

D224E2 – COMMUNICATING BIOSCIENCES

Teaching Staff:

Module Convenor:

Dr Martin Broadley (Plant Sciences Division)

School of Biosciences:

Dr Rupert Fray (Plant Sciences Division)

Dr Martin Luck (Animal Physiology Division, learning journal Co-ordinator)

Dr Sean Mayes (Agricultural and Environmental Sciences Division)

Dr Cath Rees (Food Sciences Division)

Prof. Andy Salter (Nutritional Sciences Division)

School of Education:

Dr Bernadette Youens (PGCE Science Team)

Marketing and Communications:

Ms Brandee Percival (Widening Participation Unit)

+External guest lecturers

Module Details: Level 2 Spring Semester, 10 credits

Prerequisites: None

Corequisites: None

Aims: The module aims to develop effective communication skills in the biosciences. The module comprises lectures, workshops and guest lectures. Assessment is based entirely on coursework.

Learning outcomes: Learning outcomes for this module can be found on <http://winster.nottingham.ac.uk/modulecatalogue/>

Timetable: Friday 12:00-13:30. Sutton Bonington Room A32/Charnwood Room, Main Building

Implementing the Undergraduate Ambassadors Scheme (UAS) as a final-year project option
 Module description

Week	Date	Subject	Lecturer
1	25/01/08	Introduction to module – overview, learning outcomes, assessment criteria, introduction to keeping a reflective diary, allocation of papers for newspaper article coursework	Martin Broadley, Martin Luck
2	01/02/08	Lecture - writing skills I	Martin Broadley
3	08/02/08	Guest lecture – Newspapers and Science	Hannah Davies, Features Editor, The Journal (Newcastle).
4	15/02/08	Workshop - interviews with Divisional academics on allocated papers for newspaper article coursework Learning Journal Update	Martin Broadley, Rupert Fray, Martin Luck, Sean Mayes, Cath Rees, Andy Salter Martin Luck
5	22/02/08	Lecture - writing skills II	Martin Broadley
6	29/02/08	<i>Free study</i>	-
7	07/03/08	Lecture - introduction to the Biosciences Undergraduate Ambassador Scheme (UAS) and other Student Ambassador/Associate Schemes at Nottingham Lecture – Current Biosciences UAS students share their experiences	Martin Broadley (UAS) and Brandee Percival (WPU) Current Biosciences UAS students
8	14/03/08	Lecture - introduction to Key Stage 4 Science and developing a lesson plan coursework	Bernadette Youens
9	18/04/08	Introduction to debate task	Cath Rees
10	25/04/08	Debate task	Cath Rees
11	02/05/08	<i>Free study</i>	-

Assessment: The module will be assessed 100% on coursework. You will be provided with a research paper, selected by academics from the School of Biosciences. Papers will be allocated on Friday January 25th 2008.

Coursework 1: From the allocated paper, and working alone, write a 'broadsheet-style' newspaper article (e.g. The Independent) of 900 words, and a 'tabloid-style' newspaper article (e.g. The Mirror) of 300 words (30% of module marks). **HAND-IN DATE 17:00 Thursday 28th February.**

Coursework 2: Complete mark sheets for five of your peers' Coursework 1 submissions (10% of module marks). **HAND-IN DATE 17:00 Thursday 13th March.**

Coursework 3: Working in pairs, select one of the papers allocated previously. Design a lesson plan for a Key Stage 4 (KS4) Science teaching session which incorporates some relevant aspect of this topic. Use template lesson plans, provided to you in Week 6, to guide you (e.g. in the Gatsby Technical Education Project). A lesson plan will include (1) evidence that your lesson links to the KS4 curriculum, (2) a description of lesson objectives, (3) a description of activities and timings, (4) a description of resources required, (5) teacher input/assessment requirements, (6) learning outcomes, and importantly, (7) a comprehensive set of teacher's notes (35% of module marks of module marks). **HAND-IN DATE 17:00 Friday 2nd May.**

Coursework 4: Submit a concise Retrospective (based on your learning journal entries) of approximately 1000 words (25% of module marks). **HAND-IN DATE, 17:00 Friday 2nd May. Please note that you must also submit weekly learning journal entries. These are not assessed but must be completed for full marks to be obtained. See details below**

ALL MATERIAL MUST BE SUBMITTED ELECTRONICALLY TO martin.broadley@nottingham.ac.uk COURSEWORK 1 MUST ALSO BE SUBMITTED IN HARD-COPY. Failure to hand in a piece of coursework will result in an absolute penalty of 10% per day for that piece of coursework. Failure to participate in the debate task will result in the deduction of up to 5 marks from the overall module score.

PLAGIARISM

All students registered in the School of Biosciences will have received the relevant Undergraduate or MSc Courses Handbook which details University regulations on plagiarism and gives examples of plagiarised and non-plagiarised work. All students should familiarise themselves with the University regulations on plagiarism, which can be found in the Quality Manual at <http://www.nottingham.ac.uk/quality-manual/assessment/offences.htm>

As noted in the School of Biosciences Undergraduate and MSc Course Handbooks, you will be required to submit work electronically in addition to hard copy. All written work may be submitted to automatic plagiarism detection software for scrutiny.

If you have any questions regarding plagiarism and how to ensure you avoid committing this academic offence, please discuss these with your module convenor before submitting your work.

Information for Students with a Disability

The University of Nottingham is committed to promoting access for students who have a disability, dyslexia and/or a long-term medical condition. Services provided aim to enable students to fulfil the inherent requirements of the course as independently as possible.

If adjustments need to be made to certain aspects of this module to ensure your participation on an equal basis with other students, please contact the module convener as soon as possible. Any disclosure you make will be treated confidentially.

The following are examples of some adjustments that could be made - it is not an exhaustive list:

- course materials – do you need lecturer's notes to be provided in different font size/type, colour of paper, Braille, on tape etc?
- learning environment – do you need a flat access lecture theatre, access to computer for note-taking, someone to take notes for you, loop system etc?
- presentation style – do you need the lecturers to use a microphone for the loop system, to face the front when speaking to allow lip-reading etc?
- assessment – do you need additional time in examinations, rest breaks during examinations, papers in alternative formats etc?
- other activities – do you need adjustment to allow your involvement in fieldwork, laboratory work etc?

To comply with both the Disability Discrimination Act (DDA) and the Data Protection Act, the module convener will ask your permission to pass on information relating to your disability in order to make reasonable adjustments. This might be to other lecturers, the School Disability Liaison Officer, Academic Support Centre etc. It is possible for you to withhold this permission, and your right to confidentiality will be respected¹, however, this may reduce the ways in which adjustments can be made to meet your needs. You should also note, however, that if you do not disclose a condition which may compromise your safety, and/or that of others (students and staff) then you are not complying with guidelines on health and safety, which take precedence over provisions within DDA.

All records are kept in a secure place, and disposed off in accordance with data protection requirements.

¹ The University undertakes to maintain student data in secure conditions and to process and disclose data only within the terms of the Data Protection Act 1998. All information provided by students is kept confidentially and will not be released unless the student gives permission for the University to do so. The aim is that each individual student will have control over the disclosure of information about him/herself.

Writing Skills (Weeks 1-6):

The four cornerstones of good writing are accuracy, brevity, clarity and style. These concepts will be introduced and discussed. Examples of good and bad writing in relation to specialist (e.g. journal articles) and general (e.g. newspaper articles) areas of the biosciences will be provided. You will also be given an introduction to "readability" metrics, such as the "Gunning-Fog" index. Readability metrics can be used to determine who is likely to understand what you are writing. In Week 4, you will have the opportunity to interview an academic member of staff about scientific aspects of your nominated paper. Finally, in Week 5, you will be given a lecture entitled, "How to write a newspaper article in plain English", by Hannah Davies of the The Journal (Newcastle). You will be provided with a research paper, selected by academics from the School of Biosciences, and allocated at random. **Working alone**, you must write a 'broadsheet-style' newspaper article (e.g. The Independent) of 900 words, and a 'tabloid-style' newspaper article (e.g. The Mirror) of 300 words (30% of module marks).

Coursework 1, Marking scheme:

The following template will be used to mark your newspaper articles. Marking will be based on a School of Biosciences Qualitative Assessment Criteria, given overleaf.

1. Name of Assessor:
2. Author of article:
3. Primary reference (cite full reference):
4. Tabloid article (30% of marks):
 - a) Readability index scores
 - b) General comments (<100 words)
 - c) Class (A1-F, see overleaf)
5. Broadsheet article (70% of marks):
 - a) Readability index scores
 - b) General comments (<100 words)
 - c) Class (A1-F, see overleaf)

6. Other comments:

Coursework 2, Marking scheme:

You will complete detailed mark sheets for five of your peers' Coursework 1 submissions. It is recommended that you use the above template for your peer marking. Submit up to five separate .doc files, one for each of your peer assessments. Your peer marking will be assessed as follows:

1. Submission of a report sheet (0.5% awarded per report, maximum 2.5%)
2. Accurate calculation of a suitable readability index (0.5% awarded per report, maximum 2.5%)
3. Quality of feedback given. A score from 0-to-1% will be awarded per report, based on School of Biosciences Qualitative Marking Schemes Supplementary Guidelines, given overleaf (maximum 5%):
 1. Only broad classes (A,B,C,D,E,F) have qualitative criteria attached; the division into (e.g.) C1, C2, C3 etc. is at the discretion of the examiner.
 2. The qualitative criteria include consideration of:
 - a. Structure, organisation and readability of the article.
 - b. Level of engagement felt by the reader.
 - c. Accuracy and completeness of the content.
 - d. Where appropriate, inclusion of students' own experimental data.

School of Biosciences Qualitative Marking Schemes Supplementary Guidelines

Marking at Different Levels Within Degree Programmes

The School's qualitative marking schemes provide general guidance for assessment of various types of work. However, in applying these schemes to individual assessments, account must be taken of the level at which students are working. The criteria outlined below provide general guidance, and not all criteria will be applicable to all forms of assessment.

Academic Levels

Level 1: Certificate level, generally qualifying year students

Level 2: Diploma level, generally taken by year 2 students

Level 3: Degree level, generally taken by year 3 students

Level 4: Masters levels, generally taken by post-graduate or year 4 undergraduate students

Major considerations

Mark Class A

Level 1: Draws on available evidence to make sound conclusions supported from a range of sources.

Level 2: There is evidence of further reading and careful analysis offering alternative views.

Level 3: There is critical analysis offering alternative views. There is clear expression of own views, which are supported by appropriate literature. Draws on available evidence to make persuasive conclusions.

Level 4: Detailed, orderly and critical work with clearly specified focus/foci exhibiting rigorous analysis, synthesis and evaluation. There must be evidence that the student has developed their own arguments.

Mark Class B

Level 1: Content is accurate and relevant with appropriate use of supporting material.

Level 2: There is sound analysis with good expression and argument with evidence of independent thinking supported by appropriate material.

Level 3: There is sound critical analysis. Alternative views are expressed using supporting evidence from a variety of sources.

Level 4: Evidence of originality and significant critical analysis. There is evidence of integration of material from a variety of sources.

Mark Class C

Level 1: Content is largely accurate and relevant with some evidence of understanding.

Level 2: There is adequate analysis with limited evidence of wider study.

Level 3: There is reasonable understanding, with some attempt at analysis and limited use of supporting material.

Level 4: There is reasonable understanding and analysis supported by a range of relevant evidence.

Mark Class D

Level 1: Some relevant content but with evidence of only very limited understanding.

Level 2: Some relevant content with limited understanding but little evidence of wider study.

Level 3: Basic understanding with limited evidence of wider study.

Level 4: Basic understanding with limited evidence of understanding and some attempt at analysis.

Mark Classes E/F

All levels: Work does not demonstrate above criteria and reference should be made the qualitative criteria in deciding final mark.

Modules offered at levels A-C are considered intermediate between Levels 1-2, 2-3 and 3-4 respectively.

Implementing the Undergraduate Ambassadors Scheme (UAS) as a final-year project option
Module description

CLASS	%	QUALITATIVE ASSESSMENT CRITERIA - GENERAL GUIDELINES FOR NEWSPAPER ARTICLES
First A1 A2 A3 A4	100 90 80 73	<ul style="list-style-type: none"> a. Excellent use of headlines, ideal readability for target audience (i.e. brevity and grammatical accuracy, as evidenced by readability scores), appropriate figures and diagrams clear and well-labelled, very easy to follow progression of article theme. b. Very engaging and/or stimulating. c. Factually very accurate and informative with clear evidence of knowledge of published literature. d. All relevant aspects of own data presented, where inclusion is appropriate.
Upper Secd B1 B2 B3	68 65 62	<ul style="list-style-type: none"> a. Good use of headlines, appropriate readability for target audience (i.e. brevity and grammatical accuracy, as evidenced by readability scores), possibly some loss of figure clarity or slight errors in labelling, easy to follow progression of article theme. b. Engaging and/or stimulating. c. Factually accurate and informative with some evidence of knowledge of published literature. d. Most relevant aspects of own data presented, where inclusion is appropriate
Lower Secd C1 C2 C3	58 55 52	<ul style="list-style-type: none"> a. Adequate use of headlines, readability for target audience not ideal (i.e. brevity and grammatical accuracy, as evidenced by readability scores), figures less clear and/or inadequately labelled, more difficult to follow progression of article theme. b. Mildly engaging and/or stimulating. c. Some factual inaccuracies with only limited evidence of knowledge of published literature. d. Several aspects of own data omitted, where inclusion is appropriate.
Third D1 D2 D3	48 45 42	<ul style="list-style-type: none"> a. Very poor use of headlines, inappropriate readability for target audience (i.e. brevity and grammatical accuracy, as evidenced by readability scores), figures unclear and/or unlabelled, very difficult to follow progression of article theme. b. Not engaging and/or stimulating. c. Many factual inaccuracies with very limited evidence of knowledge of published literature. d. Most of own data omitted, where inclusion is appropriate.
Soft Fail E	35	<ul style="list-style-type: none"> a. No headlines used, highly inappropriate readability for target audience (i.e. brevity and grammatical accuracy, as evidenced by readability scores), disorganised. b. Not engaging and/or stimulating. c. Mostly inaccurate, virtually no evidence of knowledge of published literature. d. None of own data included, where inclusion is appropriate.
Fail F1	25	<ul style="list-style-type: none"> a. No headlines used, highly inappropriate readability for target audience (i.e. (i.e. brevity and grammatical accuracy, as evidenced by readability scores), very disorganised. b. Visually very unattractive and dull. c. Inaccurate throughout, no evidence of knowledge of published literature. d. None of own data included, where inclusion is appropriate.
Fail F2	10	A few lines of relevant material.
Fail F3	0	No article presented.

Non-written communication skills (Weeks 7-11):

In the second part of the course, you will explore non-written forms of communication in the biosciences, such as teaching and debating skills. You will also be introduced to opportunities for pursuing a final year Biosciences research project, involving a school placement, through the national Undergraduate Ambassador Scheme, UAS (www.uas.ac.uk).

The primary focus of this section will be on translating “difficult” concepts in biosciences for a less-specialist audience. As a case-study, you will consider a Key Stage 4 study group (i.e. GCSE-level, typically pupils aged 14-16). First, you will be introduced to the scope and breadth of the school science curriculum and recent changes to Key Stage 4 science curriculum. You will then consider the steps needed to translate personal scientific knowledge, into knowledge that is accessible and relevant to particular audiences. You will also participate in a range of activities that can be used to communicate complex scientific ideas. Finally, you will be introduced to the concepts of constructing a lesson plan for a Key Stage 4 class. **Working in pairs**, you will select one of the papers allocated previously. You should design a lesson plan for a Key Stage 4 (KS4) Science teaching session which incorporates some relevant aspect of this topic. You will be able to use template lesson plans, provided to you in Week 6, to guide you (e.g. in the Gatsby Technical Education Project). A lesson plan will include (1) evidence that your lesson links to the KS4 curriculum, (2) a description of lesson objectives, (3) a description of activities and timings, (4) a description of resources required, (5) teacher input/assessment requirements, (6) learning outcomes, and importantly, (7) a comprehensive set of teacher’s notes (35% of module marks of module marks).

Coursework 3, Marking scheme: Assessment of a lesson plan for a Key Stage 4 teaching session (maximum 35%)

Name of student _____

Name of Assessor _____

	A1	A2	A3	A4	B1	B2	B3	C1	C2	C3	D1	D2	D3	E	F1	F2	F3
1. Suitability of lesson structure for a Key Stage 4 audience (10%)																	
2. Scientific quality and content (e.g. and description of materials to be used) in relation to target Key Stage 4 audience (20%)																	
3. Visual quality of documents (5%)																	

Overall Mark (%) _____

(Refer to attached qualitative assessment guidelines for Webpages/.ppt document for items 1 and 2, and)

Comments:

Implementing the Undergraduate Ambassadors Scheme (UAS) as a final-year project option
Module description

CLASS	%	QUALITATIVE ASSESSMENT CRITERIA - GENERAL GUIDELINES FOR LESSON PLAN
First A1 A2 A3 A4	100 90 80 73	a. Professional presentation of lesson plan; excellent choice of illustrative material, very clearly presented throughout. b. Deep understanding of subject matter; all arguments carefully developed and clearly expounded. c. Extensive and effective use of information from literature and Web sources, beyond that provided as taught material. d. Clear evidence of critical thinking, originality and novelty.
Upper Second B1 B2 B3	68 65 62	a. Well structured lesson plan; good choice of illustrative material; clearly presented throughout. b. Sound grasp of subject material; generally logical arguments. c. Reasonable evidence of wider study beyond material given. d. Some evidence of independent thinking and originality.
Lower Second C1 C2 C3	58 55 52	a. Generally clearly presented lesson plan, but with some flaws in design and/or scientific content. b. Reasonable understanding of subject matter, but some flaws in the logic of arguments and factual errors. c. Limited evidence of wider study and use of information from the literature or Web sources. d. Very little evidence of independent thinking or originality.
Third D1 D2 D3	48 45 42	a. Little attention given to design and content of lesson plan; limited use of illustrative material; serious flaws in presentation. b. Limited understanding of subject matter; substantial factual errors demonstrated. c. Virtually no inclusion of information from the literature or Web sources beyond material given. d. Virtually no evidence of independent thinking or originality.
Soft Fail E	35	a. Very poor design and content of lesson plan; disorganised and/or incomplete, minimal presentation of supporting illustrative material. b. Minimal understanding of subject matter; serious factual errors; general lack of any logical arguments. c. Virtually no inclusion of information from the literature or Web sources. d. No evidence of independent thinking or originality.
Fail F1	25	Very poor coverage of material, little information that is relevant. Virtually no evidence of understanding the chosen topic; minimal attempt to provide a structured package.
Fail F2	10	A few lines of relevant material
Fail F3	0	No relevant material

1 Only the broad classes (A, B, C, D, E, F) have qualitative criteria attached; division into C1, C2, C3 etc. is at the discretion of the marker.

2 The qualitative criteria include consideration of:

- a. Quality of .ppt-based lesson plan e.g. good structure, use of appropriate illustrative material and examples, quality of presentation etc.
- b. Student's knowledge of subject; depth and quality of material presented.
- c. Evidence of reading/study beyond regurgitation of standard taught material.
- d. Independent or critical thinking/originality etc.

Weeks 1-11. The Learning Journal:

What is it?

A *Learning Journal* is a personal, reflective document in which you describe your experiences as you study. It includes your thoughts about what you have done and the progress you are making.

The entries in your *Journal* will be related to the module and to the work you do while completing it. You can describe events, lectures, discussions, study tasks, thoughts, ideas or feelings. The things you write about can be large or small, significant or trivial. Your reflections can be immediate (written at the time or shortly after the event) or long-term (written after looking back over a period of time). They should relate specifically to the course but also to your progress as a student.

A *Learning Journal* is more than just a diary (which is a list of events, kept as a reminder or a record) and more than just a log book (which is a detailed record of events, facts or data), although it may contain elements of both of these. A *Learning Journal* is like a Blog because it lets you to express your feelings, views and opinions. However, unlike a Blog, it is essentially a private rather than public document.

What is it for?

The purpose of a *Learning Journal* is to

- get you into the habit of regular writing,
- improve your ability to express your thoughts and ideas in words,
- encourage you to reflect on your progress through the course,
- help you to identify your strengths and weaknesses,
- help you to make decisions, set your priorities and plan your learning.

Where is it?

You will be emailed your *Learning Journal* templates at the start of the module.

How to do it

If you are used to writing or keeping a journal or diary, you may find completing your *Learning Journal* to be straightforward. If you find the idea daunting or troublesome, or if you don't know where to start, the following may be helpful:

Set aside quality time

Try reserving at least half an hour each week for your *Journal*. This could become a regular part of your study timetable for the week. Your *Journal* is an element of module coursework, so you need to discipline yourself to do it.

Get ideas down before thinking about style or structure

To start with, try jotting down thoughts just as they come into your head. They could be as random notes, or arranged in a list or perhaps sketched like a mind map. Don't worry about style or structure at this stage. You can make entries direct to the *Journal* or you can scribble them somewhere else, to be written up later.

Be prepared to edit, change and rearrange things

Your *Journal* should be readable and understandable, but it does not have to be written in perfect prose. Once your thoughts are recorded and assembled, you can turn them into

readable sentences and think about how best to organise them. Tidy the week's material until you feel comfortable that it represents what you want to say. Above all, be sure that what you write will still be meaningful when you return to it in the future.

Record and describe things, even if they seem trivial

Your *Journal* does not have to report dramatic events or profound ideas, so don't feel anxious about its content. Your view of how significant or trivial things are will change over time. This is a normal part of reflection.

Keeping it going

Your *Learning Journal* entries need to be completed on a **weekly** basis. You have until midnight on Thursday each week to do this. If you run out of time, don't worry, just move on to next week's slot. Make sure, however, that you still complete an entry each week, so set aside time to do this. Each week's entry page has a set of guide questions. These are also listed below. You can use these as prompts or ignore them: it's up to you. There is no set length for each entry. We want you to write something each week, but some weeks you will want to say more than others.

Submitting you learning journals anonymously

You should maintain an *honest* Learning Journal, and so you may wish to retain your anonymity! To ensure that your *Learning Journal* entries can be viewed anonymously by academic staff, you should **email** your submissions to Sonoko Mitsui-Angwin in the Plant Sciences Division. Sonoko will log your submissions, and will print off anonymous versions of the files for subsequent viewing by academic staff to check these have been completed. Sonoko will not forward named electronic versions of your files to academic staff.

Get help

Please feel able to discuss your *Journal* with a member of staff, especially if you are finding it hard to keep going or if you don't know what is required. You can either show them what you have written or you can keep things confidential and ask for more general advice. There is no penalty for seeking guidance or advice. The most important thing is that you feel confident about what you write.

Prompt questions (on each week's page of the Journal)

- Which aspects of the course have I worked on this week? What have I written? What have I heard or read?
- Did the week go as I expected? Did I get as much done as I hoped? Did I make unexpected progress?
- What really made me think this week?
- What aspects of the week's work did I find difficult? What did I do about it?

- Is there anything I feel more confident about now than before?
- What skills do I need to work on? Do I just need practice or should I seek advice?
- What am I most looking forward to next week?

Coursework 4, Assessment and Marking Scheme:

At the end of the module, you will write a longer reflective document called a *Retrospective*, and submit this for assessment. Your *Journal* will provide lots of material on which to base this document. If you use your *Journal* entries, they will prompt new thoughts and ideas. You will be able to see how your knowledge, skills and understanding have developed and how your views have changed. By now, you should be able to write concisely, so there are strict rules on length.

Your mark for the *Retrospective* will be adjusted according to

- a) The completeness of your *Learning Journal*. The person marking it will be given access to your *Journal*. However, you will not be assessed on the "quality" of your *Journal* entries, provided they are reasonably substantive.

Mark adjustment: $Overall\ mark\% = Assessor's\ mark\% \times (n/N)$
where n = number of completed *Journal* entries
N = number of weeks

- b) Length. Your *Retrospective* should be 900-1100 words, inclusive of all material on the page. You must add a word count.

Mark adjustment: 1% will be deducted from the overall mark for every word outside the required range.

Criteria for assessment

The person marking your *Retrospective* will ask themselves the following questions:

- Does it just record facts and events (low mark) or does it include reflective comments (high mark)?
- Is it just an edited collection of weekly *Journal* entries (low mark) or does it contain a long-term summary and discussion of your personal development (high mark)?
- Are the reflective comments superficial (low mark) or do they suggest a deeper personal awareness and introspection (high mark)?
- Does the document just report experiences (low mark) or does it discuss approaches to the challenges that have been faced (high mark)?
- Does it just report achievements (low mark) or is it a balanced account of strengths and weaknesses (high mark)?
- Does it just discuss past goals (low mark) or does it also look to the future (high mark)?

Further reading:

- Bulpitt H & Martin PJ (2005) Learning about reflection from the student. *Active Learning in Higher Education* **6** 207-217.
- Cowan J & Westwood J (2006) Collaborative and reflective professional development. *Active Learning in Higher Education* **7** 63-71.
- Moon J (1999) *Learning Journals: A Handbook for Academics, Students and Professional Development*. London: Kogan Page.
- Thorpe M (2000) Encouraging students to reflect as part of the assignment process. *Active Learning in Higher Education* **1** 79-92.

1. Reflection on reading

Think about things you have read recently. They could be books, newspapers, web pages, magazines, instruction manuals, poems, scientific articles or anything else.

Identify one of these items which you found to be especially useful, worthwhile, interesting or effective (give its title, a description or a brief reference):

Now, explain in a few words what was good about it

Next, identify one of the items you found hard to read, difficult to understand, uninteresting or ineffective in some way.

What do you think was wrong with it?

Do you think these items succeeded or failed because of the way *they* were written, because of how *you* were feeling or for a combination of these or other reasons? What makes a good piece of writing?

3. Goals and interests

What reasons did you have for choosing the Communicating Biosciences module?

List two or three things you hope to gain from the module

List some skills that you expect to improve on as you follow the module

Which parts of the module do you feel reasonably confident about?

Are there any things about the module which make you anxious?

Which of the guest lectures in the timetable are you particularly looking forward to?