Chapter 4 Practical course evaluation and improvement

Graham Gibbs

Overview

This chapter is concerned with reviewing and improving your courses, although there is inevitably some overlap with other materials that focus on improving yourself as a teacher or encourage reflection on classroom practice and marking.

Reviewing courses is different from consideration of practice in that it is a more complex operation. The range of issues to be addressed is wider and the range of ‘stakeholders’ is also wider. Reviewing courses is also less personal than reviewing your teaching, because courses are made up of a great deal more than teacher performance and because the effectiveness of courses is much less under your control than is the effectiveness of your teaching. Reviewing courses may focus more on what students do in order to learn than on what teachers do in order to teach. Most importantly, it is concerned with whether the whole ‘package’ of components that make up a course hang together and work as a system. Course review will focus, for example, on whether the assessment system results in students spending their study time appropriately and whether it measures the achievement of the course goals. Also, you may be teaching alongside others on your course and an evaluation may reflect well, or badly, on several people. Course evaluation evidence is often more public than evidence about teaching.

Monitoring, evaluation, review and developing courses

It is helpful to distinguish between several ways in which information about courses is collected and used.

Monitoring is something that goes on every time a course runs. At a minimum level, it may involve counting the student pass rate and average marks. Many academic departments use student feedback questionnaires to monitor courses as a matter of routine. A standardised questionnaire may be administered every year and data may be collated in the departmental office so as to enable the head of department or course leader to compare courses. Other data on attendance or on library use may be collected routinely. The focus of monitoring is often on identifying any course that is unacceptably worse than others or which falls below an acceptable quality floor and which therefore requires attention. Such monitoring may be required by your institution’s quality assurance procedures and you need to find out what minimum requirements for monitoring are operating in your department. The term ‘accountability’ is often associated with monitoring – it is to check that nothing is going seriously wrong, and may involve in your course those people from your institution who have responsibilities for overall quality.

Evaluation, in contrast, can be seen as a serious attempt to find out about the overall effectiveness of a course. Does it really achieve what it sets out to achieve? Could similar outcomes be achieved more economically? Are the outcomes themselves the right ones? Are any students disadvantaged by the way this course operates? Reviewing involves asking specific and challenging questions and collecting evidence that helps to answer these questions while monitoring need not. The purpose of evaluation should be
to develop courses, not just to identify whether they are of average (and therefore acceptable) standard, or to describe them. The aim should be to look forward to what might work even better and to collect evidence that could direct that development, or to see if the last change you introduced brought about the desired improvements. Evidence from routine monitoring, such as students’ performance, may feed in to evaluation.

Course evaluation is dynamic and never-ending rather than static and periodic. Many of the accounts of course designs given in the previous chapters describe courses which were not designed from scratch but which developed in a series of stages over perhaps six or more years. The prompt to start this process of development may have come from a searching evaluation of the course as a whole. Evaluation may also have been used each year, as new methods were adopted and adjusted, building on past successes and understanding about what was working, until eventually a completely new and more effective course emerged. Chapter 1 contains extracts where both these types of evaluation were involved as part of course design and development and the following chapter contains accounts of detailed evaluations of courses.

You may also have an appraisal every year or every two years in which your teaching and your courses are reviewed by your head of department and at which you might be expected to present evaluation evidence demonstrating your efforts to develop your course.

Review is often called ‘programme review’. The degree programme or entire course of which your module is a part will be periodically reviewed as a whole: perhaps every three to five years. This will be a requirement of your institution’s quality assurance system and may involve academics from outside your department. The review may ask about student recruitment and progression, about the overall shape and coherence of the programme, about whether it is up to date, about whether staffing and resources are adequate and so on. Your module will be included in this review, though the emphasis will be on the whole rather than on the parts. A summary of student feedback and monitoring information you have collected over the years may be required, together with a brief account of changes that you have introduced, and their impact.

There may also be external course reviews. In the United Kingdom the Quality Assurance Agency (QAA) has reviewed each subject area over a six-year period, visiting institutions, observing teaching, interviewing students and writing public reports which grade each programme in relation to six aspects of course provision:

1. Curriculum design, content and organisation;
2. Teaching, learning and assessment;
3. Student progression and achievement;
4. Student support and guidance;
5. Learning resources;
6. Quality management and enhancement.

You can read these reports at the HEFCE’s website together with ‘Subject Overview Reports’ which summarise issues arising from every programme reviewed in a subject area. How monitoring and evaluation have been used by teachers to improve courses and students’ experience is a central focus of aspect 6 above. Currently these gradings affect the number of
students a programme is allowed to recruit. Different countries have
different external review systems, some more thorough or more intrusive
than others or with consequences that are more marked.

Professional courses are externally reviewed from time to time by
professional bodies, each with their own schedule and set of criteria or
emphaes. These bodies may be checking that curricula are aligned with
professional requirements or they may even test to see if student learning
outcomes are up to standard. They can remove professional accreditation if
they are not satisfied and that can lead to a collapse in recruitment or even
the programme being closed down. Programme review can be a serious
and time-consuming business!

Over a six-year period, you might be involved in all of the following activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
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<td>Monitoring</td>
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<td>External review</td>
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*Figure 4.1 Course evaluation activities over a six-year period*

Most of this practice guide is about evaluation because it is concerned with
improving courses.

**Reflection 4.1 Consider your monitoring purposes**

Before going on to consider how to go about monitoring, course
evaluation and review, try to answer the following questions.

1. Who are you doing it for?
2. Why are you doing it?
3. What do you expect to get out of it?

I have tried answering these questions in relation to the evaluation of the
course for which these materials were written.

**Who are we doing evaluation for and why are we doing it?**

- We want to give our students the opportunity to tell us about their
  experiences.
- The Open University requires the first operation of a course to be
  evaluated and we will not get formal course approval to continue the
  course without an evaluation. The University requires that the
  evaluation is done by someone else, so as to be objective.
- We need to evaluate the course to retain external accreditation of our
  courses, as they will be reviewed by an external panel in two years’
time.
- We want to evaluate the course for marketing purposes. We’d like to
demonstrate to future students, to other universities (that might want
to buy our courses) and to those who are sceptical, that our course
works successfully.
• We also have personal and professional reasons for the evaluation. We made a great many design decisions while producing the course without really knowing if we were right or wrong. This way we will find out whether we were right or not.

• On the one-hand, the tutors want to know if the course works, on the other hand, we need to know if the tutors are doing the right kind of job.

• We will have the opportunity to make changes next year if we have made mistakes. We will also be designing other courses in the future, so we need to know if this course works so that we can make the right decisions next time.

• We want to publish articles about the mechanics of this course and to do research into the impact of training on university teachers.

• Finally, I’m personally simply intrigued.

**What do we want out of evaluation?**

• Course approval.

• Confirmation that our overall design strategy is sound, and clear indications, where it isn’t, of what to do instead.

• Guidance before we design our next course.

• Insights into how the whole thing works, especially how our students learn on our courses.

• Marketing data.

• Research data.

• A sense that we have done the best job possible in a professional way.

As with most evaluation, ours will be for different purposes and for a range of stakeholders and so it will have several components.

**Stakeholders**

It has become more common to talk about the ‘stakeholders’ in evaluation: those who have a legitimate interest in whether your course works as well as it might. In the past, courses sometimes seem to have operated for the benefit of teachers and any changes (for example to reduce essay marking) were designed to suit teachers. It is recognised nowadays that there are other stakeholders: students (who increasingly have to pay for their education), students’ families, work colleagues (who teach courses affected by your course), your department, your institution, the Quality Assurance Agency, professional bodies, employers, the local community, perhaps even taxpayers. Each of these stakeholders may have a different interest and might want different kinds of information from evaluation. Students might want to give some fairly direct feedback to the teacher fast enough to change their behaviour so that the course changes to their benefit, immediately. A professional body might want to check that the curriculum they specify is being covered, or that exams are of a sufficient standard, but may not be all that interested in student feedback. Employers might be more interested in whether your course is relevant to their needs and whether it develops the kinds of transferable skills that they value. Employers might not be very interested in the academic level achieved in the content of the course. The university itself may be concerned about the extent to which courses prepare students for a research career.
Your course evaluation takes place in a complex political context characterised by sometimes contradictory demands and values.

**Departmental evaluation policy and practice**

Your department will have its own policy and practice concerning monitoring, evaluation and course development. It might involve any or all of the following components:

- Annual use of a standard student feedback questionnaire which is used to compare courses. Sometimes the questionnaire used has about five standard questions which everybody has to include and a ‘menu’ of optional questions which you have to choose from with space to add specific questions.

- A requirement on all teachers to review their own courses somehow or other, each time they run, but with no specification of how this should be done.

- Peer observation of teaching, involving each teacher observing two others and being observed by two others each year.

- Bi-annual appraisal by your head of department which includes a confidential review of your teaching and your courses.

- Annual course team meetings in which all the courses in your year or your department are briefly discussed and broad decisions made about changes to, for example, assessment systems.

- A system of ‘course reps’ – student representatives from each course who are expected to communicate students’ concerns at course review meetings.

You need to find out what this system consists of: what is required, what is expected and what is tolerated.

**Activity 4.1 Stakeholders for your course**

Talk with your mentor (or an experienced colleague if you do not have a mentor) about how evaluation is normally undertaken in your department.

Is student feedback collected routinely without your involvement? Who collates the data and when can you get hold of it? Is it discussed at a course team meeting or one-to-one with the head of department? Can you compare your ratings with those of other lecturers? Do students get to see the results?

What additional evaluations are you expected to undertake? Is there a reporting system? Is data private and confidential or are you obliged to make it public?

Is there any follow-up from one year to the next to see if issues addressed last year have been followed up?

Is there any discussion of the pooled evaluation of all courses so that an overall picture of students’ experience is built up?

If you have your own interests, is it OK to undertake your own evaluation?
Using this practical chapter

It is suggested that you read this overview first and then dip into other sections as you need. Sections 4.1 and 4.2 will be useful when planning what kind of evaluation to undertake. The four appendices will give you ideas about questionnaire design and technical details of evaluation. Sections 4.3 and 4.4 will help you to make use of evaluation evidence to report on your course or to make changes. At a number of points in your reading, you will be referred to more theoretical considerations in Chapter 4.

4.1 Evaluation methods and sources of evidence

Observation and reflective diaries

The most convincing evidence about the effectiveness of your course is almost certainly the evidence of your own eyes and ears. You will notice if students are lively and engaged in your classroom, lab or studio; whether they seem to be well prepared for your seminar; whether the questions they ask reveal a good level of understanding; whether they are animatedly talking to each other about your session as they leave the room; whether you have a queue at your door for remedial tuition; and so on. It is quite difficult to find out about these things, other than by being there when they are going on. If you imagine an anthropologist hanging around studying your course, what kinds of things would they notice? You probably already know, or at least if you kept your eyes and ears open you would soon know. This kind of data needs to be added to the other kinds of data that you can collect more deliberately using the methods listed below.

One problem with such informal personal observation is that it is ephemeral. If you don’t make a note of it or talk about it with someone almost immediately, it is easy to forget it, and it can be difficult to notice patterns or to put idiosyncratic bits of evidence together to form a coherent picture. An excellent way to capture these observations in a way that supports reflection and analysis is to keep a teaching log or diary. This can be simply a note-pad that you keep with you and in which you scribble down observations, reflections and ideas whenever they occur to you and whenever you have the time. You can then go back over your teaching day or your teaching week and remind yourself what went well and think about why, and muse about incidents which grabbed your attention, and puzzle over what was going on. Your entry might read something like this:

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Tuesday

10.00: Briefing before students go out on surveying exercise.

Difficult to demonstrate to more than about four at a time. 20 in group. Impossible in less than about an hour – there must be a better way of doing this.

12.30: Spent all morning correcting student mistakes with equipment. Assumed they already knew how to use it. What did they learn on C10B???

5.00: Tea with Beth (she teaches C10B). Student exam marks were OK – she wasn’t aware students couldn’t use equipment – but could believe it. Told me Rob the technician is good at demonstrating.

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IDEA: next year do diagnostic test in the workshop in week 2 and ask Rob to run any students who are clueless through basics before the surveying exercises. Ask Beth to include an equipment test as part of assessment on C103.

For next week:

- find out which students can use kit and pair them up with those that can't
- take data from able students and give it to others so they have something to do statistical analysis on

***Ask Rajil or Sue for their data at tutorial on Thursday***

It takes a while to get into the habit of keeping such a log and writing in this way does not always come easily. Chatting through it with a friend may be helpful, but remember that you are writing for yourself, not to impress others. For detailed examples of this approach in action, try reading Cowan (1998). For impressive reflective accounts by award winning university teachers, dip into the book by Ballantyne et al. (1997), Reflecting on University Teaching, listed in ‘Further reading’ at the end of this chapter.

Student feedback questionnaires

The most common method for obtaining student feedback on courses is to use questionnaires. The appendices to this chapter contain examples of different types of questionnaires you can use or adapt. Although you do need to be aware of the literature on the reliability of student feedback, students are capable of making reliable and fair judgements. There is some scope for biases of various kinds (for example students rate courses with large enrolments worse than smaller courses taken by the same teacher) but by and large, you can trust students' ratings – provided that you use a reputable questionnaire. Students are also quite generous in their feedback, rating three-quarters of teachers as above average! The following advice is offered to increase the value of questionnaires.

- Using a well developed standardised questionnaire each time you run a course will enable you to track the impact of changes you make.

- Using a questionnaire you design yourself may mean you get less reliable data but it will enable you to ask questions which are more relevant to your current concerns.

- You can add your own questions addressing your concerns to a standardised questionnaire.

- Administering a questionnaire mid-course, instead of at the end, enables you to make immediate changes which may benefit the students. Research evidence shows that mid-term feedback has more impact on teachers. It is not the case that students can only judge the value of courses much later – their ratings become less reliable the longer it is since they experienced the course.

- Discussing questionnaire feedback with someone experienced at interpreting such evidence, such as from your institution's educational development unit, has been shown to increase the impact of feedback on student ratings the next time the course runs.

- It is very difficult to get a good response rate to questionnaires unless you administer them and collect them in class. However, the students
who don't turn up for class or who don't fill in questionnaires may be the ones from whom you most need feedback. If you know who they are, you may need to post questionnaires to them or ask to see their questionnaires to check if they are very different from the others.

- You don't need to administer the questionnaire to all your students, provided that you have a sampling method that isn't biased.

- Many conventional questionnaires focus on the teaching rather than on the learning and you may have to design your own questionnaire if you want to find out how students are going about their learning.

If your course communicates with students by e-mail or uses computer conferencing, you can use that to ask questions and students can submit their feedback electronically. If your students use e-mail regularly and are quite responsive, you can ask open-ended questions on a regular basis about specific aspects of your course as you go along, and join in discussions which ensue. For example I started a discussion about the use of 'activities' in practice guides such as this one, using our computer conferencing system, and gained some useful feedback with very little effort. I was then able to act on the feedback immediately as I was writing the next group of activities. I got only a very small response rate and it probably wasn't a random sample, but it still gave me some useful insights.

Focus groups and interviews

While questionnaires can give you quantitative data, these can be misleadingly convincing and still need to be interpreted. Good insights may come from less formal methods and these may help with your interpretation. Qualitative data, from interviews and discussions, can be much more illuminating, if less representative. You don't need to undertake formal structured interviews to obtain useful information. It can be effective to set up a 'focus group', consisting of one student from each seminar group or lab split, and you might meet to have coffee once a month, just to chat about how things are going.

Make the most of interviews or focus groups by:

- asking a small number of open-ended questions such as, 'What should I know about how things are going on this course?' 'What is going well?' 'What is going less well?' 'What do you want me to change?';

- trying to keep quiet and listen, rather than justifying yourself: it can be difficult for students to be honest about problems with the course unless you are very sensitive and open;

- checking that you have understood: 'Can I check that what you are saying is ...?';

- checking that something a student says is not a one-off or an atypical response: 'Can you give me other examples of that happening?' 'Is that the same for all of you?'

If you want an accurate transcript of some of the crucial things students say, you may need to make an audio recording. The down side is that recording may well inhibit students and transcribing is time consuming. Taking notes at the time may be sufficient, though in my experience if you don't write up these notes into something coherent almost immediately afterwards, they can become incomprehensible.
Student logs

Much of what students are doing as they are learning on your course is invisible to you. It takes place in study bedrooms, libraries and coffee bars, and on work placements or on field trips. Most students’ use of computers in their learning also takes place when you are not around. To get a full picture of how your course is working you need to find out about this invisible learning activity. An effective way to do this is to ask students to keep learning logs, which are simply records of everything they spend time on which has anything to do with your course. A simple framework for such a log is provided in Appendix 4.2. When using logs, bear the following points in mind.

- Students may feel anxious about exposing their sloth or disorganisation and you are likely to need to make logs anonymous before they will help you.
- As soon as a student keeps a log it will start changing how they use their time, usually to their advantage, but this may give you a biased picture of what normally goes on.
- You may want to offer simple categories to help students to record their efforts, and to make it easier for you to combine data from students: reading, report writing, revision, reading lecture notes or whatever.
- It is time consuming to read and interpret such logs, so it makes sense to ask only a small number of students to keep them. Try to ensure that you don’t only get enthusiasts to do it or you will get a very rosy picture of how hard students are working!

Students are fascinated by how other students study and intrigued to find out if the way they spend their time is what is expected, so they will be interested to hear the outcome of your evaluation efforts. You may be able to draw conclusions such as the following:

- Students vary enormously in how much time they put into studying. Mature students usually put in more time than school leavers, who may do only half the hours that are expected of them out of class.
- There is often a correlation between study hours and marks.
- Very few hours are allocated to anything other than assessed tasks, and the weeks after assignment deadlines are particularly devoid of study.
- Students may seldom prepare thoroughly for classes such as labs or seminars and hardly ever for lectures.

Assessment data and student learning outcomes

Assessment is normally perceived as a process of judging students’ performance, but it also provides an evaluation of the effectiveness of your course. What and how much students have learned is the most important indicator of the success of your course and careful analysis of assessment data can feed in to decisions about how to improve your course.
‘Classroom assessment’

‘Classroom assessment’ is a term given to a whole movement in the USA (see Angelo and Cross, 1993) which involves teachers taking more trouble to find out what students understand as a course progresses, rather than waiting until after the exam when it is too late to do anything about it. Apart from simply noticing through questions and interaction in class and tutorials, techniques for finding out more about what students have understood include the following:

- A ‘one-minute paper’: ask your students, at the end of a class, to summarise in one minute on a single sheet of paper what they have learned and to hand it in there and then.

- ‘The three most important things’: ask students to list the three most important things they have learned from your session. If you don’t have time to read them all, list your own three and display them on an overhead projector, and then ask for a show of hands of who has written down all three, two, one or none. ‘None’ is the most common result! You can also ask students to write down three most burning questions or the three terms or concepts they least understand.

- An instant test: set three multiple-choice test questions, display them on an overhead projector and ask students to write down their choice of answer to each question on a piece of paper which they have to leave on your desk as they depart. There are now computer-based systems installed in some lecture theatres that allow students to respond to multiple-choice questions using infra-red handsets, like television remote controls, with the pooled results of the class displayed on a screen!

- Collecting a sample of student notes or workbooks to browse through.

The most important features of classroom assessment are: (1) it involves the informal collection of evidence rather than relying on formal tests; (2) it takes place repeatedly as the course progresses as an integral part of the operation of the course, rather than being tacked on at the end. Students will take your classroom assessment efforts seriously if you regularly feed back what you have learned into what you do next, and explain what you are doing. For example: ‘Last week your one-minute papers showed me that I had not emphasised the issue of probability levels sufficiently. So I’ll start off this week with five minutes going over that.’

Coursework assignments

You will spot all kinds of things about what students have learned, and what they have not understood, as you mark coursework and make comments. It may be helpful to summarise what you perceive. In Table 4.1, average marks and comments have been listed against each of four criteria used when marking some lab reports. This coursework review reveals good overall performance but that students are not so good at making sense of the results in a way that links to the purpose of the experiment and underlying theory. In this situation, it might be necessary to spend more time at the end of each lab discussing data interpretation or it may be a ‘one-off’ problem relating to the particular topic of that lab session. It would be possible to check this out by repeating this coursework review after marking the next lab report.
Table 4.1 Assignment scores

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<tr>
<th>Criterion</th>
<th>Average score</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Introduction and theory</td>
<td>7/10</td>
<td>Evidence of having read handouts and textbook and good grasp of purpose of experiment</td>
</tr>
<tr>
<td>Design and method</td>
<td>6/10</td>
<td>Sound, if predictable designs, details lacking</td>
</tr>
<tr>
<td>Data presentation and analysis</td>
<td>8/10</td>
<td>Clear tables and graphs, sound calculations</td>
</tr>
<tr>
<td>Interpretation and conclusions</td>
<td>4/10</td>
<td>Misunderstandings of what results mean, little link back to purpose and theory</td>
</tr>
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</table>

**Exam results**

Students' exam answers are full of valuable evaluation evidence. You may be so sick of marking them that you want to put them aside as quickly as possible. But if you go back through exam answers, and your marks, you can learn a great deal.

**What is the average mark achieved and the spread of marks?**

Figure 4.2 shows the distribution of marks for an exam. The most common mark is between 50 per cent and 60 per cent with an even spread of marks either side. Relatively few have over 70 per cent and relatively few have under 40 per cent (the pass mark in this course). This would have been considered a reasonable average and spread in the UK fifteen years ago. Today the average is normally higher (58 per cent say, rather than 55 per cent), the most common mark is between 60 per cent and 70 per cent and the full range of marks up to 100 per cent is more likely to be used. The whole distribution is skewed towards the top end. Conventions differ between subject areas on the spread of marks and even on the average. Whole countries have different conventions, for example the USA uses the top end of the range of marks to a much greater extent. You need to check that the range your exam has created is broadly in line with what your department expects to see.

![Histogram showing mark distribution](image)

**Figure 4.2**

Figure 4.3 shows a very different spread of marks. While 50–60 per cent is still the most common mark, far more students are gaining marks below 40 per cent and above 70 per cent. This could indicate a very wide spread of ability amongst the students. It might also indicate that the level of the course has been pitched too high, paying attention only to the best
students so that it suits them, but is a disaster for many of the others. A
failure rate of about 25 per cent, as here, might be considered quite
unacceptable by a department (and by students). Again, what is
considered an unacceptable failure rate is culturally determined: in some
countries 50 per cent failure is considered normal!

![Histogram](image)

**Figure 4.3**

Figure 4.4 shows the majority of students to have gained high marks, with
no failures (marks below 40 per cent). This could be a sign of a very
successful course or one with low standards. Either way it does not
discriminate between students very well and this may be due to the nature
of the questions or tasks students were set. These may have been
predictable enough not to catch anyone out, while providing little scope
for students to excel. It might also be the kind of distribution we could get
where students accumulate marks for demonstrating specified
competencies and, as what is required is so explicit, most students succeed
in demonstrating most of the competencies and so gain most of the marks.
Even if it could be proved to colleagues that students had indeed
demonstrated all the learning outcomes, colleagues might put pressure on
a lecturer to moderate marks downwards or to make the course more
difficult next year in order to avoid the perception that the course is ‘soft’.

![Histogram](image)

**Figure 4.4**

Other distributions of marks are, of course, possible. A reasonably
common one is for there to be a significant cluster of students scoring
below 30 per cent. This may indicate a sub-group who should not have
enrolled (perhaps because you did not make your prerequisites clear
enough) or who have special needs which you are not meeting. They may
have got behind early on without you noticing and providing timely
remedial tuition. It may also indicate that your exam was a complete
surprise to some students who had revised the wrong topics (in which
case you may need to consider a different exam or better guidance next
time). Students may have misjudged what the course was really about or
misjudged its standard (in which case you may need to spend more time
explaining the nature of your course and its goals and standards).
What is clear here is that, while the distribution of marks can tell you a
great deal about your course, it requires careful interpretation: several
competing explanations can be offered for any particular distribution, each
having different implications for change to aspects of your course design.
You need other evidence from other sources to enable you to choose
between the most likely explanation.

- Did the exam questions succeed in giving students the opportunity to
  show what they had learned and provide you with a solid basis on
  which to judge the achievement of learning outcomes, or did they elicit
  confused answers which didn't give you much to go on when you were
  allocating marks? Which questions, and types of questions should be
  retained and which should be replaced?

- Which questions did students choose to answer and which did they
  avoid? If you count the number of students who have answered each
  question, you will gain an impression of the extent to which your
  assessment is measuring learning outcomes across the whole course or
  only part of it. Why are students avoiding certain topics? Are they too
difficult or too dull? Are students finding it difficult to find learning
materials to enable them to study? Do they come too late in the course
to attract student attention or too early to be still remembered? Did you
give strong clues about the importance of other topics and not
emphasise these? Perhaps these are areas for development the next
time you teach the course.

- What kinds of misunderstandings and specific student failings do you
  notice? You may be able to get valuable clues about explanations you
  need to spend more time on, or skills that students need more time to
  practise. You may have distributed your time between topics
  inappropriately, skimming over materials students find difficult or dull
  in order to spend more time on what you and they find more
  interesting.

Learning outcomes

The emphasis after exams are over is usually on the marks rather than on
what they mean in terms of what learning outcomes have been achieved.
Activity 4.2 illustrates a way to review learning outcomes.
Activity 4.2 Reviewing learning outcomes

Use the matrix below to list learning outcomes for your course. Then estimate the proportion of students who fully achieve each outcome, make comments on weaknesses and gaps in students’ outcomes, and suggest what you might do next time the course runs to target the achievement of each outcome. One example has been filled in as a model.

<table>
<thead>
<tr>
<th>Learning outcome</th>
<th>Estimated percentage of students achieving this</th>
<th>Comments on weaknesses and gaps</th>
<th>Action to improve achievement of this outcome next time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculate and interpret correlation coefficients</td>
<td>60%</td>
<td>Calculations OK but interpretation often muddled.</td>
<td>Provide more examples of correlations for students to interpret</td>
</tr>
</tbody>
</table>

1

2

3

4

External examiners

All UK higher education courses have external examiners who monitor the standard of assessed work and comment on the assessment system, on standards and on the probable causes of these standards. We tend to take external examiners for granted, but they are quite uncommon in other countries and we could make more use of them. They can be a valuable source of independent comment and can enable you to calibrate the level of difficulty of your course and the toughness of your marking. The following quotation is from the external examiner of an oceanography course:

The overall standard of the students on this ... course is high. A very uniformly high standard was achieved on the practical work. This is in part due to the fact that much of the work is done in groups. The quality of the course on the whole is very high. A revalidation of the course by the RICS earlier this year commented on the high standards and relevance of the course.

(quoted in Gibbs, 1992, pp. 111–12)
The design of the course referred to here had recently been fairly radically changed and there was scepticism in the department about these changes. The external examiner's comments helped to secure the future of the innovations.

It is perfectly legitimate to ask the external examiner to focus and comment on course design features about which you are concerned. You may have adjusted aspects of the assessment system or have introduced other changes which might have affected standards. For example:

Explicit criteria have been introduced for marking the fashion design project. There were worries that specifying criteria might constrain students and produce less creative and varied work. Your comments on any perceived impact of the use of criteria, and on the criteria themselves, would be appreciated.

Employers

The following comment from an employer formed part of the evaluation of the oceanography course mentioned in the quotation from Gibbs (1992), above. The employer was contrasting a student, Brown, from the revised course with one who had been employed after taking the course before it had been redesigned.

Brown is definitely the best of the two by a long way ... Brown's capabilities have been developed to a high state. He is very capable in the field. He has ability to get to the nitty gritty in all our operations. He has shown a very mature approach and he takes the initiative. We have been so confident with him that he is putting together contracts. He has gone straight in and he was producing good work within a fortnight.

(Gibbs, 1992, p. 112)

Evaluation evidence like the example above is invaluable and can carry more weight than any amount of student feedback. You would want to be confident that this was not an isolated example and, in this instance, there was corroborating evidence of other students' project work leading directly to jobs. This employer statement is a transcript of a telephone conversation. Evaluation doesn't have to be formal or involve questionnaires; letters or conversations can be equally useful.

It can be difficult to separate out the impact of individual courses in feedback from employers, but it may be possible to gain useful guidance about what aspects of courses employers value, as in this case. What would you like to know about your students from employers?

The literature

Whatever problems you are experiencing on your course, you are unlikely to be the first person to encounter them and you are unlikely to be the first to tackle such problems and find helpful solutions. With a bit of luck those that have gone before you will have written up their experience and it is available in the literature. Extract 1.1 (in Chapter 1) by Reynolds provides an example of a lecturer perceiving problems with her course and seeking explanations of these problems, or confirmation that her diagnoses are
correct, by using the available literature, that is literature specific to the
teaching of her subject as well as generic literature about teaching and
learning.

The literature contains empirical evidence about the effectiveness of some
teaching methods or of complete course designs compared with others.
The literature can also provide insights that direct your attention to aspects
of your course you might not otherwise have considered. For example,
which of the problems Reynolds identifies in Extract 1.1 might your own
course be suffering from?

Activity 4.3 Searching and using relevant literature for your
course

This activity involves learning to locate literature of help to you in
reviewing your course. It is a demanding task and locating
relevant literature is often difficult and time consuming. You may
need to tackle this in stages over a period of time. Some search
strategies are suggested.

1 Find an article which takes the form of a description of a
course teaching a topic similar to your own.
2 What issues does it address that are relevant to your own?
3 Write down a hunch you have about something that may be
going on in your course, for example that a by-product of your
assessment system is that it is mis-orienting or narrowing
students’ efforts and focus of attention. Find something in the
literature that addresses and explores this issue.
4 Find out about one alternative method to what you do at the
moment that might address an issue you face, for example an
alternative to an unseen exam to assess a particular learning
outcome. What evidence of effectiveness or advice about
practicalities can you find?

Search strategies

Start with the recommended reading in the materials you
currently have, perhaps in H850 packs such as this one, and use
the references as a starting point.

Undertake a BIDS or other electronic search using relevant
keywords. Contents lists of journals concerned with the teaching
of your discipline may be a good place to start. These journals are
listed on the Deliberations website: http://www.lgu.ac.uk/
deliberations

Contact your institution’s educational development unit with your
query; they may have a resource centre or have a good working
knowledge of the literature.

Ask colleagues what they have read that might be helpful.

If you are collating a portfolio of evidence for accreditation, you
will be expected to show some familiarity with the literature when
you analyse your teaching rather than relying entirely on common
sense.

There are also theoretical frameworks in the literature that help to
conceptualise problems and that provide a template against which
to evaluate courses. One such framework is provided by research into student learning and is illustrated in use to improve ten very different courses in Gibbs (1992). One framework is provided by the 'seven principles of undergraduate education' (Chickering and Gamson, 1987), listed in summary below in the form of a checklist. These principles are based on a comprehensive review of what is known about how students learn best and they can be used as a checklist to review one's own course. A questionnaire is available to check the extent to which these principles are experienced in practice by students (see Chickering and Gamson, 1987).

**Activity 4.4 Using seven principles of teaching to review your course**

Use the 'seven principles of undergraduate education' listed in the grid below to review your own course.

<table>
<thead>
<tr>
<th>Principle</th>
<th>To what extent is use of this principle evident in your course?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Good practice encourages student–teacher contact. Interaction helps understanding and teachers can encourage students and provide powerful models.</td>
<td></td>
</tr>
<tr>
<td>2 Good practice encourages co-operation among students. Students can learn by teaching and being taught by each other and much effective learning is social in nature.</td>
<td></td>
</tr>
<tr>
<td>3 Good practice encourages active learning. Much learning is acquired through doing and passive learning may be superficial and short-lasting.</td>
<td></td>
</tr>
<tr>
<td>4 Good practice provides prompt feedback. Students need regular and prompt information about how they are doing and what they need to study some more.</td>
<td></td>
</tr>
</tbody>
</table>
5 Good practice emphasises time on task. If students don't spend time on it, they won't learn it, so use of their time needs to be planned to some extent.

6 Good practice communicates high expectations. Students need to understand the standards that are being set and need to be challenged to be fully engaged.

7 Good practice respects different learning styles and talents. Students learn in different ways, have different cultural values and personal goals and succeed at different tasks.

There are other such useful frameworks in the literature that could guide the way you review and improve your courses. Find one that is meaningful to you and make use of it! If you are preparing a portfolio for teacher accreditation, you are expected to show an understanding of how students learn in your course design decisions.

### 4.2 Review strategies

**Progressive focusing**

The first time you evaluate a course you may not have any clear hunches about what to focus on: student reactions to your teaching, whether students are doing the necessary reading or whether the set books are sufficiently accessible in the library, whether students are getting anything out of your feedback on their assignments, or whatever. You cannot evaluate everything at once, so the sensible thing to do is to start broad and open-ended in order to find out what the crucial issues are to pursue in more detail at the next stage. You could give them a questionnaire that might have just three questions:

- What is it about this course that has most helped your learning?
- What is it about this course that has most limited your learning?
- What advice would you like to give about the way this course should be run next time?

Other suitable open-ended questions can be found in Appendix 4.5.

The questionnaire could reveal issues you had not anticipated. For example students might tell you that the main problem is the workload, which is perceived to be much higher than on other courses they are taking, and the level of difficulty, which is perceived to be low and unchallenging. Your next step would then be to pin down exactly where
this perception of high workload and low difficulty is coming from. You
could list a series of features of your course (such as the lectures, the labs,
the problem sheets, the fieldwork projects) and ask students to rate the
workload demand, the level of difficulty and the benefit to learning they
feel they are getting compared with other courses they are taking. You
might discover that your fieldwork projects are rated high for workload,
low for intellectual demand and low for learning benefit. A chat with a
couple of students might then reveal that your projects are enormously
time-consuming, take many hours of repetitive data collection and routine
analysis, all to what appears to be no purpose. By progressively focusing
down you will eventually identify the root of the problem in a way that
makes it clear what you should do about it. Once you have taken action
(for example by providing a data set for analysis in class and using the
time saved for a more challenging assignment), you could evaluate
whether this has changed student perceptions and solved the problem. It is
then time to widen out your perspective again to start another cycle of
evaluation.

If you repeatedly use the same approach to evaluation, for example, using
a standardised student feedback questionnaire time after time, you may
never get close to the problem. Knowing that students have given
‘practical work’ a rating of two on a five-point scale, three years running,
may not help you to diagnose the issue.

Triangulation

Just as you cannot locate a point on a map with only one compass
bearing, so you need more than one source of evidence to get a full
picture of your course. Triangulation involves getting a ‘fix’ from different
directions so as to be confident in your conclusions. In the oceanography
example in Section 4.1, the evidence of the external examiner and that of
the employer painted a fuller picture than either could have done on their
own. For example without the external examiner’s comments, there might
have been a suspicion from the employer’s comments that academic
standards had been compromised in the search for skills of application.
The lecturer responsible for this course also analysed the structure of
students’ practical reports, and compared marks with previous courses
and parallel courses the students were taking, in order to get a third and
fourth ‘fix’ on the impact of changes in the course on students’ learning
outcomes. Extract 5.3 by Magin and Churches in the following chapter,
‘Peer tutoring in engineering design: a case study’, describes an evaluation
of peer tutoring which involved interviews, a questionnaire and an
analysis of student performance, which together produced some clear
conclusions.

Triangulation might involve the following sources of evidence:

- Standard student feedback questionnaire data, a review of exam marks
  and some informal discussion with a group of students.

- ‘One-minute papers’ every week, student logs and an analysis of which
  learning outcomes had been best achieved.

- Telephone calls to several students’ work-based supervisors, a
  questionnaire to all the students while on work placement, and
  placement reports.
• Distance learning students' record keeping about how they use their learning materials, monitoring written comments on their assignments, and an analysis of the issues students discuss on their computer conference.

Which sources are most appropriate will vary according to the evaluation questions or hunches and the type of course. The important thing is to use more than one source.

**Reflection 4.2 What sources of evidence could triangulation be based on in your course?**

The first year of evaluation of our course H851, *Teaching in Higher Education* (an earlier version of H850 for which these materials were designed), drew on a combination of the following sources of evidence:

• the content of discussions on the FirstClass computer conferencing system that both students and tutors used;
• student responses to questionnaires which addressed a range of issues;
• a small number of telephone interviews with students;
• monitoring of students' assignments: their portfolios about the teaching;
• monitoring of tutors' marking of assignments.

**Hypothesis testing**

Hypothesis testing may sound very scientific but what I am talking about here is simply following up your hunches. Standardised student feedback questionnaires are not driven by the hunches you have about what is really going on in your courses. To obtain useful answers you need to have useful questions. When devising the evaluation for the course for which this chapter was written, we brainstormed the hunches we had about how the course might operate in practice. My hunches about potential problems included the following:

• As the course does not have scheduled face-to-face sessions, teachers will find it difficult to pace themselves through the course and will get behind, not putting time in on a regular basis, despite the electronic conferencing and the assignments.

• The course is unconventional and the relationship between the materials, teachers' course design experience and the final assessment by portfolio, is complex. Teachers will be confused about what they have to do and in what order, despite all the advice in the *Study Guide*.

• The Reader contains educational literature that will be quite unfamiliar to many both in its language and the way in which it talks about teaching. Teachers will find it difficult to read and to relate to their course design experience, despite the careful selection of extracts, the explanatory text and the activities.
• Teachers will be too busy to do the activities unless they are closely linked to producing their portfolio.

These were all hunches about the implications of course design decisions we made for the way learners would go about their learning on our course. I hoped I was wrong about all of them, but I needed to check this out because, if I was right, then we needed to make some changes. Therefore, I needed to plan how to obtain information about each of these hunches. Unfocused surveys of how ‘satisfied’ learners are or how ‘helpful’ they found various course components would not have addressed these hunches in a sufficiently targeted way.

**Activity 4.5** Listing your hunches as hypotheses

In the matrix below, list three hunches you have about your course and, alongside each, how you could find out if your hunches are correct. The first row, relating to H852, has been filled in as a model.

<table>
<thead>
<tr>
<th>Hunch</th>
<th>How you could find out if it is correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers on H852 will not do the Activities</td>
<td>Borrow course materials from 20 teachers to see which Activities they have tackled. Interview four teachers on the 'phone about which kinds of Activity they tackled and why.</td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Appendix 4.6 contains a ‘hypothesis testing questionnaire’.

**Action research**

Some courses are evaluated using a standard student feedback questionnaire, administered by someone else who is monitoring quality. But evaluating and improving courses cannot be a one-off monitoring activity undertaken by someone other than the teachers directly involved. It requires continuous attention in a cycle of finding out, making sense of the evidence, deciding what to do, implementing changes and seeing whether things have worked out any better. The cycle never stops. The focus of attention may change with each cycle (as with progressive focusing, above) and the nature of our hunches about what is going on develops as we understand more and ask better questions (see ‘Hypothesis testing’, above). Extract 5.3 by Magin and Churches, in Chapter 5, is a good example of evaluation leading to new
insights and changes in a course and in the uses to which a new learning method was put.

Action research is a label given to this way of treating course improvement as a continual research process involving both course design and its evaluation, rather than seeing them as separate. Each course design and operation of the course is seen as an experiment in a sequence of experiments as in Figure 4.5, below. It is not just that the course will, hopefully, improve, but that you will gain more insight into how the course operates and into course design in general. Accreditation of teachers in higher education in the UK does not require teachers to demonstrate that they have improved their course, but it does require that they show how they have thought and learned about it.

![Figure 4.5 Improving courses as an action research process](image)

The following chapter contains an extract from Carr and Kemmis, Extract 5.4, that presents a particular model of action research.

Continuous quality improvement

In recent years, the language of 'total quality management' has entered higher education. One idea that has particular relevance here is that improving quality cannot be an occasional process, for example taking place once a year at a departmental course review meeting. Rather it has to involve continuous attention. The reflective diary extract illustrated at the beginning of this chapter shows such continuous effort to notice what is not working, and why, and to plan to do something about it there and then, rather than leaving it until the end of the course or next year.

4.3 Using and reporting the outcomes of course review

Personal concerns

The starting point for most useful course review is personal concerns, and the most important uses of evaluation evidence are by yourself for your own purposes. What matters most is what you care about. If you don’t care then you won’t try hard to find out the outcome of the course review and you won’t bother to spend much time thinking about what you do find out. Teachers’ concerns change over time as they become more experienced. The following questions are the kinds teachers have been
found to express in longitudinal interview studies over their first few years on the job.

- Am I really an academic and a teacher (and seen as competent by others)? Do I know my stuff and can I pass myself off as a historian (or a physicist, or whatever)?
- Are my teaching methods and assessment methods sound? Am I skilful in class?
- Are my students going about their learning effectively?
- What are my students actually learning?

The first question might be answered by discovering that students rated you, on a questionnaire, as at least average compared with other teachers, or that the 'intellectual level' of your course was 'about right'. The external examiner might make no adverse comments on your students' work. This might be reassuring but not much help in improving your course.

The second question might be answered by the kinds of questionnaires and observation schedules that focus on details of lecturing, small group teaching and so on. This might reassure you about your performance and give you useful clues about how to improve your performance, but leave you little the wiser about your effectiveness in a wider context.

The third question might be answered by using the Module experience questionnaire (Appendix 4.1) or by getting your students to keep a time log (see Section 4.2 above). The way your course affects how your students learn would start to come into focus, but you still would not know what students had learned as a consequence.

The final question might require you to use the kinds of methods outlined in Section 4.2, which focus on student learning outcomes.

**Some teachers never get beyond the first question. What are your own main concerns about your course?**

**Reporting to colleagues**

Much of what you find out from review will be of interest primarily to you and will be for you to act on. However, a proportion will be of interest to your colleagues. Examples of what you may need to report to colleagues are given below.

- Does a prerequisite course your students have taken fail to develop the learning outcomes you were relying on, so that you have to allocate some of your course to going over old ground? If so, the person responsible for the prerequisite course needs to know what the problem is.
- Are there learning outcomes from your course upon which others are relying? Do those responsible for those courses need to know how well your students have achieved what they are supposed to have achieved? If your students are achieving spectacularly well, do subsequent courses build on these achievements and challenge students sufficiently?
- Have you identified general issues which may well have an implication for others? For example if your students are putting in far fewer hours than you had expected, they may also be doing so on other courses. This could be caused by the excessive demands of other courses, or there could be a general level of dissatisfaction or poor performance which cannot be explained by anything specifically to do with your course. Such issues may need to be discussed more widely with your colleagues.

- Were there particular students who needed additional support from you and who are likely to need additional support on subsequent courses as well? Who needs to know this?

- Are there practical issues others need to be aware of, for example students persistently coming in late due to the cost of transport before 9 am, or lack of study space, or the lab taking twice as long to set up since the number of technicians was reduced, or IT facilities being overstretched in particular weeks?

- Does a method which you have tried work so well that it might be valuable if others adopted it?

You probably don’t need reminding that giving unsolicited feedback to colleagues about their courses may require considerable diplomacy!

What would your colleagues appreciate knowing about the operation of your course? What would be the best way to inform them? The easiest way to find out is to ask them! You could e-mail a request for questions to everyone: ‘I’m about to evaluate Module 563 – what would you like me to find out about that is relevant to your module?’ E-mail your response to all the questions once you have collected the evidence you need.

Meeting formal course review requirements

If you have undertaken Activity 4.1, then you already know what your department’s evaluation system consists of. You may be required to submit questionnaire feedback or a short report such as that illustrated below. Even if you do not have to report each time your course runs, you may be expected to keep a record of course evaluation evidence to meet periodic external course approval requirements, or to demonstrate that there has been a continuous process of improvement since the last approval. It may be sensible to keep a section in your filing cabinet in which to collect all the evidence you obtain about each operation of each course you teach. That way a letter from a former student, an external examiner’s report or a summary of feedback data, can be stored together for easy collation at a later time.

The ‘Course report form’ below, set in the context of an art and design course, concentrates on reporting the purpose of the evaluation, what evidence was collected, and the conclusions and actions which follow, rather than reporting the evidence itself, which is kept private. It also distinguishes between what the teacher involved can do to change the course and what the department has to decide (in this case because it involves resources). Writing a one-page report like this is a very succinct way to summarize evidence and your own observations and to draw conclusions that have clear implications for action. Note here that every issue is to do with students and their learning behaviour, and nothing is directly concerned with the quality of teaching or is about the teacher. This makes the report very safe to discuss with others.
set the previous year, by the course team or head of department, to remind you what you should be paying attention to, and the last section of the report sets the agenda for the next year.

### Course report form

**Course no. and title**  
AD 103: Graphic Design Methods  
**Year and semester**  
Year 1, Semester 2  
**Course leader**  
Barry Johnson

### Evaluation agenda

Has opening up the course to students from other subjects caused problems in terms of background knowledge or the overall standard?  
Is there sufficient studio time available?

### Evaluation evidence collected

Department feedback questionnaires.  
Review of marks and quality of work comparing Art and Design (A&D) with other students.  
10 students logged their time undertaking design work in and out of the studio.

### Conclusions from evaluation

There is a difference in standard between A&D and other students (average marks 6 per cent lower for non-A&D students), but with much overlap; the best non-A&D students are better than the worst A&D students so we should continue to allow them in. Some students lack basic graphic skills on entry.

Non-A&D students do most of their work outside the studio, especially overseas students who are not part of the core social group. Non-A&D students put in fewer hours (two hours less per week). Non-A&D students rate the course as less satisfactory that A&D students do.

### Changes to be introduced as a consequence of the evaluation

Need to introduce a crash one-week course in basic graphic techniques for non-A&D students.

Need to create a more welcoming studio environment for non-A&D students, especially overseas students; this is an EO issue. This would put pressure on studio space. Need to specify the workload required.

### Issues to be raised at Department Board

Increase of six hours of studio time required in week 1 for crash course.  
Increase of two hours per week required to bring non-A&D students into the studio.

### Evaluation agenda for next operation of the course

Integration of non-A&D students into studio-based culture. Monitor relative workloads and marks again.
Reporting back to students

Students are asked to give feedback frequently nowadays – if every module is evaluated this might mean eight times a year – and they seldom see any consequences of this. They don't normally see the data or what is done with it. By the time any action is taken, they have moved on to the next course. A consequence of this is that students can become blasé and it becomes harder and harder to get questionnaires returned or to get students to write thoughtful and useful comments. To keep students engaged with the process of course evaluation, and out of common courtesy, you can try the following:

- Pin up a summary of your evaluation on your door or in the departmental corridor for everyone to see.
- Produce a one-page handout summarising your interpretation of the evidence and circulate it to all students.
- Meet with the 'course representative' to discuss the evaluation and what you intend to do next time the course runs, and discuss how they will feed this back to their colleagues.
- Summarise the main points of your evaluation at the start of your last class of the semester.
- Spend a few minutes in class discussing your interpretation of the evidence you have and what you intend to do about it, to make sure you have got it right and that what you intend to do would be sensible from the students' point of view. Tell students in advance that this is what you are going to do and they will take it more seriously. Students are genuinely interested in the results of evaluations of their courses.

Logging progress

Sometimes it can seem as if student feedback is random and that changes you make one year are reversed the next, buffeted by changing groups of students or changed circumstances. While evaluation is undertaken regularly, there may be little sense of overall progress or direction. It can be important to try to capture what is going on and to be able to stand back from the detail to gain a sense of perspective on improving the course. Without logging evaluation evidence from past years, and changes you have made, it may be difficult to avoid a short-term perspective. I have sometimes found lecturers to be pleasantly surprised when I have gone back through records of student marks and feedback over the past few years, as they realise that they have indeed made progress and built on past successes in a solid way. One way to do this is to 'tell the story' of your course over a period of time. If you are new to the course, then you may be able to get hold of past records to find out how well (or badly) the course operated before you were involved. A more structured way is to write up a single cycle of course development, as in Activity 4.6.
Activity 4.6 A cycle of development for your course

Write up a complete cycle of reviewing your course, using the following structure:

- The previous operation of your course: what went well, what required attention.
- What changes you introduced and what hunches you had about its operation.
- Your evaluation agenda and how you planned to collect evidence.
- A summary of your evidence and your interpretation of it, including what you have learned.
- What you intend to do differently next time the course runs, and why.

You could go further and add an account of the following:

- What you imagine you would like the course to look like, and how well it would work, in three years' time.

This could provide a valuable resource for reflection for a teaching portfolio for teacher accreditation or to provide evidence of your professionalism as a teacher, for probation or promotion purposes. Your institution may have a 'Teaching Newsletter' that would be interested in publishing such an account.

4.4 Using evaluation to improve student learning

The process of innovation

Systematic course design, described in Chapter 1 of this pack, involves a feedback loop which provides evidence about the effectiveness of the course so that appropriate modifications can be made. It assumes that course design is never finished and that each operation of a course will be at least slightly different from the last. The notion that you could, for example, write your lectures and then get back to your research for the next five years, is somewhat wide of the mark. Innovation and change is, however, seldom as neat and rational as described in models of systematic course design, for a variety of reasons.

- If you attempt to make major changes to a course you may run into the constraints of the infrastructure which supports conventional practice: the timetabling system, the exam regulations or a limited budget for printing handouts. All kinds of things may stop you.
- Your colleagues may not be overjoyed if you succeed in doing something very different from them, as this may imply that their own conventional practice isn’t very effective. Innovation has a political dimension!
- Your students may also not like change. They have invested a lot in learning how to succeed in a conventional system and changing the rules can feel threatening until the benefits are apparent.
Innovation is usually messier and less predictable than you had planned. You may solve one problem but create another. For example by increasing the amount of coursework, you may take up far too much of your students' time. Or the context may change; for example the student group becoming much more diverse than last year. There are many variables and they can all change at once and interact in complex patterns, quite unlike neat scientific experiments in which everything other than what you are measuring is strictly controlled.

Not all innovation succeeds. Well-tuned conventional systems can be disrupted so that even the introduction of methods that normally produce better results may have more side effects than benefits. Sometimes, change may also involve things getting worse before getting better once the bugs are ironed out. Some innovations are abandoned prematurely.

It can be very difficult to tell what it is that you have changed that led to any difference in students' marks or feedback ratings. The more things you change at once, the harder it is to tell what is responsible for improvements or problems. It may be sensible to make only modest changes each year until you understand enough about how your course works as a system to be able to make more extensive and complex changes with some confidence.

Involving students in improving their own experience

Students can help you to collect evidence and to make sense of it, and they can also help you to use this evidence to redesign your course. Most importantly, they can help you to make your new course function well. Student involvement may be vital to developing your course. It is their experience that you are ultimately trying to improve and they can influence this directly.

Involving students in collecting evidence

Students may be interested in undertaking an evaluation for you rather than it being done to them. They can be perceptive in asking revealing questions, can elicit comments from their colleagues which you could not and what they may lose out on in terms of objectivity they will make up for in insight. Ways of involving students in collecting evidence include the following:

- Designing and administering their own questionnaires. A small group can be asked to list 20 hunches they have about what is really going on: e.g. 'The first part of the course was too fast so most people couldn't understand the second half'. Then ask everyone else to indicate the extent to which they agree or disagree with each of these hunches, on a five-point scale.

- Producing a *vox pop* video made up of informal interviews with students about their experience of the course in response to the question, 'What is your main impression of this course?', and roughly edited to paint a simple but powerful picture.

- Asking one person in each seminar group or lab class to act as a reporter of feedback from their group and meet these reporters briefly once a week or once a fortnight over a coffee.
Involving students in interpretation and diagnosis

When you have got your questionnaire feedback or other evidence it is not always clear what it means. If you make interpretations, you have no way of knowing if they are correct interpretations. For example you might interpret a lack of study hours put in out of class as:

- a sign of laziness;
- a lack of availability of library resources;
- a result of students undertaking part-time work to earn some cash;
- a lack of clarity of course demands; or,
- a weak link between assessment and learning activities so that students can actually get adequate marks without putting much time in.

Students may be able to tell you which of these is a better explanation and their perceptions may be very different from your own. One course evaluation I was involved in showed that the team of lecturers believed that the worst feature of the course was that they had not got their theoretical act together and were presenting inconsistent perspectives. They were about to plan a revision of the course to make it more coherent. Yet, perhaps inevitably, what students most liked about the course was the diversity of theoretical perspectives! Whether the provision of varied theoretical perspectives was, educationally, good or bad required interpretation and that interpretation differed depending on the perspective. You need to tap into students’ perspectives.

Students can also provide explanations for phenomena that appear to you to be puzzling. For example you may have set a series of optional questions or problems for students to tackle and you discover that they nearly all choose what you think is both the most difficult and the least interesting question. Students may be able to tell you that they could not find adequate library resources to tackle any of the other questions, or that the question they chose had already been asked on a previous course they had taken.

You can show students your evaluation results and ask them to make sense of them. You can also show students your interpretation of the evaluation evidence you have and ask: ‘Have I got this right?’

Involving students in course re-design

Some teachers involve students directly in course design. At the Goethe University in Germany, students have, since the 1970s, worked collaboratively with their professors to design their economics courses in workshops lasting several days (Ritter, 1996). You may not have this amount of time, but you can invite a couple of students who experienced the course the last time it ran to a short meeting where you talk through what you intend to change and ask if it seems sensible. I have also come across examples of teachers saying, ‘Last year we experienced the following problem with this course ... What I propose to do this year is this ... Are you prepared to go along with this or do you want me to run it the same as last year?’ New students then feel some commitment to whatever plans are implemented.
Involving students in making your course work

Students are not just passive recipients of changes in your course. They are active players in making your course work, having at least as much impact on what works and what happens as you do. If students want to make your course fail, they can do this easily, despite your best efforts. Equally, if they want it to succeed they can achieve this against all the odds. You need to get students on your side working with you to make the course successful. When you introduce changes you need to explain why you are doing so and what you hope will happen. You need to make your expectations of the way they will study explicit and ask if they perceive potential problems with this. The implicit message should be, 'I'll do my best by doing this and if you do your best by doing that, then, with a bit of luck, if we work together, it will work out well for both of us.' Students need to feel part of the course and as responsible for its success or failure as you are. To make this real you are likely to have to share some decisions with your students. For example, you could say, 'We could do this or we could do that. These are the advantages and disadvantages of each of these options. What do you think we ought to do? When do you think we ought to review this to see if it is still working out the way we hoped?' However, students may think that you are not taking full responsibility for your course by involving them in the ways described in this section. They may feel that improving the course is your job, not theirs, or that you are showing signs of indecision or inexperience by asking them their views. You may need to explain why you think it is important for them to take a responsible part in the process.

Conclusion

I hope that this practical chapter has shown that reviewing and improving courses involves a great deal more than someone else collecting student feedback on your behalf, or waiting until there is a formal course review. At best, course evaluation is integrated into the whole process of designing and delivering courses and evidence is both collected and interpreted by those involved: the teachers and the students. Instead of being a lifeless administrative chore, evaluation can be an intellectually engaging part of your professional life, involving forming hunches and checking them out – a process similar to that involved in scientific methodology. It is not possible to design a perfect course, especially not first time around. Evaluation is what turns a rough approximation of a good course into something that really works and which enables you to respond effectively to changes in students and changes in the course context. Good luck!

Further reading


This US manual focuses on ways to find out what students have learned in relation to course objectives and contains a cornucopia of methods and evaluation instruments.

Interviews with a series of award winning Australian teachers which illustrate what experienced reflection on teaching and course design can look like.


This compendium of snappy advice puts evaluation and improvement tips together in relation to preparing for external quality inspections such as Teaching Quality Review.


This collection of practical methods includes a large number of different types of questionnaires and evaluation techniques and advice on how to pull together all your evaluation evidence to present a case about your overall teaching for appraisal purposes.


This book contains accounts of ten case studies of the improvement of courses using research to help diagnose problems, decide on alternative course designs and evaluate the outcomes, together with a summary of the student learning research on which this course improvement was based.


This comprehensive manual is set in the context of Edinburgh University's approach to reviewing courses and teaching and relates evidence to quality assessment criteria and other evaluation perspectives.


This US collection of writings by different authors provides examples of using the literature, and what is known about teaching and learning, to improve courses.


This Australian manual focuses on the diagnosis of problems and describes evaluation as an exploratory process, rather than providing a large number of questionnaires or examples.

References


Appendix 4.1 Module experience questionnaire

This questionnaire was developed in the UK at Lancaster University in the late 1970s and then developed further in Australia (Ramsden, 1991). A version of this questionnaire is currently administered to every Australian graduate after they have left university. This enables the Australian Government to publish data comparing every degree programme in Australia in terms of the quality of student experience. The questionnaire is based on research into how students learn. In particular it measures the extent to which students take a deep or surface approach to their studies, that is try to understand or memorise the course content. It also identifies the main course features that influence whether students take a deep or surface approach:

- whether there is too heavy a workload;
- whether there is sufficient scope for independence in studying;
- whether the assessment is appropriate;
- whether there are clear goals and standards.

This version of the questionnaire is sensitive enough to be able to identify the effect of class size on student experience (Lucas et al., 1996) and is an illuminating alternative to questionnaires that have no theoretical basis.

Scoring instructions
Appendix 4.1 Module experience questionnaire

Example

Copyright material removed

OpenLearn
Appendix 4.1  Module experience questionnaire
References


Acknowledgement

This questionnaire is reproduced with the kind permission of Professor Paul Ramsden, University of Sydney.
Appendix 4.2 Time log

It can be valuable to know how much time students put into your course and what they do with this time. Finding out can involve simply asking a proportion of your students to keep a time log. Complications include:

- students may exaggerate if they think you are assessing them – you may need to do this anonymously;
- as soon as students start keeping time logs, it changes the way they spend their time and they become more organised and more conscientious.

Diary format

Make a note of any study activity, in or out of class, related to the course, and how long you spent on it. Include breaks and even short study sessions and what went on between studying.

<table>
<thead>
<tr>
<th>Time</th>
<th>Mon</th>
<th>Tues</th>
<th>Wed</th>
<th>Thurs</th>
<th>Fri</th>
<th>Sat</th>
<th>Sun</th>
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<td>0600</td>
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</tbody>
</table>
Add up:
the total number of hours spent on this course in this week .......... hrs
the number of hours spent doing:
1 reading .......... hrs
2 reading .......... hrs
3 reading .......... hrs
4 reading .......... hrs
5 the number of hours spent on any other learning activity (specify) .......... hrs
6 comment on what you think you spend too much time on or too little time on.
Appendix 4.3 Learning outcomes questionnaire

This student questionnaire evaluates the extent to which your course hangs together logically. Are your stated learning outcomes the ones students care about? Are your outcomes experienced as equally emphasised on the course? Do students see that the assignments and exams assess the achievement of these outcomes? Do students judge themselves to have actually achieved each of these outcomes? It requires you to list the planned learning outcomes but you might also want students to add other, unanticipated outcomes.

Rating scale:

1 = Not at all
2 = To some extent
3 = To a fair extent
4 = Very much so

<table>
<thead>
<tr>
<th>Learning outcomes</th>
<th>To what extent is each of these learning outcomes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(list the outcomes stated in your course documentation)</td>
<td>personally important to you</td>
</tr>
<tr>
<td>1</td>
<td></td>
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<td>2</td>
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<td>4</td>
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<td>5</td>
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<tr>
<td>etc.</td>
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<tr>
<td>Other outcomes:</td>
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<tr>
<td>1</td>
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<tr>
<td>2</td>
<td></td>
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</tbody>
</table>
### Appendix 4.4 Evaluation questions about assessment, learning resources and student support

<table>
<thead>
<tr>
<th>Questions about assessment</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 The assessment captured most of my time and attention</td>
<td></td>
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<tr>
<td>2 I learned a good deal from the assignments</td>
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<tr>
<td>3 The feedback I received on my assignments gave me a good impression of my progress</td>
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<tr>
<td>4 I learned a good deal from feedback on the assignments</td>
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<tr>
<td>5 The assignments took too long for the learning they generated</td>
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<tr>
<td>6 The assessment gave me an opportunity to show what I'd learned</td>
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<tr>
<td>7 The marks I got were a fair reflection of my performance</td>
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<tr>
<td>8 The standard required on this course was above average</td>
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</tbody>
</table>

### Questions about learning resources

<table>
<thead>
<tr>
<th>Questions about learning resources</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 I could find what I needed in the library, when I needed it</td>
<td></td>
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<tr>
<td>2 I bought my own copy of the required books/textbooks</td>
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<tr>
<td>3 I used internet/computer-based resources on a regular basis</td>
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<tr>
<td>4 The items on the reading list were unhelpful/rarely available</td>
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<tr>
<td>5 I could find quiet study space when I needed it</td>
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<td></td>
<td></td>
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<tr>
<td>6 We could find group learning space when we needed it</td>
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<tr>
<td>7 I know how to find all the learning resources I need</td>
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<tr>
<td>8 I regularly found myself unable to study because I didn’t have the resources I needed</td>
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</tbody>
</table>

### Questions about student support

<table>
<thead>
<tr>
<th>Questions about student support</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 I have got helpful tutorial support when I needed it</td>
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<tr>
<td>2 I need additional help with my study skills</td>
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<tr>
<td>3 I have a supportive group of fellow students</td>
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<tr>
<td>4 The teacher is easy to approach if you have a problem</td>
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<tr>
<td>5 I have special needs which are not being met</td>
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<td></td>
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<tr>
<td>6 I am clear what I have to do on this course to succeed</td>
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<tr>
<td>7 This course creates a supportive climate conducive to learning</td>
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<tr>
<td>8 I would know where to go to get help with things like accommodation, money and personal problems</td>
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</tbody>
</table>
Appendix 4.5 Open-ended questions

The following questions work well as prompts when you want students to think and write down answers rather than simply tick boxes on questionnaires. They can work well in interviews and group discussions as well as in written questionnaires. As looking through and collating open-ended answers is more time consuming (even if more illuminating) than adding up ticks in boxes, you may want to reduce the number of responses you have to deal with by sampling students, for example asking only students with second names starting A–E, or only students sitting in rows 3–5.

- What did you most like about the course?
- What did you most dislike about the course?
- What aspect of the course worked well?
- What aspect of the course worked less well?
- What aspect of the course or your studying did you learn most from?
- What aspect of the course or your studying did you learn least from?
- What one change would have made most difference to how much you learned?
- What one change would have made most difference to how much you enjoyed it?
- What one change would have made most difference to your marks?
- If one component of this course had to be dropped, what should it be and why?
- What three pieces of advice would you give to the lecturer who is to run this course next time?
- Was this course equally appropriate for all students? If not, who had the hardest time?

The following questions elicit responses that are valuable to the next group of students to take your course:

- What advice would you give to a student about to start this course?
- What makes most difference to how well you do on this course?
Appendix 4.6 Hypothesis testing questionnaire

This questionnaire involves listing your hunches or hypotheses about what is going on in your course (see Section 4.3) in the form of statements students might make. It then asks students to indicate if they agree with these statements, in effect, whether they share your perceptions. A variety of kinds of hypotheses are listed here, drawn from a range of courses, to give you ideas about what you might ask about. Both positive and negative hypotheses are listed. Some of these hypotheses are deliberately reversed, stating the opposite of what is believed, to balance out the way students use the rating scale.

What students write in response to the questions is not necessarily ‘true’. For example you can answer Question 1 by looking at assessment results but students might have beliefs, which affect their behaviour, which are not supported by the assessment results. This questionnaire taps student perceptions and you still have to interpret these perceptions.

<table>
<thead>
<tr>
<th></th>
<th>1 If you hadn’t already done well on S204 then you wouldn’t stand a chance on this course</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 All the lectures were essential</td>
<td></td>
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<td></td>
<td>3 The textbook provided all I needed to prepare for the labs</td>
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<td></td>
<td>4 The labs are very easy to do</td>
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<td></td>
<td>5 Writing up the labs is a waste of time</td>
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<td>6 The level of the classes is pitched at the best students</td>
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<td></td>
<td>7 I have many questions which I don’t ask in class</td>
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<td></td>
<td>8 The weekly practical work takes far too long to do</td>
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<td></td>
<td>9 This course is more time consuming than my other courses</td>
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<td></td>
<td>10 I wouldn’t have taken this course if it had not been compulsory</td>
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<td></td>
<td>11 The exam did not relate to the practical work</td>
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<td></td>
<td>12 There is a lot of overlap with course H306</td>
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<td></td>
<td>13 I worked regularly out of class throughout the term</td>
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<td></td>
<td>14 This course has inspired me to take more drama courses</td>
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<td></td>
<td>15 I was asked to do things I did not know how to do</td>
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<td></td>
<td>16 The skills I’ve learned here will be useful on other courses</td>
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</tbody>
</table>
Appendix 4.7 Course components questionnaire

One of the most difficult things to get right when designing courses is the relative amount of time and space allocated to different topics and components. This questionnaire simply requires you to list all the main components of your course and then ask students to indicate whether, given the aims and assessment of the course, each of these components should be reduced, retained or expanded.

Given the aims and assessment on this course, should each of the following components be retained as you experienced them, expanded or reduced in size? Balance the number of ticks in the 'reduce' and 'expand' columns to ensure that the course does not become overfull. Add explanatory comments to explain your advice.

<table>
<thead>
<tr>
<th>Component</th>
<th>Reduce</th>
<th>Retain</th>
<th>Expand</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Introductory lab session</td>
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<tr>
<td>2. Week 2 exercise on using the geological microscope</td>
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<tr>
<td>3. Week 3 practical on reading seismic records</td>
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<tr>
<td>4. Etc.</td>
<td></td>
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</table>