



## How to use case studies

***TOOLS FOR SKILLS  
INTEGRATED LEARNING OF ENGLISH AND FORESTRY  
TEACHER TRAINING  
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## Introduction

Learning and teaching styles are changing and recently there has been an obvious move from lecture-based activities towards more student-centred activities. Case studies have been becoming a more and more popular form of teaching and have an important role in developing skills and knowledge in learners.

They bring realistic, complex and contextually rich situations and often involve a conflict, dilemma or a problem which those included in the case must negotiate and solve. They are descriptions of a real life experience related to the field of study or training, which are used to make points, raise issues and enhance the participants' understanding and learning experience. They usually follow a realistic scenario from start to finish. As they provide practical examples of problems and solutions, challenges and strategies, they support more theoretical material and often make the "lesson" more memorable and believable for the learners.

According to Professor Paul Lawrence a good case study is *"the vehicle by which a chunk of reality is brought into the classroom to be worked over by the class and the instructor. A good case keeps the class discussion grounded upon some of the stubborn facts that must be faced in real life situations"*.

Case studies can be used in any discipline when instructors want learners to explore how what they have learned applies to real world situations. They come in many formats, from a simple question of "What would you do in this situation?" to a detailed description of a situation with accompanying data to analyse. Most case studies tasks require learners to answer an open-ended question or develop a solution to an open-ended problem with a multiple potential solutions. Requirements can range from a one-paragraph answer to a fully developed group action plan, proposal or decision.

Case studies are considered to be an effective-based method for bridging the gap between theory and practice, between the academy and the workplace, and many emphasize that they present a "best practice" in the teaching and learning process. This makes case studies very popular as part of an integrated approach used by teachers and trainers to enhance what is seen as quality of teaching tied to the development of applied knowledge based on analytical and critical thinking skills.

According to the Boston University Centre for Excellence and Innovation in Teaching (2015) the rationale provided for the use of case studies in instruction underlies the belief that many learners tend to learn better from examples than from logical development starting with basic principles and there is no doubt that case studies can help reinforce concepts and understanding, develop critical and analytical skills, foster team efforts in developing solutions to problems and challenges stimulating real world situations, and make classes more interactive and memorable.



## Case Studies

Students can learn more effectively when actively involved in the learning process (Bonwell and Eison, 1991; Sivan et al, 2001). One way in which such active learning strategies can be implemented is the case study approach. There are a lot of definitions for the case study, e. g. Fry et al (1999) define case studies as complex examples which give an insight into the context of a problem as well as illustrating the main point. Another definition says that case studies are student-centred activities based on topics that demonstrate theoretical concepts in an applied setting. This definition of the case study covers the variety of different teaching structures ranging from short individual case studies to longer group-based activities.

According to Andersen and Schiano (2014), the case study method of teaching immerses students in realistic situations such as dealing with incomplete information, time constraints, and conflicting goals. Furthermore, they argue that the class discussion that naturally emerges in case teaching stimulates the development of students' critical thinking skill. Montpetit and Kajiura (2012) argue that "case-based teaching and learning strategies can offer instructors effective pedagogical tools to scaffold student learning through activities designed to fulfill teaching objectives and desired student learning outcomes" (p. 80). Dunne and Brooks (2004) concur, as they view case studies as stories with educational messages that instructors must use to effectively achieve classroom goals and objectives. Vaugeois (2005) argues that case studies are conduits between theory and practice. Fry, Ketteridge, and Marshall (1999) believe that case studies provide complex examples which provide insights into the context of a problem as well as illustrate the main points that underscore a lesson or presentation.

Most full-blown case studies have these **common elements**:

- Some question or problem that needs to be solved and is grappled with by a decision-maker.
- A background – a description of the problem's context.
- Supporting data which can range from data tables to links to URLs, quoted statements or testimony, supporting documents, images, video, or audio.

Case assignments can be done individually or in teams so that the learners can brainstorm solutions and share the work load.

***Case studies vary in length and detail, and can be used in a number of ways, depending on the case itself and on the instructor's goals.***

- They can be short (a few paragraphs) or long (e.g. 20+ pages).
- They can be used in lecture-based or discussion-based classes.
- They can be real, with all the detail drawn from actual people and circumstances, or simply realistic.
- They can provide all the relevant data students need to discuss and resolve the central issue, or only some of it, requiring students to identify, and possibly fill in (via outside research), the missing information.



- They can require students to examine multiple aspects of a problem, or just a circumscribed piece.
- They can require students to propose a solution for the case or simply to identify the parameters of the problem.

Dunne and Brooks (2004) categorize case studies based on the following four objectives:

- (1) application,
- (2) identification of the problem,
- (3) decision making, and
- (4) assessing the scope of the decision.

This is a good description of what cases achieve overall when effectively used in the classroom. One of the most common and important methods used in teaching or analysing case studies is ***the Socratic Method***. According to Fakhouri (2012), the Socratic Method is based on listening and empathy, removing risk, the use of open questions, and the ability to question and challenge.

What is ***common to all case studies is that they are used to enhance the learning and understanding of concepts by linking them to the real world through modelling, symbolic or realistic representation, or imagining scenarios and situations***. Given the errors that instructors make in using case studies as part of their teaching regiment, it is important to consider these characteristics when choosing a case study:

***relevant*** – the case study chosen must reinforce learning and the key concepts, ideas, theories, or skills being taught,

***practical*** – the case contains elements for practical application such as real world examples or scenarios,

***dialogical*** – the case must include elements to foster team work, brainstorming, participation, cooperation, and discussion,

***interesting*** – the case must be rich in content as case studies can be time-consuming and must therefore have a considerable value and teachable opportunities, and

***appropriate*** – the case study must include enough content and be of a suitable length to facilitate interest and achieve objectives within given time constraints.

According to Dunne and Brooks (2004) ***a “good” case study***:

1. has pedagogic utility,
2. represents a general issue beyond the case itself,
3. tells an engaging story,
4. focuses on an interest-arousing, controversial issue,
5. poses a problem that has no obvious right answer,
6. creates empathy with the central characters,
7. requires the reader to use the information in the case to address the problem,
8. requires the reader to think critically and analytically to address the problem,



9. is typical of brevity—has just enough information for a good analysis, and
10. is relevant to students.

These are 10 important characteristics that instructors should consider in using case studies.

A major **advantage of teaching with case studies** is that the students are actively engaged in figuring out the principles by abstracting from the examples, which develops their skills in:

- problem solving,
- analytical tools, quantitative and/or qualitative, depending on the case,
- decision making in complex situations, and
- coping with ambiguities.

Following different authors the case-based approach is a useful method to develop also **other important skills** such as:

- ✓ **Group working.** The benefits of group working are well documented and it was found out that a team case study approach can add experience to the learning as students can share their personal knowledge and experience. Care is needed with group working activities, e. g. selecting group membership to ensure smooth group operation/training of students in group working skills. This is particularly important for longer case studies.
- ✓ **Individual study skills.** Case studies are a good vehicle for encouraging students to carry out independent research outside of the lecture/tutorial environment.
- ✓ **Information gathering and analysis.** Many case studies require resource investigation and encourage students to utilise a number of different sources, i.e. the Internet, library, laboratory results and contacting experts in industry.
- ✓ **Time management.** Longer case studies require students to really consider how best to carry out the work so that it is completed to the set deadline. Interim meetings with academic staff ensure progress is made during the case study rather than all the work being left to the last week.
- ✓ **Presentation skills.** Most of case studies require students to present their work in a variety of formats, these include oral presentations, articles, posters and reports.
- ✓ **Practical skills.** Some of case studies involve practical work on the components that are being studied. Feedback has shown that many students enjoy the hands-on approach.

## Using Case Studies

According to Andersen and Schiano (2014), a wide range of teachers seek help in teaching cases. This may stem from three factors: (1) lack of training and understanding concerning the place of case studies in the teaching-learning process, (2) inability to effectively select relevant and appropriate case studies that align with instructions, and (3) inability to motivate students whom in majority seem to be less fond of case studies than faculty perceive or believe. Certainly, the latter factor seems to be especially difficult to overcome when instructors are bent on following what has become a tradition of using cases from one particular source and of a particular perceived quality rather than making relevance a key selection criterion. Mustoe and Croft (1999), and Raju and Sanker (1999), support the idea of the relevance criterion being instrumental in case study selection and use, and argue that



personal relevance and significance to the lives of students must be considered in order to engage their interest in case studies.

Teachers and trainers must become more student-centered in their thinking when it comes to using case studies as part of their teaching or instructional sessions. According to Grant (1997), case studies help in shifting the emphasis in the classroom environment from a teacher-centered to student-centered activity. Furthermore, instructors must consider how well the case study or case teaching approach communicates or conveys the ideas and lessons they are trying to impart and must seek characteristics of relevance, content-specificity, concurrency, and practicality when they decide to use case studies in the classroom or instruction. One of the important factors to consider in the selection and use of case studies in classroom instruction is chronology. The instructor must decide which cases might be outdated for contemporary use and perspectives, and which might contain historically relevant lessons for students.

***How you use case studies will depend on the goals as well as on the format of your course.***

For example, if it is a large lecture course, you might use a case study to illustrate and enrich the lecture material. Also in a large class you might consider breaking the class into small groups or pairs to discuss a relevant case. If your class is a smaller, discussion-format course, you will be able to use more detailed and complex cases, to explore the perspectives introduced in the case in greater depth, and perhaps integrate other instructional strategies, such as role playing or debate.

Regardless of the format in which you employ case studies, it is important that you, as the instructor, know all the issues involved in the case, prepare questions and prompts in advance, and anticipate where students might run into problems. Also, consider who your students are and how you might productively draw on their backgrounds, experience, personalities, etc., to enhance the discussion.

In the most straightforward application, the presentation of the case study establishes a framework for analysis. ***It is helpful if the statement of the case provides enough information for the students to figure out solutions and then to identify how to apply those solutions in other similar situations.*** Instructors may choose to use several cases so that students can identify both the similarities and differences among the cases.

Depending on the course objectives, the instructor may encourage students to follow ***a systematic approach to their analysis.*** For example:

- What is the issue?
- What is the goal of the analysis?
- What is the context of the problem?
- What key facts should be considered?
- What alternatives are available to the decision-maker?
- What would you recommend — and why?

An innovative approach to case analysis might be to have students role-play the part of the people involved in the case. This not only actively engages students, but forces them to really understand the perspectives of the case characters. Videos or even field trips showing



the venue in which the case is situated can help students to visualize the situation that they need to analyze.

## ***Implications***

Case studies should not serve as an isolated or stand-alone learning method or technique, but should be seen for what they are: assistive learning tools whose major purpose is to bridge the gap between the theoretical and the practical, essentially serving as an element of the applied method of inquiry, learning, research, teaching, and instruction. Case studies should therefore reinforce concepts and theories by applying them to real and hypothetical situations as they model reality and potential reality with a major aim of fostering application. The rationale for case studies should best translate into applied knowledge and theory.

Given the above understanding, instructors should consider how well case studies create opportunities for learning and reinforcing ideas, concepts, and the values that they teach. Where case studies are not ideal or the best method for achieving these, then instructors should wisely choose other best practices or appropriate methods to best meet the learning needs and modes of their students. Thus, ***understanding when and how to use case studies is important in the teaching learning process***. Instructors should understand how the type and quality of the case study they choose affects instruction and learning, and must be more considerate toward factors such as relevance of the case study, length, richness of text as far as content, concepts, and examples are concerned, as well as costs, since sometimes students are directed by some faculty members to obtain case studies that must sometimes be purchased. Case studies should not be burdensome or boring, but exciting and create an atmosphere for exercise of students' creativity in developing and using their analytical and critical thinking skills to model real world individual, organizational, and management challenges.

## ***Preparing to Use a Case Study***

According to the BU Center for Excellence and Innovation in Teaching (2015) an important guideline is that instructors themselves should be versed in case analysis and should provide students with a systematic outline or approach to analyzing case studies. Too often instructors give students a case for analysis without providing them any instructions on the best approach to dissecting and understanding or contextualizing the case. Davis (2009) has recommended ***three steps that instructors can use in the case teaching method***:

- (1) ***preparing the case*** by giving students advice and providing them with structure, and preparing a series of questions that will structure the case and highlight its key points;
- (2) ***conducting the case*** by situating the case in context of the course, introducing the case, starting a discussion, adopting a facilitator role and having a group of students guide the discussion; and
- (3) ***concluding the case*** by summarizing key points, revealing real-life ideas, having students write short essays, and asking students to evaluate discussions.



Students will need clear instructions on what their responsibilities are in preparing to discuss a case in class. If students can depend entirely on the information present in the case to develop solutions (and do not need to do extra research), let them know. And if supplementary research is required, emphasize this and give directions on what might be appropriate sources of information. Some instructors prepare a set of questions ahead of time, and pass these out in order to give students a general sense of the major issues to be discussed. In addition, students are often asked to prepare a brief statement outlining their sense of the central problem and their plans for resolving it. Some instructors have found it useful to have students form study groups to analyze and prepare comments before the class discussion takes place. In the same way that students prepare a case, it is important that the instructor know the directions the discussion might take. Since one of the goals of teaching with a case is to monitor students' ability to apply knowledge and principles to real experience, it is useful to identify the handful of major concepts that students should be relying on.

### ***Teaching with a Case Study***

Case studies usually generate animated class discussion, especially if students feel that the case will serve as a basis for wide-ranging exploration. A good classroom atmosphere will help generate and sustain students' participation, and this atmosphere can be quickly created by setting some ground rules for participation. Instructors can emphasize that the analysis will be a group project, and that no one will be criticized for raising naive questions or uncertainties. The group must recognize the significance of cooperation in working toward the goal of making sense of the problem, and that everyone is required to actively work together on the analysis. Without a clear sense that they are free to experiment with hypotheses, students will tend to remain silent until they feel that the "right" answer has been identified. As preeminent case study teacher C. Roland Christensen points out in his analysis of case discussion, student involvement develops on at least three distinct levels: "At the first level, students explore a problem by sorting out relevant facts, developing logical conclusions, and presenting them to fellow students and the instructor. The students discuss someone else's problem; their role is that of the commentator-observer in a traditional academic sense" (Christensen, 1987, p. 35). On the second level, students can be assigned roles in the case, and take on perspectives that require them to argue for specific actions from a character's point of view, given their interests and knowledge. Finally, on the third level, students will take the initiative to become fully involved, so that topics are no longer treated as abstract ideas, but become central to the student's sense of self – of what they would choose to do in a specific real world situation.

Given the complexity of many cases, it is useful to begin class discussion with questions that require students to review and organize information on the first level: what are the relevant facts and how they translate into major themes or issues. Once students have agreed on the most significant information in the case, you can begin to pose more challenging questions.



## ***On Case Studies and Discussion***

Once the basic information in a case has been reviewed, discussion can centre on objectives and solutions. Good discussion can be generated by the kinds of questions that you ask to make sure that all the angles of the case are carefully considered. Open-ended questions are especially useful, because they demonstrate that you do not have a predetermined conclusion that you are aiming for.

It is also important to ask exploratory and relational questions—questions that probe into the reasoning behind conclusions, since some students may want to jump quickly to a solution without carefully examining the evidence or their assumptions.

As students identify key concerns, these can be listed on the board for future reference—along with a separate list of possible actions. As a facilitator, you can organize the discussion by seeing if the class is satisfied that each of these action recommendations is discussed fully before moving on to the next. As in all discussion leading, it is important to listen carefully to students' responses, paraphrase when necessary, and give students sufficient time to reflect on questions or issues that are raised.

Leading discussion on a case can be difficult at times. Students uncomfortable with ambiguity and interested solely in having the instructor offer up appropriate facts and truths may be unwilling to participate. Some students may also fear suggesting inadequate solutions, and so wait until someone else figures out “the right” response. And even if the discussion is lively, the open-ended nature of a case can sometimes lead the discussion on tangents that are inappropriate. But by preparing students well for what is expected of them, and then by preparing yourself with good questions, these difficulties can be minimized or eliminated.

## ***Wrapping Up***

Summing up a class discussion on a case should focus not only on the content of the case, but also on the process of analysis and evaluation. You can take charge at this point and offer an assessment of the case, or you can ask the students themselves to pull together the various strands of the discussion. If some issues were not resolved fully, or if answers to questions seemed to demand more information, students can be assigned research tasks for the next class session. And to get the most out of this kind of class discussion, it is helpful to give your students feedback on how you think the discussion itself went—that is, on how you saw the group interact and progress. This is especially useful if once you have taught a case, it is helpful to reflect on students' responses, to see if the case can be developed further, or whether more background information can or should be provided. Sometimes a new case will seem to naturally spring from the first, so that a single complex issue can be developed into several phases that students analyse. You can even invite students to participate in the creation of the next instalment, and build the case's story for use in future classes.

Using cases can be an invigorating approach to teaching, and can help your students take much more responsibility for their own learning in your class. But because cases are not



necessarily the best way to communicate large amounts of new information, they should not be seen as replacements for lectures. And in this sense they are probably not always appropriate for introductory level classes, since students usually need a good deal of background knowledge to be able to adequately interpret and resolve a case. What cases can do that lectures cannot is test to see whether students are capable of using the information that they have been studying in the given discipline. By placing students in real situations, and asking them to make critical decisions, case studies force students to connect their knowledge of facts with the need for evaluative skills. And perhaps this connection is one of the most important we can demonstrate for students, for as Alfred North Whitehead notes, "The details of knowledge which are important will be picked up ad hoc in each avocation in life, but the habit of the active utilisation of well understood principles is the final possession of wisdom."

### ***Aspects of the Use of Case Studies***

Concerning the use of case studies in the classroom or training room there are the following two aspects: what the desired learning outcomes are for the participants and how they can be presented to them.

#### ***Learning outcomes***

Case studies are a substitute for student placements in the workplace if the course of study cannot allow for this. For this reason, they are particularly useful in a short training course. They also provide realistic simulations of the kinds of real life experiences students can expect when they practice for themselves. For students who are pursuing on-the-job training, case studies can offer alternative experiences, approaches and solutions which will broaden the students' knowledge and skills.

In reading or listening to case studies and thinking about the scenario and possible solutions, students develop skills which they will need to pursue their careers. The skill set includes:

- ✓ identification of the problem or challenge,
- ✓ understanding and interpreting data,
- ✓ analysing information,
- ✓ recognising assumptions and inferences,
- ✓ thinking analytically and critically,
- ✓ exercising judgement,
- ✓ taking and defending decisions,
- ✓ understanding interpersonal relationships,
- ✓ communicating ideas and opinions.

#### ***Presentation and use***

There are many different ways to use case studies. How they are used will depend on the length of the course, the subject matter and upon the delivery style of the trainer.

In a short training course a presentation by the author, perhaps with supporting visual aids, is a really good way of providing practical examples of the theory or techniques that are being covered. The presentation can be followed by questions and answers to give the class a chance to clarify and enhance understanding. This might be a free-for-all or more carefully



structured with the presenter asking questions designed to focus participants on particular aspects of the problem evoked in the case. In a longer course it might be possible to get the class to read through the case study for themselves before participating in discussion.

Case studies can be very effective when they are used comparatively. In this approach the case studies might be presented to or read by the class. This would be followed, once everyone was familiar with the cases, by general discussion, discussion focused by the trainer, group work or even worksheets prepared by the trainer. Again, the object of the follow-up discussion or group work is to help the students to appreciate the challenges inherent in the scenario and think through the various ways of approaching and solving them.

Another possibility is to provide the class with only part of the case study and to get members of the class to act out a scenario. For example, a meeting where the archivist or records manager had to convince other stakeholders of the need for a course of action or provision of funding. The students should be asked to present the individual concerns and point of view of the various protagonists. A variation on this approach is to give some of the details to the class and get them to ask questions to get the full picture.

Case studies can provide the basis of individual or group assignments. The student or group of students is given a case study and asked to write an analysis and any recommendations that seem appropriate. If the students need help in getting started, a SWOT analysis can be very effective — the trainer can provide a list of questions around the four elements (**s**trengths, **w**eaknesses, **o**pportunities, and **t**hreats), or the students can use the scheme as a basis for their own analysis.

***Though case studies can be used in many different ways, the following six steps provide a general framework for how to lead a case-based discussion:***

Provide students with sufficient time to read and think about the case. If it is a long case, assign it as homework with a set of questions for students to think about (e. g. What is the nature of the problem the central character is facing? What are some possible courses of action? What are the potential obstacles?)

Describe the case briefly and give some guidelines for how to approach it. Clarify how you want students to think about the case (e. g. “You are a consultant hired by this company. What would you recommend?”) Break down the steps you want students to take in analysing the case (e.g., “First, identify the constraints each character in the case was operating under and the opportunities s/he had. Second, evaluate the decisions each character made and their implications. Finally, explain what you would have done differently and why.”). If you would like students to focus on certain information, specify that as well.

Create groups and monitor them to make sure everyone is involved. Breaking the full class into smaller groups gives individual students more opportunities for participation and interaction. Small groups, however, can drift off track if you do not provide structure.



Ask groups to present their solutions and reasoning: If groups know they are responsible for producing something (a decision, rationale, analysis) to present to the class, they will approach the discussion with greater focus and seriousness. Write their conclusions on the board so that you can return to them in the discussion that follows.

Ask questions for clarification and to move discussion to another level. One of the challenges for a case-based discussion leader is to guide the discussion and probe for deeper analysis without over-directing. As the discussion unfolds, ask questions that call for students to examine their own assumptions, substantiate their claims, provide illustrations, etc.

Be sure to bring the various strands of the discussion back together at the end, so that students see what they have learned and take those lessons with them. This job of synthesizing need not necessarily fall to the instructor, however; one or more students can be given this task.

### ***How to Lead a Case-based Discussion***

Decision cases are more interesting than descriptive ones. In order to start the discussion in class, the instructor can start with an easy, noncontroversial question that all the students should be able to answer readily. However, some of the best case discussions start by forcing the students to take a stand. Some instructors will ask a student to do a formal “open” of the case, outlining his or her entire analysis. Others may choose to guide discussion with questions that move students from problem identification to solutions. A skilled instructor steers questions and discussion to keep the class on track and moving at a reasonable pace.

In order to motivate the students to complete the assignment before class as well as to stimulate attentiveness during the class, the instructor should grade the participation – quantity and especially quality – during the discussion of the case. The instructor should involve as many students as possible. In order to engage all the students, the instructor can divide them into groups, give each group several minutes to discuss how to answer a question related to the case, and then ask a randomly selected person in each group to present the group’s answer and reasoning. Random selection can be accomplished through rolling of dice, shuffled index cards, each with one student’s name, a spinning wheel, etc.

### ***Do Case Studies suit to All Students?***

Styles of learning vary from student to student. Case studies are mostly coursework-based, however, this style of work may not be suitable for everyone. Some students may work more efficiently in a formal and time-constrained setting, such as an examination, and although this may not be the better mode of learning, it is one to which they have become thoroughly accustomed to at school. One way in how to tackle this is to have both coursework and exam assessment on the case study content. Provided that a balance in learning styles is maintained in the overall course, then the students are able to develop a range of skills and no student should be unfairly disadvantaged compared to another. Group working may also not be suited to all students. The feedback on group work has shown that this presented a particular problem for some students. Most students recognise its importance for developing key skills, but many commented on the uneven workload within their groups. Comments included:



*"It's not fair when other members of the group do not provide any input or aid the group effort yet still get marks..."*

*"I don't like working as part of a team because there are always lazy people who don't do any work and if you don't want that to affect your own mark you end up doing everything. I work well in a team and am quite a good organiser, but tend to do too much of the work."*

In response to similar feedbacks it is challenging to look for a way of tackling the issue of uneven workload. Then it is important to find a good way of motivating people to actually do some work and not to leave it to the last minute.

### ***Evaluating Your Teaching***

It is good to promote case studies as a good form of teaching, but how to evaluate whether they are meeting the objectives set for them in terms of increasing student enjoyment/motivation, content coverage and depth of learning? Evaluating students' learning can be problematic but essential to ensure good teaching. Some suggestions for evaluation are as follows:

**Questionnaires with closed questions:** These ask for a specific answer – a circle round an option, items to be ranked etc; there are many standard university versions of this type of questionnaire. This approach can be cost-effective for processing the data and interpreting the results. However, they limit the responses from the students to predetermined answers.

**Questionnaires with open-ended questions:** These allow students to fully explain their views and justify their answers. However, it can take time to analyse and interpret the results.

**Interviews and discussion:** Tutorials and staff/student liaison committees offer a good opportunity to discuss the learning experience with students. If assessing a specific case study, it is often better to use a member of staff who is not directly involved in the case study so that students do not worry that negative feedback may affect their assessment.

### ***Pitfalls Associated with Case Studies Teaching***

Feedback from different instructors and lecturers using case studies in their teaching might help us improve our case study teaching.

**Group working.** The subject of group working comes up time and time again in student feedback. It is needed to provide a formal lecture or training concerning group work including discussion of group dynamics, group functioning and group meetings. Formal group sessions are helpful for the students, particularly for longer case studies.

**Explanation of case study requirements.** Feedback has shown that students would like more details or information about what is expected from them in the case studies, e.g. level of independent research and, more specifically, sufficient information on how to write reports, give presentations and design and present posters. This is particularly important at the start



of the course as for many students this may be a very different form of learning to what they were used to at school.

**Depth of learning.** Examining student use of resources, it was found that many of the research-based case studies led students to derive all their information from the Internet. It is a valuable resource, however, it often can result in only surface learning. Therefore it is helpful to specify to students that you are expecting critical analysis in their work. Including a practical component is also a useful way of achieving more in-depth study. Ensuring that there is progression of learning skills development (e.g. from analysis to synthesis etc.) when using a series of case studies is important, rather than repetition of the same skills.

**Allocation of marks for case study.** It is also necessary to consider how many marks/credits should be allocated to the case studies. From the feedback it is known that some students spent quite a lot of time doing independent research and they felt that they have not received enough credit. It is required to work out a greater guidance as to how to allocate the marks.

**Added workload i.e. not replacing sufficient other teaching.** In some cases, where existing teaching was replaced with case studies it has been found that students were spending more time working towards the case study than they would have spent in the original way of learning. Though it is pleasant to see such dedication to the topic, it is important not to overload students with case study work that could compromise their ability to complete assignments in parallel modules.



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