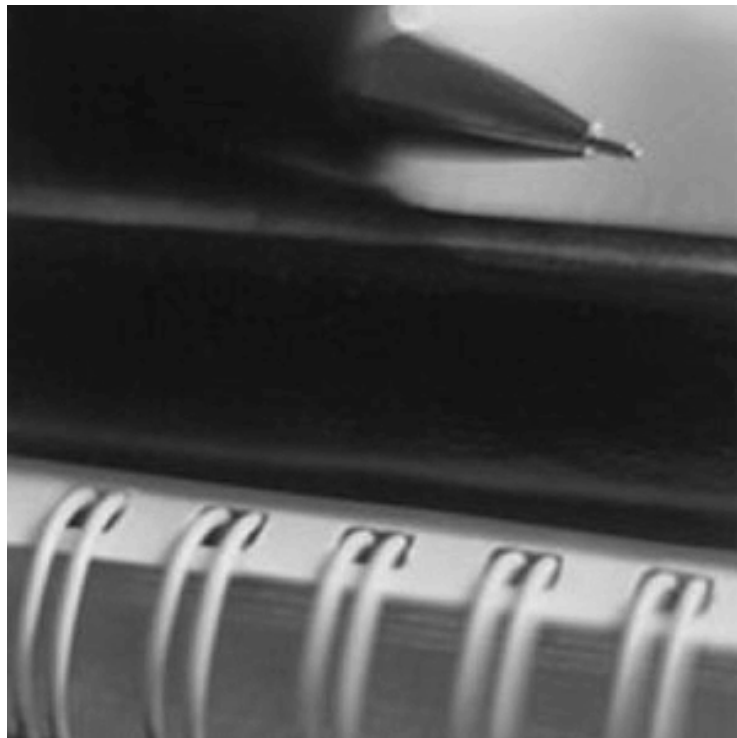


LEARNING AND TEACHING GUIDES

Case Studies for Active Learning

Dr Sharon Cox

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The author welcomes comments and feedback on the material presented – particularly if you try out any of the case materials included. She can be contacted by email at the following address: Sharon.cox@bcu.ac.uk

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Introduction to Guide

Case studies have become an integral part of the pedagogy in the teaching of many subjects. Cases can be used for a range of purposes such as to illustrate best practice, apply tools, invite discussion, facilitate decision making (Jennings, 1997) and develop skills in critical and creative thinking (Greenhalgh, 2007). Management in the hospitality, leisure, sports and tourism industry focuses on people (Chapman & Lovell, 2006). Problem-solving, especially the ability to think on one's feet and deal effectively with problems, are key requirements. This guide explores the use of case studies in a range of disciplines and discusses examples of best practice. Technology provides opportunities for new ways of interacting with case materials and guidelines are included for creating, using and sharing resources such as audio visual material. The benefits of the case experience are derived from the interaction between the problem, task and setting (Bruner, 2004). A participatory framework is presented of the case experience, within which students not only interact with the media, but interact with each other and the lecturer about the case.

The guide comprises three parts:

- Part 1: Focuses on what we mean by 'case study' and explores the benefits of using case studies to encourage active learning.
- Part 2: Examines different types of case materials and provides examples of how case studies can be used.
- Part 3: Provides examples of case studies and a list of useful resources.

Part 1: INTRODUCTION

Active Learning

Teacher-centred learning is typified in the traditional lecture where the students' role is to passively listen to the knowledge being imparted by the teacher. In contrast, student-centred learning encourages students to **actively** participate in the learning process and to take responsibility for their learning (Machemer & Crawford, 2007). Active learning is a broad term that incorporates a range of approaches such as problem-based learning, case-based learning, co-operative learning, group learning, inquiry-based learning, pair-sharing and technology enhanced learning (Michael, 2006). Machemer & Crawford (2007) consider active learning to include any activity that encourages students to participate in the learning process beyond that of passively listening to information presented. This 'activeness' can include a range of actions such as visualising, listening, speaking, writing, and doing depending on the disciplinary setting (Machemer & Crawford, 2007) and the learning outcomes.

Case Studies

Christopher Langdell revolutionised the teaching of law in 1870 moving away from the traditional teaching approach of memorisation, believing that practicing law required an understanding of core principles and the ability to apply the principles in different situations (Shugan, 2006; Breslin & Buchanan, 2008). He used legal **cases** to form the focus for classroom discussion. Backx (2008) suggests that sport and exercise science is ideal for using a case study approach because of the wealth of practical, real-life examples that can be used to contextualise the theoretical concepts. However, case studies can also be used in other disciplines such as business and hospitality management as case studies are a tool 'focusing on the transition between theory and practice' (Breslin & Buchanan, 2008).

Case Studies and Active Learning

Case studies are a student-centred approach that can be used to promote autonomous learning (Backx, 2008). Students actively engage with the case study in some way, individually or in groups; in the classroom, as directed study or online. Case studies can be likened to problem-based learning (Backx, 2008) which encourages development of critical thinking and problem-solving skills within a context. This facilitates interaction with the material and with peers, requiring the practice of skills of information retrieval, selection, analysis and synthesis (Duncan *et al.*, 2007). Case-based learning is embedded in constructivist theory as students make meaningful connections between their prior knowledge and the case materials (Martin *et al.*, 2008). Duncan & Al-Nakeeb (2006)

suggest that sometimes students are unsure what to do in problem-based learning, particularly in terms of the information needed. However, in case study learning the learning outcomes are usually more clearly set out and the process is supervised, often supported by lectures (Backx, 2008). Case studies connect students to real life experience, to sharpen thinking and inform decision making (Breslin & Buchanan, 2008).

Definition of Case Study

A case study is a representation of a real-life or life-like situation. It is a representation rather than a description because it does not have to be text-based and it can contain multiple resources. A case study is a model that includes a sufficient level of detail for the learning and teaching purpose. The model is a situation or scenario based on events in the real-world. Although narrative case studies are the most common form of case study, they do not have to be limited to text-based descriptions. A case may represent a single event or provide an account of a series of actions over a period of time.

Elements of a Case Study

A simple case study consists of a scenario (the context), a statement of the issues (the focus of the case), the task (the open problem) and any resources needed for the task. Additional supporting materials (artefacts) such as documents newspaper articles or videos may also be provided.

Context

Case studies are usually based on a real-world scenario, based on a real or a realistic situation. Some facts may have been changed to preserve anonymity or to simplify the case. Chapman & Lovell (2006) emphasise that behavioural aspects such as attitude and demeanour are major issues that are sometimes overlooked in initiatives for skill development. They emphasise that employees need to understand and appreciate the context in which they are working and the objectives and culture of the organisation. For example, “a waitperson may carry plates with proficiency, but still be unsuited for a five star dining environment” (Chapman & Lovell, 2006). Employees must use judgement and discretion demonstrating sensitivity to the context in which they are working (Chapman & Lovell, 2006). Case studies can be used to construct different contexts to enable students to explore these important behavioural aspects in areas such as hospitality management.

Focus of the Case

Within a typical scenario, there are a number of possible issues to consider. For example, box 1 shows an extract from the BBC news website.

Actor David Tennant will not be returning to play Hamlet "before Christmas" because of a back injury, the Royal Shakespeare Company says. The 37-year-old, who is scheduled to have an operation for a slipped disc on Thursday, said his enforced absence was "hugely disappointing". His understudy Edward Bennett, who received standing ovations on Monday and Tuesday, will continue to stand in. Tennant's run as Hamlet at the Novello Theatre is due to finish on 10 January.

Box 1: Tennant Out of Hamlet for Surgery

(Source: <http://news.bbc.co.uk/1/hi/entertainment/7776191.stm>)

This news item could be discussed in a number of ways from a range of perspectives. For example:

- | | |
|-------------------|---|
| Physiology: | <ul style="list-style-type: none">• Nature of a slipped disc and it causes.• Different approaches to treating a slipped disc.• Physiotherapy options following the operation. |
| Customer Service: | <ul style="list-style-type: none">• Inform theatregoers about the change of cast.• Dealing with customer complaints.• Writing a press release. |

The focus of the case identifies the main issues in the situation to be explored within the task.

Artefacts

Artefacts are supporting documents and data that provide additional information about the case. This increases the 'reality' of the case, reflecting the situation in practice where a professional may be faced with information in a number of different formats such as spreadsheets, documents, tables, emails and videos. For example, box 1 (the news article) could be supplemented by an x-ray of a spine, a set of results demonstrating the parameters of mobility after the operation, a theatre programme or a letter from a theatregoer to add interest and enrich the case.

Resources

It is useful to provide an indication of the resources that may be required in using the case study. This is particularly important to enable case materials to be shared amongst colleagues for use in other classes. It may include:

- Materials students may need during the task, such as access to specific software or charts.
- Materials students may need to present their results such as worksheets or report templates.
- Hints to students about what materials they could refer to during the task to help them with the task such as a chapter of a textbook or a journal article.

In addition, it is useful to give an indication of how long students may need to complete the task in order to assist with lesson planning.

Open Problem

Students need to be given clear instructions about what they are required to do with the case material. This might be an open-ended question such as 'what would you do next in this situation?' or it might require students to develop a solution. Problem-based learning embodies many of the principles that improve learning: encouraging students to actively engage with material, cooperate with peers and receive feedback (Duncan & Al-Nakeeb, 2006). It provides an opportunity to practice skills such as problem solving, interpersonal and teamworking skills (Duncan & Al-Nakeeb, 2006). Bruner & Foerster (2004) suggest that pedagogical objectives in using case materials should be action-oriented e.g. to explore, to analyse, to discuss. For example, students could be asked to analyse the situation, explore the situation from the viewpoints of different actors in the case study, provide recommendations, discuss issues to consider when evaluating different courses of action, suggest an approach, apply specific tools or techniques to a case study. Examples of case materials are provided in part 3 of this guide.

Benefits of Using Case Studies for Active Learning

A case study provides a realistic context to illustrate a point or provide a context within which to practice applying skills. A case reflects some of the complexity of the real-world by retaining a holistic view of a situation. We often think of a case study as being a narrative description but a case study can comprise of a series of materials, such as documents, artefacts and interviews (this is discussed further in part 2). A major benefit of

using case studies is that it adds interest to the learning experience making learning enjoyable for both staff and students.

88.7% of students agreed that they liked to read cases (Wright, 1996).

Case studies provide an opportunity for the development of transferable key skills such as communication, group-work, information gathering and analysis, problem solving, time management, presentation skills as well as increasing the students' enjoyment of the topic and hence their desire to learn (Backx, 2008). A case study approach to learning encourages students to share knowledge and information through group work and discussions. Backx (2008) suggests that the benefits of a case study approach include: improved information retention, improved communication skills, improved attendance and development of interpersonal skills.

Further benefits include the:

- Real-world context, which illustrates how the material taught applies to the real world.
- Motivation of students, as students can see how the material directly relates to the real world and their future careers.
- Complexity of the real-world is reflected, demonstrating how data is often not clearly defined.
- Opportunity for students to explore multiple perspectives. Students can identify alternative views from the actors in the scenario who may want different outcomes and students can see how a decision may impact people differently.
- Requirement for critical analysis, to analyse data to reach a conclusion.
- Synthesis of course content, a case often requires a range of techniques to be selected and applied.
- Opportunity to embed research and third-stream income activities in teaching.

Elliott (2005) recognises the benefits of active learning, such as a gaining a deeper understanding of ideas and higher student achievement through engagement in the learning process, but also identifies some of the intrinsic factors that may impede student interaction, such as class size and the time of day.

Using Case Studies

There are a number of different types of case studies which students can use individually or in groups. Yin (1994) identifies four applications of case studies to:

- Explain causal-links in a real-life intervention.
- Describe a real-life context in which an intervention has occurred.
- Serve as an evaluation tool (a descriptive case study of an intervention be evaluated).
- Explore a situation in which intervention being evaluated has no set outcomes in order to generate and test theories.

Case studies can be used to:

- Demonstrate the application of theory in practice, providing examples of good (and perhaps not so good) practice.
- Facilitate problem solving and decision making by providing a context within which to apply models, tools and techniques.
- Encourage critical analysis and discussion.
- Develop critical and creative thinking skills.
- Enhance employability, providing the opportunity to practice skills in a realistic scenario.

Activities using the case study can include for example:

- Analysis: students can individually analyse the main issues in a situation.
- Role play: students are assigned roles in the case study to explore different views.
- Webquest: students search the Internet to find further information about an issue.
- Diagnose a problem: students diagnose the underlying problem based on the case material. This requires students to identify the relevant and irrelevant data in the case.
- Jigsaw: students are each assigned a section of a larger case study or separate tasks within the case and then have to bring the findings together in a class workshop or presentation.

Issues to Consider in Using Case Studies

The effectiveness of the case method can be affected by the quality of the case materials. Cases are by necessity incomplete and there is a need to accurately represent an appropriate degree of complexity. The following issues need to be considered when using case studies for active learning:

- Length of case study: Case studies can consist of one paragraph to introduce a scenario or can be several pages in length to provide a detailed situation to analyse. Longer case studies have potential for deeper analysis, supporting a wider range of discussion and facilitating problem-solving. Shorter case studies can be used to provide an example from practice or introduce a problem allowing students to discuss alternative approaches to investigate it.
- Type of case study: A range of types of case materials are discussed in part 2. A case does not have to be a narrative description. It is a collection of material that presents a realistic source of information for students to engage with to support specific learning outcomes.
- Sources of case study: Case study resources are discussed in part 3. Potential sources of case materials include:
 - Newspapers and trade journals.
 - Internet.
 - Guest lecturers.
 - Industry speakers.
 - Student placements.
 - Student projects.
 - Research projects.
 - Third-stream activities.
 - Knowledge transfer partnerships (www.ktponline.org.uk).
- How to assess case study work: Students need detailed information about what is expected from them in using the case study and how to present their findings. Students might be asked to provide a list of recommendations of how to address a problem in the case study or produce a 10 page report for the 'client' in the case study. In specifying the assessment criteria it is important to emphasise the difference between *analysing* the case study and *describing* the case study. If

students are working in a group, it is useful to have some of the marks attributable to individual students or to incorporate some form of peer assessment.

Writing Case Studies

Despite the availability of published material there are benefits in instructors researching and writing their own cases (Jennings, 1997). Self-produced cases can focus on situations which are recent in nature and are not covered by published material. Cases can also be written to meet specific teaching objectives, the needs of particular student groups and the time available (Jennings, 1997). However, researching and writing cases is a time-consuming process. In part 2, a staged approach to developing case material is presented to help staff develop interesting material within a realistic timescale.

A major trap in writing case studies is that of telling the learner rather than providing a means for the learner to discover for themselves (Bruner, 2004). Box 2 presents an example of a lecturer who fell into this trap of 'telling' in case studies rather than letting students discover for themselves. The problem-posing characteristic of case studies, the "ability to look at a business situation from a variety of perspectives and to frame the issue at hand" (Greenhalgh, 2007), is important in providing the context within which to develop skills and explore behavioural aspects.

A two page case study was written which described the situation at a small local company. Students were asked to use the case study to identify key issues that the company needed to address in its business strategy. After diligently reading the case study a student said "I can't find the answer. Where does it say what the key issues are?" The student was looking for a specific sentence which stated that "the key issues in the company are..." The lecturer wanted the students to use the case study to analyse the situation that was portrayed and identify issues that the company needs to address. Concerned of the difficulty particularly weaker students had with this exercise, the lecturer rewrote the case study to include hints to students throughout the two pages along the lines of, 'a key issue is...customer requirements are an issue that the manager needs to consider".

Discuss whether this was an appropriate response by the lecturer and consider alternative ways of helping students to use the case study.

Box 2: Experience of Writing a Case Study

Van der Blonk (2003) proposes a typology for writing case studies based on two dimensions: the degree of complexity in the case study and the number of views expressed within it. The typology in figure 1, defines four types of case studies:

- Chronological: historical presentation of facts along a timeline.
- Biographical: chronological description of the life of an individual.
- Play: dramatic story directed by the author based on facts.
- Voices: meanings and social constructs facilitated by the author through the interactive complexity of different points of view.

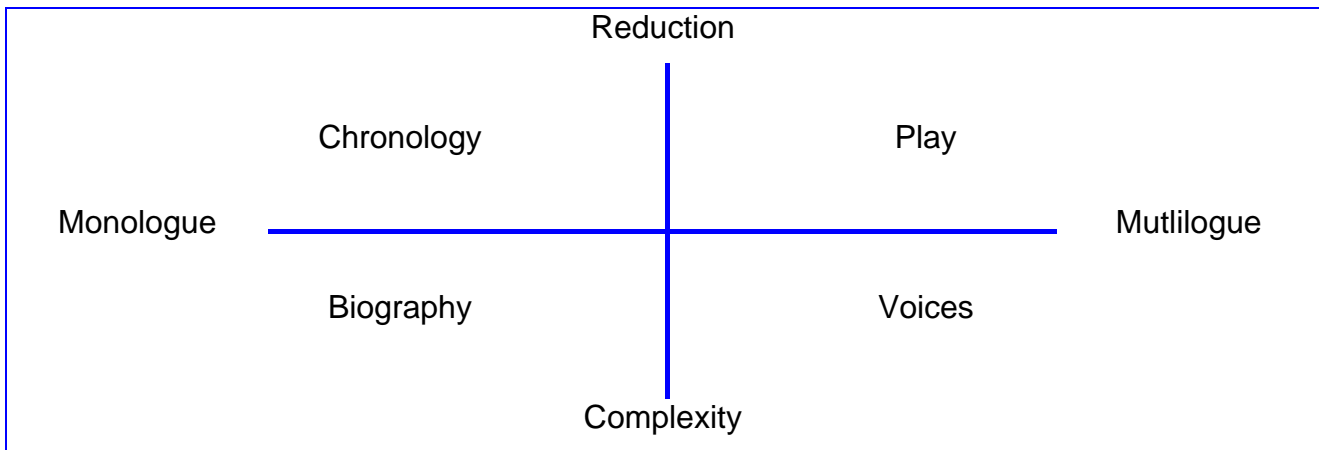


Figure 1: Typology of Case Studies (source: van Der Blonk, 2003)

Patton & Appelbaum (2003) outline the following approach for conducting a case study:

- Determine the object of the study.
- Select a case relevant to the object of study.
- Build initial theory through a literature review.
- Collect and organise data.
- Analyse the data and develop conclusions.

Bruner & Foerster (2004) suggest that a great case study is:

- Flexible, relevant to many learners at different levels.
- Transformative, encouraging the learner to gain new insight or a new perspective.
- Dramatic, including conflicts to draw the reader into the case.
- Decision-oriented and action-driven as students make meaning by converting analysis into action.
- Well-written, clear and succinct.

The Global Travel and Tourism Partnership

(<http://www.gttp.org/docs/HowToWriteAGoodCase.pdf>) describe a case study as:

“a puzzle that has to be solved”

and suggest that: “writing an interesting case study is a bit like writing a detective story”.

Role of Technology

‘Flat’ narrative case studies can promote surface learning strategies, reducing the richness of discussion intended. The use of multimedia resources encourages students to interact with the case material but there is conflict between the benefits of technology for autonomous learning and the benefits of peer interaction (Kennewell *et al.*, 2008). Technology provides opportunities for new ways of interacting with case material promoting discovery (Johnson & Stubbs, 2005) but it is important to distinguish between *technical interaction* between the student and technology, and *pedagogical interaction* between students and between students and teacher (Smith *et al.*, 2005). Kennewell *et al.*, (2008) suggest that a taxonomy of interaction is needed which includes technical interactivity, pedagogical interactivity and *contextual interactivity* which encompasses human, physical, cultural and technological elements. Writing case studies involves the creation of an experience which results from the interplay between the problem, task and setting (Bruner, 2004). Further consideration therefore needs to be given to the participatory framework of the case experience, within which students not only interact with the media, but interact with each other and the lecturer about the case material.

Heckman & Annabi (2006) emphasise that the role of the lecturer changes in online case discussions. In a study by Hutchings *et al.*, (2007) web-based case studies were delivered concurrently with conventional teaching methods including lectures and seminars. Hutchings *et al.*, (2007) conclude that “web-based case studies can be effective learning media but it has also highlighted the importance of situating case studies within a wider learning environment, enabling them to be supported by opportunities for collaboration and sharing with peers and guidance and support from teaching staff”.

Kennewell *et al.*, (2008) propose the ATLAS framework (**A**nalysing **T**eaching and **L**earning in **A**ctivity **S**ettings). It incorporates the ideas of pedagogical knowledge, activity theory and affordances. Affordances can provide potential for actions or constrain actions providing the boundary and structure of learning activities. Figure 2 illustrates the technical and pedagogical interaction within case learning environments. This framework may be used, with other specific online learning models (e.g. Salmon, 2000; Cox, 2005;

Cox & Hollyhead, 2008) and established theories of interaction (e.g. task-artefact cycle, Carroll & Rosson, 1992) to explore the pedagogic interaction surrounding multi-media case resources.

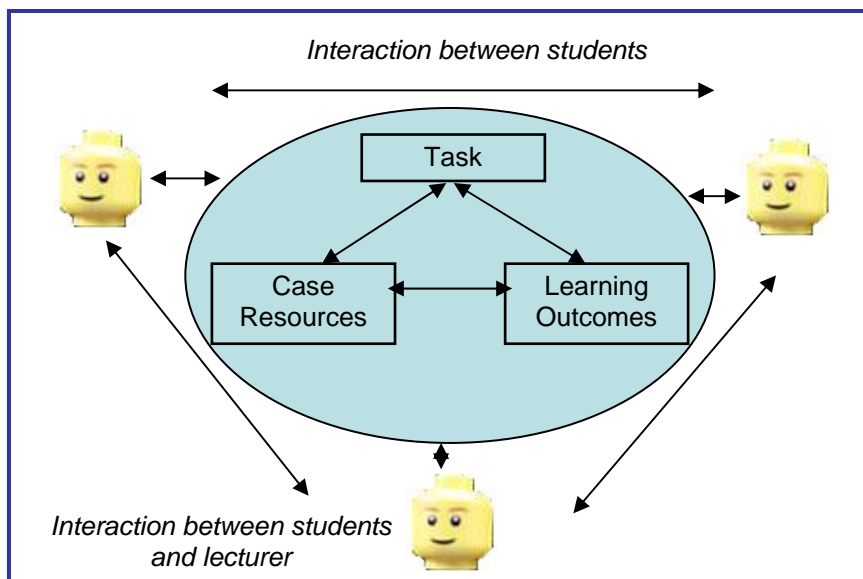


Figure 2: Interaction in Case Environment

Part 2: CASE MATERIALS

Writing case studies is time consuming but has the advantages that you can reflect your own experience and direct it at the learning needs of your own students. This section outlines a staged approach to developing case studies and provides examples of how case studies can be used to encourage active learning both in the classroom and online.

Stage 1: Narrative Case Study

A 'typical' descriptive case study that is shown in box 3.

Tanya has successfully completed the second year of her degree course in hospitality management. During the summer, she sees an advert for a job in new cocktail bar. She applies for the job and is given an interview with the owner Mr Elmtree. At the interview Tanya outlines her previous work experience at a local club.

Box 3: Narrative Extract: Tanya at Shakers Cocktails Case Study

This type of case study describes a scenario. The words chosen set the scene by starting to draw a picture in the reader's mind. It builds on our interpretation of meanings, stereotypical images and our prejudices which may later be challenged as the case develops. In writing the case study we need to consider the:

- Information that students need.
- Information that students do not need.
- Choice of names and settings.

A balance is needed to provide sufficient information to:

- Set the scene.
- Support the task.
- Reflect the complexity of the real-world whilst still enabling students to meet the learning objective of the task.

If there is too much information in the case study, it may become too confusing or not leave sufficient 'space' for the students to work and analyse the scenario. In contrast, too little information in the case study may give students the impression that the task is too simplistic and not enable them to explore the inter-relationships in a rich and meaningful way. If we only provide students with the minimum information they need for the task, students miss the opportunity to evaluate and select relevant information.

In reviewing the example of Shakers Cocktails in box 3 we need to consider:

- What do we know about Tanya? This is the summer before the third year of a degree course and she has previously worked in a club.
- So how old do we think she is?
- What might she look like?
- What skills may she have?
- What sort of experience might she have gained from working in a local club?
- What skills might she need for working in a new cocktail bar?
- What might the cocktail bar be like?

We do not know the answer to these questions from the case study, but we all have a conceptual image of Tanya in our minds from the case study description. As the case study develops, so our image of Tanya will develop too. The emphasis on Tanya at the start of the case study helps students to associate with Tanya and identify the skills and challenges that she faces in her interview and new job.

We therefore need to consider the most important elements of the case study on which we want students to focus. For example, the case study could have been written in a different way:

Mr Elmtree is the owner of a new cocktail bar called Shakers Cocktails. The bar is due to open in two weeks in the centre of Birmingham. He interviews a student from the local University who has previously worked in a local club.

Box 5: Narrative Extract: Mr Elmtree at Shakers Cocktails Case Study

The extract in box 5 focuses more on the needs of the club and as the case study develops, it may focus more on the management needs of the club, rather than the skills and experience of one employee.

Stage 2: Episodic Case Study

Narrative case studies can become long, especially if we need to explain a series of events over a period of time.

83% of students disliked long case studies (Wright, 1996).

One way to address this problem is to develop a series of case study episodes to reflect a time line. Using the Shakers Cocktails case study, this may include:

- Episode 1: Recruiting staff.

- Episode 2: Preparing for the opening.
- Episode 3: Opening night.
- Episode 4: 6 months later.

Each episode can provide a narrative description of the events at a particular stage in the company's development. This helps students to focus on one stage at a time and has the advantage that students can see how situations change over time introducing new challenges. This also has advantage for lecturers as one case study can be used throughout a module to support a range of learning outcomes. Episodes may be released to students at relevant stages during the module to create a 'soap-opera'. The case study can also be used in different ways. For example, the episode on recruiting new staff might be used to illustrate best practice in interviewing and the episode on preparing for the opening night might be used for a problem solving exercise.

Stage 3: Scripted Case Study

One way of bringing case studies more to life is by the use of dialogue.

86% of students preferred cases that incorporated dialogue (Wright, 1996).

This requires lecturers to review the narrative which describes a situation and replace the description with a conversation. For example, rather than saying that Tanya had an interview with Mr Elmtree, present students with the interview (box 6).

<i>Mr Elmtree:</i>	Good Afternoon Tanya, thank you for coming. Please take a seat. I see from your CV that you have worked in a local bar. Can you start by telling me about your experience in customer service?
<i>Tanya:</i>	I have worked at a bar for 6 months and before that I was a waitress at Gino's Pizzeria.
<i>Mr Elmtree:</i>	And what do you do at the bar? Are you a waitress there serving food or do you work behind the bar?
<i>Tanya:</i>	I do both depending on what shift I am on.
<i>Mr Elmtree:</i>	Have you had any training in bar management?

Box 6: Scripted Extract from Shakers Cocktails Case Study

The script can be used as the basis for a four part role play exercise:

- Students act out the script.
- Students discuss what happened in the scenario, what went well, what did not go well and how the situation could be improved.
- Students rewrite the script and then act it out.
- Students discuss how the revised script changed the situation.

Stage 4: Audio Case Study

Scripted dialogue lends itself to being recorded to form an audio case study. This can be achieved in a number of ways, however, the first thing to consider is what do the characters sound like?

An audio recording adds another layer of richness to a case study but it also adds further challenges in preparing the case study. Voices and accents can indicate characteristics of age, ethnicity, social class which more explicitly defines the scenario. It narrows the scenario from being, for example, an interview between a student and an owner of a cocktail bar to being an interview between a nervous, hesitant, 21 year old female from Yorkshire and a confident, well spoken, 45 year old male with a African accent. This changes our perceptions of the case study scenario. On the one hand, the further detail we can interpret from hearing the voices provides a more detailed scenario to discuss and analyse. On the other hand, the scripted case study was more open ended and allowed for a number of different interpretations to be explored in the classroom. Part 3 provides guidelines for creating an audio case study.

Stage 5: Visual Case Study

Students can find listening to an audio file a little disconcerting if there is nothing to look at. It is therefore helpful to provide something to look at, even if it is just a slide with the name of the case study e.g. 'Interview at Shakers Cocktails'. Keegan (2007) discusses the importance of images to stimulate memory and maintain attention in lectures.

85% of students said they would like lecturers to use more visual images in teaching (Keegan, 2007)

Adding static or moving pictures to the scenario adds further richness to the case study. However, before rushing off with a camera or video camera, careful consideration is needed about what additional information and value the images will add to the case study and how they may change the way the case study will be used.

For example, what does a photograph of the outside of Shakers Cocktails add to the case study? It may give an indication of its size, location, style, expected clientele. Students will look at the photograph and make valued judgements about the business; they may think 'it is like the Crystal bar where we do not go because it is too expensive and is aimed at businessmen' or 'it is like the Pink Flamingo where we went last week'. This will affect their opinions about the rest of the case study material presented and will affect how they interpret and approach the tasks associated with the case study. This may be hugely beneficial as it provides an opportunity to discuss 'what do we think this bar is like? What image is it trying to convey? How should that image be maintained within the bar?'. However, it may also be an unnecessary distraction that leads students in a wrong direction.

Care is needed to ensure that the images and audio present a consistent image – or if they are inconsistent, this is deliberate to support leaning. For example, the photograph of the outside of the bar may show an old sign in a state of disrepair yet inside the bar it has modern expensive furnishings where the cheapest drink costs £8. This would provide the basis for students to identify the inconsistency and make recommendations to the owner of how to address the problem.

In contrast, if the case study scenario was about how to manage stock levels, then does a photograph of the outside of Shakers Cocktails add any value to the case study?

A narrative case study may be sufficient such as in box 7.

Shakers Cocktails offers 100 different cocktails and during a typical weekend it can serve over 5000 individual drinks. The most popular cocktails are vodka-based and it important that an appropriate level of spirits is maintained, particularly over the Christmas period.

Box 7: Narrative Case for Stock Control

Alternatively, a scripted case study may be used. Box 8 presents a meeting with the owner Mr Elmtree and the bar manager Robert to discuss stock.

Mr Elmtree: How was business over the weekend?

Robert: It was about average, we served just under 5000 drinks. The new range of vodka-based film-themed cocktails went well. I think we should review our spirits orders over the next few weeks.

Mr Elmtree: Yes, we don't want to run out over Christmas.

Box 8: Scripted Case for Stock Control

Box 9 presents an exchange between the bar manager Robert and a customer to reflect stock management from a different perspective.

Customer: Three Indiannas and two Love Actuallys please

Robert: Sorry, we're out of vodka. We can only make cocktails from the Sports theme and Around the World theme of the menu.

Customer: No vodka? What sort of bar runs out of Vodka on a Saturday night?

Box 9: Scripted Case for Customer Service

Would a visual image add value to the scenario and to what you want students to get out of the case study?

Does a photograph of busy bar or a video of a customer being told they cannot be served, add value beyond that in a narrative or scripted case study?

If the learning outcome related to dealing with customers, then a short video clip may be useful to show how to, or how not to, deal with a situation. Alternatively, if the learning outcomes relate to managing stock levels a narrative or scripted case may be sufficient, perhaps supported by spreadsheets of stock inventory and sales figures.

In developing a visual case study, consideration needs to be given to:

- What do the characters look like?
- What cultural and stereotypical assumptions do they portray or invoke?
- How do the characters behave?

If we return to the previous example of Tanya being interviewed by Mr Elmtree, we now need to consider what we want each of these people to look like. We have to cast our case study. If we include moving images we also have to direct the action and consider how body language changes the interpretation of events.

If the case study is being used to teach interviewing techniques then a video may be useful to highlight good and bad practice and provide a basis for discussion. If the case

study is being used to teach setting up a business then the interview is important as part of selecting staff with appropriate skills, but it is only one part of a larger context and so may be an audio file or written script is sufficient for discussion?

If the case study is about the skills needed by staff in a club, the interview may be a good way to introduce the 'characters' who then move onto serving customers and dealing with day-to day problems. In this situation, a narrative may be sufficient at the start and scripted scenarios used later to enable students to work through problem scenarios and develop skills in decision making.

Visual files add richness to the case study but visual material takes time to develop and the added value to the learning experience may not justify the extra time spent. Box 10 is a case showing how one lecturer addressed this problem.

I wrote a script of an interview to demonstrate to students how hard it is for an interviewer when they only respond to questions with brief answers. I asked for two volunteers in the class to read the script – it was a disaster! The volunteers stumbled over the words and lost their place and the rest of the class were sniggering at the performance rather than listening to the script. These were not budding actors!

I recorded the script for the next delivery of the module but I felt I needed to display some sort of image while the recording was being played. I then got hung up on what the characters looked like. In terms of the interview it didn't matter what the characters looked like, I didn't want to offend anyone and I didn't want to bring in issues of race or culture into the scenario. Then I saw my daughter playing with her Lego – who could be offended by a Lego figure! But it still wasn't that simple. I asked my daughter to make me a couple of figures and she asked did I want boys or girls; black, brown, grey hair or caps or hard hats; happy or scary heads; with beards or glasses; red, blue, yellow, grey or brown legs; wearing shirts, overalls or t-shirts! We eventually built the figures and a little desk to go with them and I photographed them to use in my class (box 11).

Of course the class thought it was funny but I used a series of similar Lego photographs while the interview was playing. It gave students something to look at, it didn't offend anyone but did add a little to the case study too as we all then had the same image of what the characters looked like.

Box 10: Case Study of Creating a Visual Case Study



Box 11: Opening Scene of Interview

Stage 6: Interactive Case Study

The previous stages of case study development have related to creating a representation of a scenario which can form the basis for illustration, analysis, discussion or application of problem-solving or decision-making techniques. The next stage of case study evolution is to provide material which students can interact with so that they can see the effect of their decisions or actions in the case study.

There are a number of simulation tools but Vensim PLE (<http://vensim.com>) is a freely available simulation package enabling models of dynamic systems to be created. It provides a visual simulation of the performance of a system over time, facilitating causal tracing and system optimisation. Students are able to visually represent situations using a dynamic model to analyse the effectiveness of their actions ideas over time. For example, TE3 (listed in part 3) provides a set of teaching resources to enable to students to create business plans and critically evaluate their proposals within different future scenarios and visualize the effect of changes to their plans.

Figure 3 presents a simulation model (Cox, 2006). The model is part of a case study called The Car Wash which is about two graduates who start up their own car washing business in order to finance their ambition to move into car sales. Students have developed the model from a narrative case study. Students can make decisions about, for example, staffing levels and pricing and change the figures in the model. They then choose how long they want the model to run for (e.g. a week, 3 months, 5 years) and they can see the effect of their decisions. For example, the model graphically shows how many cars they need to wash each week in order to cover their costs. Similar simulation models could be developed to explore, for example, resourcing issues replacing the cars with hotel guests booking in and checking out or financial modelling and demographic modelling for tourism. Applications of simulation modelling in sports are discussed by Feng *et al.*, (2007).

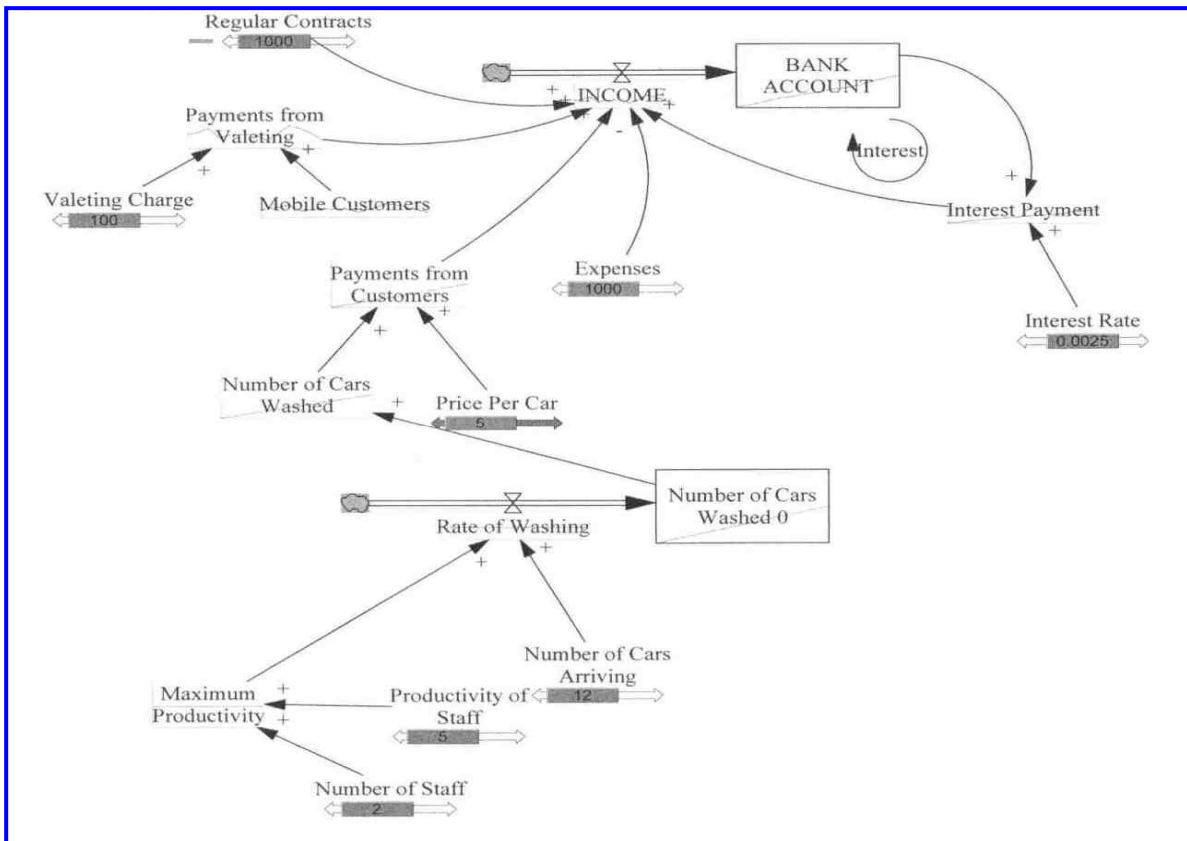


Figure 3: Simulation Model Created in Vensim Ple (Source: Cox, 2006)

Edelheim & Ueda (2007) discuss the Hotel Operation Training System (HOTS), a computer-based simulation suite for the service industry. Feinstein & Parks (2002) categorise simulations as:

- Symbolic simulations which replicate systems through mathematical process in spreadsheets.
- Analytical simulations of phenomenon to support decision-making (e.g. flow of guests in a hotel).
- Instructional simulations used for training purposes.
- Visual, auditory or kinaesthetic representations, such as flight simulators and video games.

Serious gaming adds a layer of multimedia animation over the simulation model. There is debate about whether animation adds value to a case study. Some argue that it is the simulation model that is important, enabling students to see the effect of their decisions, for example, to show that their plan will result in huge losses within 6 months or that inadequate staffing will result in excessive queues. Others argue that students have high expectations about the quality of multimedia resources from hours of play on gaming

consoles and therefore suggest that it is not feasible for academic to strive for such high quality materials.

Introduction to Serious Games

A game is a structured activity providing entertainment. Wittgenstein argued that the concept "game" could not be contained by any single definition, but that games must be looked at as a series of activities with shared elements such as:

- Rules.
- Competition.
- Challenge.
- Interaction.

Games have been used in the areas of business and management since the First World War to provide opportunities to practice and develop skills such as decision-making in realistic contexts. Transferring theory into practice can be challenging but business games enable participants to engage in 'on the job' situations. Games provide the realism of having to consider a large number of interacting variables all at once allowing participants to gain insight into the effects of their actions within a changing and uncertain environment. An example is provided in box 12. The gaming environment provides an informal and safe arena within which participants can build confidence and have fun as they learn. Serious gaming is used in areas such as business, management, hospitality and sport as an exciting way to improve learning and teaching using state of the art computer game designs and technologies.

McLaren's simulator, developed over the past eight years at a cost estimated to be above £20m, has been Hamilton's schoolroom. Lewis Hamilton sits in a full-size formula one car, minus wheels and a functioning engine, in a darkened room in front of a large, curved plasma screen. The chassis is suspended on a multi-point hydraulic rig which moves in response to his touches on the steering wheel and pedals as he watches a circuit unfold on the screen, with appropriate sound effects

Box 12: McLaren's Simulator (Source:

<http://elianealhadeff.blogspot.com/2007/06/formula-one-leveraging-on-serious-games.html>

The benefits of serious games include:

- Ability to observe key issues in a real-life setting.
- Enabling students to practice decision making techniques.
- Engaging learners as participants in the learning process.
- Providing feedback so participants can learn from experience or mistakes in a safe environment.
- Providing realism of having to consider a large number of interacting variables all at once.
- Time compression to review the effect of decisions over a period of time.
- Building up the confidence of participants while they have fun as they learn.

A good game is:

- Fun.
- Competitive.
- Easy to understand.
- Not too long.
- Relates to real-life.
- Achieves objectives.
- Has clear learning outcomes.

Bloom's Taxonomy (1956) of educational objectives can be used to formulate the learning programme in the game. Each level in Bloom could equate to a level in the game to demonstrate progress as challenges and skills increase.

Issues to consider in using serious games include:

- Duration of game: should it be 20 minutes of play followed by a discussion session or an hour of play or longer?
- Frequency of play: is it a game to play once or several times during a module?
- When and where to play the game: in the classroom or at home?
- Accessibility issues: it is important to consider issues of dyslexia and epilepsy, as well as ensuring that the game meets other accessibility needs of students. In addition, some people suffer from motion sickness when moving through game scenes.
- Platform: computer download, Internet-based, mobile phone, gaming console?

Before investing substantial resources in serious gaming two further issues need to be considered:

- How will the game add value to existing case material to address specific learning outcomes?
- Is the case study sufficiently developed for a game?

There is an immense time commitment to developing a game and therefore the use of the game must be significant to justify the commitment. There is a risk that students will get bored of the game and that staff tie themselves to the one case study in the game which can be restrictive.

Boxes 13 and 14 present two cases reflecting the different experiences of lecturers.

“After the Lego figures worked well I then thought of animating the case study and developing the case into a computer game as a colleague has just developed a game for the Xbox 360. At first, this was something I really wanted to do but gradually reality sunk in. It would take a lot of my time so I had to be sure it was the right thing to do. I realised that the value of the Lego case study wasn’t so much the material but more the discussions with and between the students about the material. It would be nice to have a number of alternative scenarios so students could see what would happen if Ryan [one of the characters] said something different but the benefit of that ‘nice to have’ wasn’t worth the investment of my time. I like using case studies in my teaching but I get bored with the same one, particularly if I am using the same case study in different modules. I don’t want to commit a big investment into one case study. But I have talked to colleagues about writing a game which we could use across all modules in one year of a course. This would mean we could look at the same case study in different ways depending on our modules.”

Box 13: Case for Not Developing a Serious Game

“The development of the Virtual Case Creator [see resources] is brilliant. It shows an image of a patient in a ward with various things around them such as side table, water jug, slippers, walking frame. The student listens to a brief recording which is the typical hand over of patient and then they have to decide what action to take. We have lots of plans to develop more scenarios and add more patient cases to the ward over time. It is extremely realistic and adds to the enjoyment of the learning experience.

Box 14: Case for Developing a Serious Game

Staff who are competent in software programming (or have access to someone who is) may be interested in the Microsoft XNA Game Studio. This is a free programming environment which enables games to be written which can then played either on a personal computer or on a Microsoft Xbox 360.

Stage 7: Contextual Case Experience

Case studies are an effective way of providing a context in which to develop employability skills. However, in the real world, an employee does not get a written narrative or a script of situation. They are immersed in the situation of events, interactions, stories, culture and documents. Simulation and gaming try to capture some of this range of material but you do not have to commit to developing a computer game to improve case studies. Box 15 presents an example of how materials, that are relatively easy to produce, can add to the richness of the case study.

“I wrote the script of an interview to discuss with students but I realised that the interview was only part of the context. So I edited a published job advert and created a typical student CV to provide a more rounded and complete scenario. This had the benefit that it told the story of the situation and allowed us to discuss the interview in class from both the interviewer and interviewee perspectives. It also widened the scope for using the case study as students later worked in groups to edit the CV and job advert. This meant I could use the case study to support different parts of the module. I had previously used a number of short cases during the module to support different aspects of the curriculum but using one case study throughout the module provided continuity and enabled students to study the case in more depth. This enables issues and ideas to emerge throughout the module”.

Box 15: Case for Developing Case Materials

A range of resources (such as documents and interview transcripts) can be used to move from narrative descriptions to developing rich meaningful contexts. We need to further consider how students use and respond to case material to create the context for the case experience. We need to consider what resources we provide to students and what we want them to do with those resources. This becomes more complex as we enrich the case study and provide a range of case materials.

For example, we can give students a paper narrative case study and ask them to analyse it or apply a technique to it or discuss it in a group.

If we give students a job advert and an interview transcript we have to tell them to read the advert, identify the requirements of the position, analyse the interview in terms of how the interviewer seeks to determine if the candidate meets the requirements of the position.

When we make these resources available online, we need to make sure that some guidance is given to students about what resources to use, when and what we want students to do with the different resources. We also have to organise the material in some way. SBL Interactive [see resources] provides a framework for creating and presenting case materials.

In a game, the instructions are less explicit. Visual clues, affordances, are given to provide an indication to students that resources exist which they can look at. For example, a paper on a desk may be read by clicking on it. In this way, the game reflects the real world in that students discover the resources available to them. However, there is a difficult balance between providing students with a list of all the resources and artefacts available to them and maintaining an element of discovery, whilst ensuring that all materials will be 'found'.

Part 3: RESOURCES

This section provides further guidance on creating and using case resources, examples of case materials and links to further resources.

Check List 1: Issues to Consider when Using Case Materials

- What is the purpose of the case study?
 - How much detail is needed?
 - How many levels of abstraction are needed in the case experience?
 - narrative (text)
 - script
 - audio (interview)
 - visual (static or moving images)
 - interaction (game)?
- How will the students interact:
 - with the case material?
 - Read?
 - Role play?
 - Listen?
 - Discuss?
 - Analyse?
 - with each other?
 - with you?
 - with the technology?
 - Download material?
 - Complete an online survey?
 - Compete in an online quiz?
 - Participate in an online discussion?
 - Create a blog¹?
 - Create a wiki²?

¹ A blog is an online diary which can be used to facilitate student reflection (Cox & Hollyhead, 2007)

- Create or manipulate a simulation model?
- Play a simple game, such as a card sort, or a more interactive serious game?

Check List 2: Issues to Consider when Sharing Case Materials

To make case study resources shareable, include the following essential information to help colleagues incorporate the resources into their lesson plans.

- Length of time needed to use the case study.
- Level of student knowledge (e.g. second year undergraduate).
- Aim of the study, the focus of the open problem.
- Key skills to be developed to support achievement of learning outcomes.
- Pre-requisite knowledge needed to complete the task.
- Assessment, guidance on how to assess the task.
- Specific Materials needed, such as worksheets, software or charts.

Guidelines: How to Create Audio Files

Dictaphones provide a simple means of recording a script if you can find willing 'actors'. Be careful of asking colleagues, who the students may know, to help with this as when the students hear the case study, they may spend time trying to 'guess the lecturer' rather than concentrating on the scenario!

Recording people's voices to use in the case study also raises ethical issues. You need to consider, and inform participants, how the case study will be used. For example, will you play the audio recording in your class, or make the audio file available to students on an e-learning system? Will students be able to download the file? (if so, they may change the file or post it elsewhere on the internet!). Your original intention might be to use it in one class but at a later date you might find the recording can be used in other classes and other staff may want to use it too.

An alternative way of recording the script is to record yourself and then use voice changing software (called voice morphing software). To do this:

² A wiki is the use of an editable web page to enable collaborative working and writing (see: <http://www.wikijob.co.uk/wiki/what-wiki>)

1. Record yourself saying one line of the script e.g.

<i>Tanya:</i>	I have worked at a bar for 6 months and before that I was a waitress at Gino's Pizzeria.
---------------	--

This can be recorded via a Dictaphone or by using your computer.

In Microsoft Windows this can be done by:

- a) Clicking on **Start**, then clicking on **All Programs**, then clicking on **Accessories**, then clicking on **Entertainment** and then clicking on **Sound Recorder** (see figure 3)

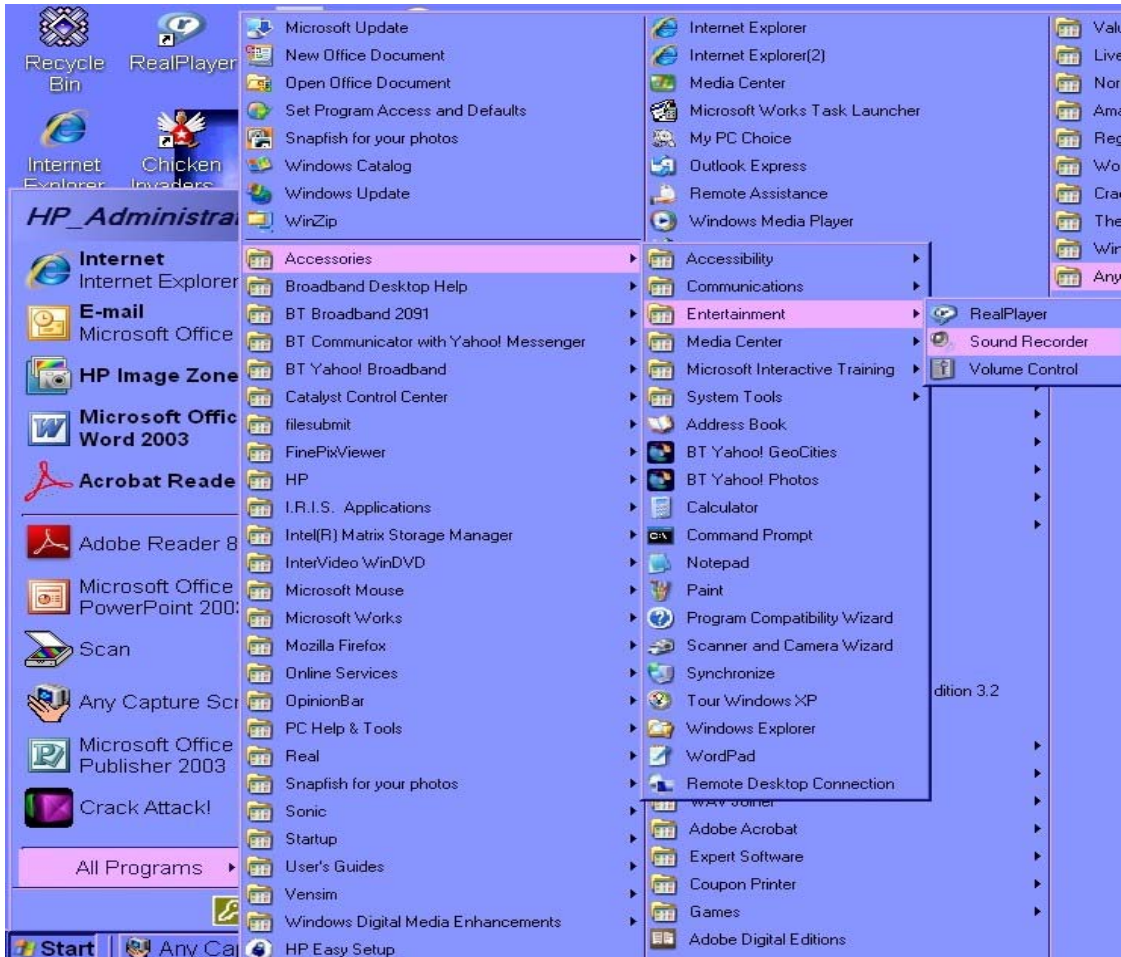


Figure 3: How to Access Windows Sound Recorder

- b) This opens the Windows Sound Recorder on your computer (figure 4).



Figure 4: Windows Sound Recorder

- c) Use the red button to start and stop recording your message.
- d) Save your file by selecting the following from the file menu in the sound recorder.

- Select **File** then **Save As**
 - Type the file name and click on **Save**
2. Morph the file by using voice changing software.

There is a range of morphing software available but a free version is available:

MorphVox Pro www.screamingbee.com

3. When you have recorded and morphed all the files needed for the script, the individual voice files can be combined into one .wav file using freely available waver joining software (e.g. <http://www.cfbsoftware.com/wavjoiner/wavjoiner.aspx>)
4. The audio file can then be played, or inserted into a PowerPoint presentation. This can be done from the **INSERT** Menu in PowerPoint. Select **OBJECT** and then click on the circle next to **Create from File** and then select your voice file from your directory (see figure 5).

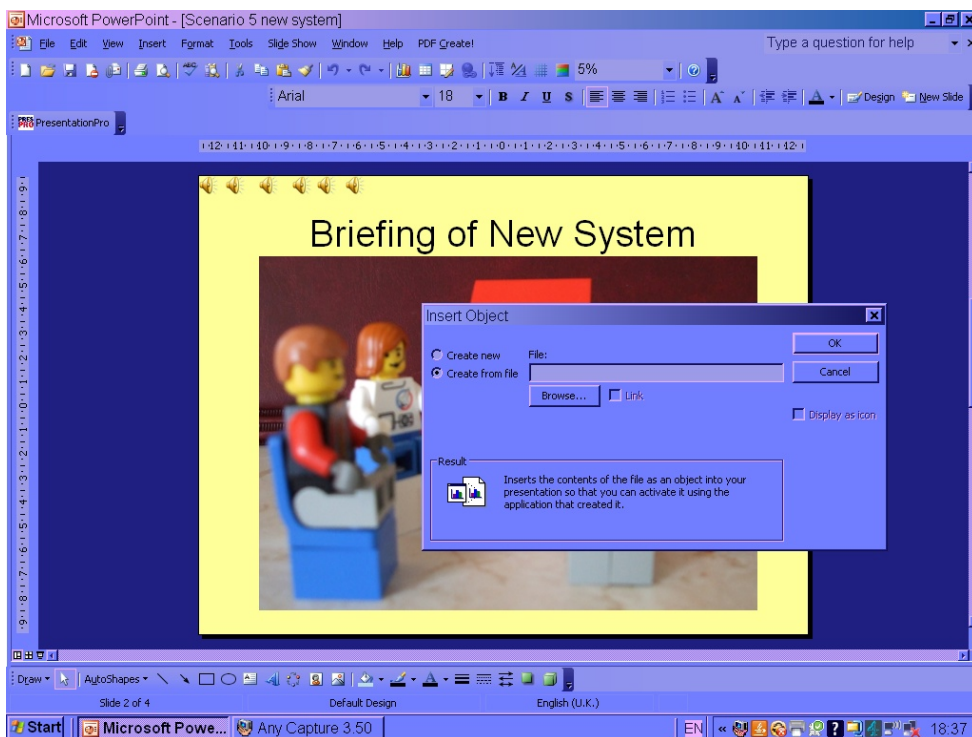


Figure 5: Inserting a Voice File into PowerPoint

Case Study 1: David Tennant at the Novello Theatre

Title	David Tennant at the Novello Theatre
Focus of the Case Study	Inform theatregoers about the change of cast.
Task:	In groups discuss what information needs to be given to theatregoers and how they might react to the news. Prepare a flyer to be distributed with the theatre programme informing the audience about the change of cast.
Resources:	2-3 hours Microsoft Publisher http://www.press-release-writing.com/10_essential_tips.htm
Scenario:	Actor David Tennant will not be returning to play Hamlet "before Christmas" because of a back injury, the Royal Shakespeare Company says. The 37-year-old, who is scheduled to have an operation for a slipped disc on Thursday, said his enforced absence was "hugely disappointing". His understudy Edward Bennett, who received standing ovations on Monday and Tuesday, will continue to stand in. Tennant's run as Hamlet at the Novello Theatre is due to finish on 10 January. Source: http://news.bbc.co.uk/1/hi/entertainment/7776191.stm)
Artefacts:	Follow up news articles. Theatre programme.

Case Study 2: Bill's Cycle Training

Title	Bill's Cycle Training
Focus of the Case Study	Planning cycle training programmes. Breathing strategies.
Task:	Individually, outline what steps you would take to prepare a training programme for Bill. Discuss your approach in groups and agree on a training plan.
Resources:	1-2 hours Course notes on zone training.
Scenario:	Bill is a 46 year old cyclist. He has read that a common mistake by cyclists to is to be over zealous in their training during the October to December period. He has also read that training during this period could be unproductive. Based on: http://www.pponline.co.uk/encyc/cycling-training-building-success
Artefacts:	Deruelle, F., Nourry, C., Mucci, P., Bart, F., Grosbois, J. M., Lensel, G. H. & Fabre, C., (2008), 'Difference in Breathing Strategies During Exercise Between Trained Elderly Men and Women', <i>Scandinavian Journal of Medicine & Science in Sports</i> , 18 (2), pp.213-220. Hansen, E. & Sjogaard, G., (2007). 'Relationship Between Efficiency and Pedal Rate in Cycling: Significance of Internal Power and Muscle Fiber Type Composition', <i>Scandinavian Journal of Medicine & Science in Sports</i> , 17 (4), pp. 408-414.

Case Study 3: Kathy's Café Closure

Title	Kathy's Café Closure
Focus of the Case Study	Consumer perceptions of hygiene.
Task:	<p>Individually, after reading the scenario and supporting material, prepare notes for a classroom debate on how such news items impact customer perceptions of food hygiene.</p> <p>Consider the following questions:</p> <ul style="list-style-type: none"> • How might such news items affect customer perceptions of food hygiene in the area? • What steps can be taken to improve customer perceptions? • What factors affect customer perceptions? • How do customer perceptions of food hygiene relate to published data?
Resources:	<p>2-3 hours</p> <p>Course notes on food hygiene.</p>
Scenario:	<p>The Borough Council has successfully prosecuted Kathy's Café for a series of food hygiene breaches. Kathy's Café was found to be in breach of food safety and environmental health regulations at the Magistrates Court today. The case was brought by the council after the owner failed to comply with two improvement notices issued by environmental health officers following a routine inspection which revealed generally poor kitchen hygiene. Dirty floors, a build up of grime in a chest freezer, broken tiles and stained, smelly food chopping boards were amongst the contraventions cited during the hearing.</p> <p>The court also heard that although there was a hand-washing basin, it was clearly not in use as there was a teapot in it and cleaning equipment was obstructing it. There were also no soap or hand drying facilities. A follow-up inspection showed that little had been done to clean the place up. During this inspection the owner arrived at the café and began serving customers without washing her hands. One of the women working there also arrived with supplies and did not wash her hands or take off her coat before serving customers.</p> <p>Based on:</p> <p>http://www.northampton.gov.uk/site/scripts/news_article.php?newsID=871</p>
Artefacts:	<p>Knight, A. J., Worosz, M. R. & Todd, E. C. D., (2007), 'Serving Food Safety: Consumer Perceptions of Food Safety at Restaurants', <i>International Journal of Contemporary Hospitality Management</i>, 19(6), pp. 476-484.</p>

Additional Resources

Book:	Rickerby, S., (2008), <i>Travel and Tourism Case Studies</i> , T and T Publishing, ISBN: 978 0 9550190 6 7
	15 case studies on travel and tourism.
Book:	Horner, S. & Swarbrooke, J., (2003), <i>International Cases in Tourism Management</i> , Butterworth Heinemann Publications, ISBN-13: 978-0-7506-5514-9, ISBN-10: 0-7506-5514-3
	Range of materials for tourism management.
Case Studies	http://www.thetimes100.co.uk/company_list.php
	Case studies covering a range of topics from marketing, strategic planning, management styles, recruitment and customer service.
Case Studies	http://www.businesslink.gov.uk/bdotg/action/findContentBank?bank=CASE_STUDIES
	Bank of business case studies ranging from employment, health and safety, starting your own business and international trading.
Case Studies	http://www.businesscases.org/newInterface/browse.phtml?heading=Leisure%2C+Tourism+and+Hospitality&cat=10
	Case studies in leisure, tourism and hospitality.
Case Studies	http://www.titan-global.com/hospitality/casestudy1.html http://www.avaya.com/gcm/master-usa/en-us/resource/filter.htm&Filter=Industry:Hospitality;Type:Case%20Studies http://www.growmethemoney.com.au/CaseStudies
	Case Studies in tourism.
Case Studies	http://www.fdhospitality.com/case-studies/ http://www.dwp.gov.uk/employers/dda/case_hospitality.asp http://www.zibb.com/hospitality/interstitial/casestudy/hospitality http://www.microsoft.com/industry/hospitality/casestudies.mspx
	Case studies in hospitality.
Case Studies	www.thesportjournal.org www.pponline.co.uk
	Good source of sport science case studies.
Knowledge Transfer	www.ktponline.org.uk
	This is the home page for Knowledge Transfer Partnerships. These are projects, lasting from 3 months to 3 years between Universities and Industrial partnerships

and provide a rich source of case material.	
Office Politics Game	www.cdm.uwaterloo.ca/Office%20Politics/OfficePolitics.htm
This is a free online game which takes about 20 minutes to work through. It is based on a scenario of starting a new job. A situation is described and you are given a number of options to choose from. For example, do you accept an invitation to go to lunch with one of your colleagues? The story unfolds based on the choices made.	
Sports Shop Game:	http://seriousgames.ning.com/photo/630751:Photo:504?context=user
Online game.	
Sports Science Resources	http://www.pponline.co.uk/
Range of articles for case resources.	
SBL Interactive	www.pblinteractive.org/Home/tabid/242/Default.aspx
SBL interactive is an online framework for organizing case resources. It allows a range of artefacts to be combined to form a case experience for students.	
TE3 Teaching Resources	www.te3.bham.ac.uk/MainPages/Materials.htm
This site contains a range of teaching resources that can be downloaded to support teaching in entrepreneurship and related areas.	
Vensim Ple	http://vensim.com
Vensim Ple is a freely available simulation package enabling models of dynamic systems to be created	
Videos	http://is.lse.ac.uk/newsAndEvents/videoArchive.htm
Range of management videos from the London School of Economics.	
Virtual Case Creator	http://vccweb.health.bcu.ac.uk
This is software for creating online case studies using 3D software imaging. This has been used in to support a range of scenarios, such as a virtual ward. It allows students to made decisions and get feedback immediately on their actions. New cases are regularly added.	
Virtual University Game	http://www.virtual-u.org/
A game that explores a range of issues in education management but can be used to explore a range of general business decisions (such as staffing and performance measurement).	
World Food Game	www.food-force.com
A game that can be downloaded, requiring students to meet the challenge of a major crisis on the Island of Sheylan, off the Indian Ocean.	
Xbox Games	http://creators.xna.com/en-GB/
Games written in XNA can be submitted to and downloaded from the Creators Club Online site. There is a process by which a game is peer reviewed before being made available for download from the Xbox LIVE Marketplace.	

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