify and relate course concepts to relevant, routine applications of the concepts. By working with course concepts through real-life situations, learners more easily make connections between concepts that can be reused after the course is completed, thus transferring their understanding to new and more complex situations.

Tips for Successful Use of Case Studies for Learning

- Outline your learning objectives, being clear on what kind of thinking, skill development, and values development you want the learner to accomplish as a result of working with the case scenario.
- Develop the steps that you and the learner(s) will use to work through the case based on your learning objectives.
- Start with existing case studies, examples of authentic case studies related to sustainability projects at UNC are available at http://sustainability.web.unc.edu/
- Create a focusing document, this can be a list of discussion questions that highlight the core concepts and relationships that are framed by the case and important for the course content; a concept map that situates the core concepts in the content and provides a way to help students stay focused on what the case is about; or a series of worksheets that sequence the desired integration of thinking, values development and skill development.
- Prepare students by using a simple case study for students to learn the process of working out a case.
- Introduce the case being sure to explain how the case will facilitate their understanding of the course content.

For additional information regarding teaching with cases, please contact the Center for Faculty Excellence, www.cfe.unc.edu or 966-1289

Sources
Research


The purpose of this study was to assess the redesign of a clinical pharmacokinetics course that incorporated case-based learning (CBL) to enhance group interaction and individual participation. The clinical pharmacokinetics course was divided into 3 sections based on content. Section 1 utilized CBL with small in-class groups; section 2 used a more traditional style of teaching; and section 3 was taught with CBL but using large in-class groups. The CBL approach was assessed using examination scores and attitudinal surveys. Assessments indicated that students enjoyed the applied format of CBL, and examination scores were higher when CBL was used than in historical controls. The authors conclude that CBL allows class time to be used for higher levels of learning and assessment instead of the more typical content delivery.


The purpose of this study was to assess whether the use of case studies in the laboratory curriculum of a biochemistry course increased students’ abilities to identify experimental variables that affect the outcome of an experiment. Summative assessment data from student groups who completed the cases relative to student groups who did not were used to assess student learning. The assessment exercise was a fictional experimental scenario presented to students on the final lab exam, which was administered to 354 students. Three semester groups of students (165) were exposed to the case studies and four semester groups of students (189) were not. After all 7 semesters of student responses were obtained, each response was coded to mask which group the student belonged in which. Using a rubric designed for the study, two evaluators independently rated each student response on a scale of 0-2. A one-way ANOVA was performed between the four-semester groups that did not complete the cases and a one-way ANOVA was performed on the three-semester groups that did complete the cases to determine if there was any statistical difference between the “without case study” groups and the “with case study” groups, respectively. Both sets of results showed there was no statistical difference between these groups, and so each was treated as a cohort for statistical analysis. An SPSS t-test was then performed on the assessment results between these two cohorts. Results showed that students who completed the case studies scored significantly higher than those who did not, confirming that incorporation of the cases promoted development of experimental variable identification skills in students.


To foster medical students' diagnostic knowledge a case-based worked example approach was implemented in the context of a computer-based learning environment. Thirty medical students were randomly assigned to the condition “with erroneous examples” and 31 students learned with correct examples. Diagnostic knowledge was operationalized using a multiple-choice test, key feature problems, and problem-solving tasks. Cognitive load, acceptance, and subjective learning outcomes were assessed by three questionnaire scales. Students learning with erroneous examples performed better than students learning with correct examples did. However, this effect was not significant. Erroneous examples significantly increased cognitive load and decreased students' subjective learning outcomes. However, they had no influence on acceptance.