



# **Revision & Exam Techniques**

by

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## Introduction

In this booklet we shall be looking at Revision and Examination techniques. The emphasis will be on the former because, unless you've done the revision, exam techniques won't be of much help to you. We shall discuss these issues in six main sections:

Exam Worries  
Preparing for Revision  
Revision Schedule  
Revision Techniques - *Active Rehearsal to Simulate Exams*  
Memory techniques  
Exam Techniques

As this booklet is chiefly about Exams, let's start with one. You have ten minutes, as the rubric tells you. It's on the next page. Turn over when you're ready – that is, after you've got a pen to hand. When you've finished, return to this page.

**START NOW!**

How did you do? Did you read through the whole paper first, as you are always told to do? Or did you simply respond to each question, getting to the final one before mentally 'kicking' yourself? But hold on. Would you be right to kick yourself (or congratulate yourself), if you responded *only* to the final question? Why should this question override the others? Obviously you must follow the rubric – the bit at the top, telling you how many questions you must answer – but otherwise, no one question should override your response to others. So, DO make sure that you always read through an exam paper before responding (unless it is a multiple-choice, or psychometric test where you're working against the clock), but DON'T think that exams are designed to catch you out. Usually they are quite explicit in their instructions, with no hidden tricks. One final point: as the above has shown, bringing your own analytical skills to bear on exam questions usually pays dividends. Don't think exams simply depend on having an external, factual body of knowledge. (We will return to other issues raised in this exam later).

Before moving on, consider whether the thought of doing this 'mock' exam worried you at all? In fact, do exams generally disturb you? The answer should, I hope, be a moderate 'yes', because a bit of anxiety will help you perform better, though a lot will have the reverse effect, as the inverted 'U' shape of the graph below shows.

**UNIVERSITY OF BOLTON**  
**DEPARTMENT OF LIFE, THE UNIVERSE & EVERYTHING**  
**STUDY SKILLS PAPER**

Date: 9th June 2005

Time: 10 minutes

**INSTRUCTIONS TO CANDIDATES:**

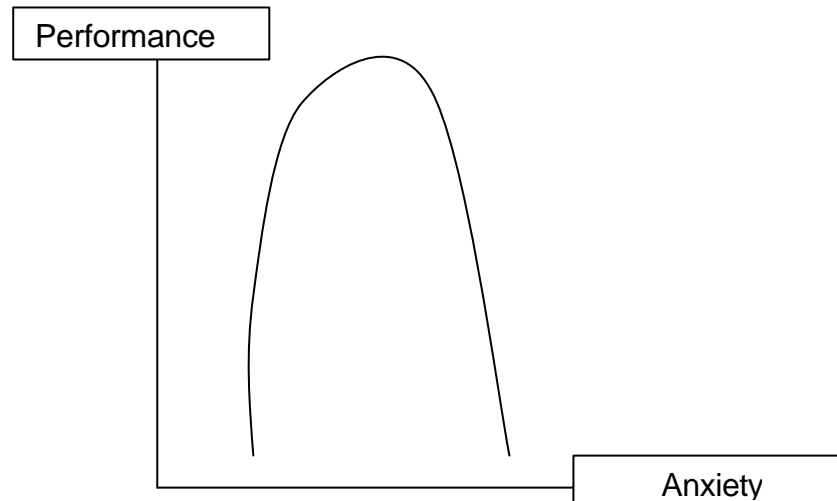
**Read through the following questions then respond to each as appropriate. You may write your answers on this Examination Paper.**

1. Put your name in the top left-hand corner of this examination paper.
2.
  - a) Give a brief definition of the term 'mnemonics'.
  - b) Give examples of TWO mnemonics you know.
3. Order the following three methods of learning, from most effective (indicate with a '1') to least effective (indicate with a '3').
  - a) "I read through the material over and over till I know it by heart. My teachers are amazed at the amount of material I remember."
  - b) "I look at the main section headings and any illustrations first, then decide exactly what it is that I want to know. Next, I read it through, closing the book after each section to make sure I can mentally reconstruct the way it develops. I make sure that I understand the main principles and issues rather than factual details."
  - c) "I skim over the material first, then read it section by section, until I've mastered all the facts, figures and dates."
4. Which of the methods in Question 3 is most like your own practice?
5. Which of the following methods would produce the most effective revision? (Indicate your answer with a tick).
  - a) "I start at the beginning of my notes and read through them till I've covered everything we've done over the year. Then I start again. It goes on like that till I've got the lot memorised."
  - b) "I take a particular topic, assemble all my notes on it, then try to boil them down to a more manageable form - which I put on cards. I carry these around with me and try to learn them when I've got a spare minute."
  - c) "I take a particular topic and try to write down everything I know about it. Then, when I've established where the gaps in my knowledge are, I go back to my notes and concentrate on the problem areas. I then set myself questions on the topic, and practise them."
6. Which of the methods in Question 5 is most like your own?
7. Cross out your name in the top left-hand corner. Make sure it's completely

unreadable.

8. Write down your name as requested in Question 1 and ignore Questions 2 - 7.

Now return to page 2



### Exam Worries

As was just said, it is wise to be slightly apprehensive about exams: fear itself is a good motivator, encouraging you to spend time revising. For some people, though, the fear gets out of hand and impedes performance – in fact, in some cases, anxiety takes over and can jeopardise a person's entire well-being. If you fall into this category, here are some things that might help.

*Relaxation techniques.* There are various kinds (some given in more detail in the *Giving a Presentation* booklet (Rudd, 2004a)), but they are generally based on the principle of tensing your muscles – to appreciate what tension and stress involve – then completely relaxing them, showing you how to remove stress. (As a very simple illustration, when you next feel stressed, try raising your eyes and looking upwards. You should feel your stress dissipate.)

*Caffeine control.* During revision people's consumption of caffeine often goes up dramatically. And as caffeine increases your heart rate, and with it the production of adrenalin, it can also increase your stress and anxiety. Think about alternative drinks (herbal teas, for example).

*Tranquillisers.* If exams really 'freak you out', these can help. The trouble is, they also slow you down mentally, so you might find that you

think and react more slowly.

*Desensitisation therapy.* If you follow the advice in this book, then you should be engaging in this form of therapy yourself; that is, you will be simulating the exam process more and more realistically, so that, over time, it becomes less of a threat. In fact, one of the key ideas of this booklet is that much anxiety about exams is misplaced, and comes from seeing the exams as outside your control: a lottery in which you are ‘in the lap of the gods’. Here it will be argued that exams are not the ‘black box’ that they are often painted. Many of the supposed ‘unknowns’ about the exam process are, in fact, able to be anticipated – and many of those who are good at exams (and some enjoy the challenge, pitting their wits against examiners), make sure they rise to the challenge.

This booklet therefore encourages a respectful cynicism about the exam process. Don’t think that you have to cram in everything you’ve ever learnt on a course. Instead, see exams as a special ballgame that you have to play. You simply have to jump through the hoops that have been set up. Some students do this well; others do it badly. In fact some, though told to jump, try to pole-vault; others go round the hoops rather than through them. And it is often nerves that cause this. The next section deals with ways of ensuring that you do what the exams ask of you – and not something else.

### **Preparing for Revision**

Some of this might seem very obvious, but based on where students sometimes go wrong, we’ll go through everything step by step.

1 Note down how many exams you have, in what subjects, on what dates, and at what times.

2 Find out what sort of examinations they are. Aside from the traditional unseen exam, there are also ‘seen’ exams (where you see the paper in advance and can prepare answers) and ‘open-book’ exams, where you can take in your notes and/or set texts (so that the exam is less a memory test of quotations, formulae, etc).

3 Get hold of some past exam papers, or question staff about the exam format.

- What is the length of the exam? how many questions are there? are there different sections, and are some compulsory? are the

sections equally weighted?

- Also, what is the style of questioning. Do they go for alternatives (Either /Or), or multiple-choice options? Are they phrased in a certain way (long or short, comparative or single-issue questions)? Do they use certain instructional words (Discuss, Assess, Calculate – see the *Essay Writing* booklet for a list with definitions – Rudd, 2005, p. 5)?
- What are the key concepts that feature (e.g. in Literature, it would be wise to go in with a pre-prepared understanding of such issues as irony, tragedy, and metaphor; in Education, inclusion, learning styles and lifelong learning; in Engineering, concepts such as force, stress and moment; in Law, concepts of statute, tort, and contract; in Community Studies, an understanding of community, policy, diversity and youth; in Sociology, an understanding of ethnicity, class and gender. Make sure you can define such terms, and have definitions to hand.
- Note down the topics covered, especially any topics that tend to be juxtaposed (i.e. asked in Either/Or questions) or that tend to be related (i.e. asked in the same question).
- Any questions you don't understand, make a note of them, and ask a lecturer what they mean; try to get him or her to unpack such questions for you.

The above shouldn't take long, but it is time well spent. You should now have a good idea of the shape and nature of that black box. You won't be one of those students who is surprised at the layout of the exam paper, or who expected a different type of exam.

4. Next, go through your notes (relating these to the course outline given to you by your tutors at the beginning). Add any topics that did not crop up in earlier exam papers (especially new material).

Try to organise all the material you now have into some sort of comprehensive shape. You might want to use the conceptual mapping techniques outlined in the Note-taking booklet (Rudd, 2004b). The attempt to get an overview of your subject is a very important part of the revision process. As your course has unfolded week by week, you are more likely to have only a worm's eye view of issues, getting bogged

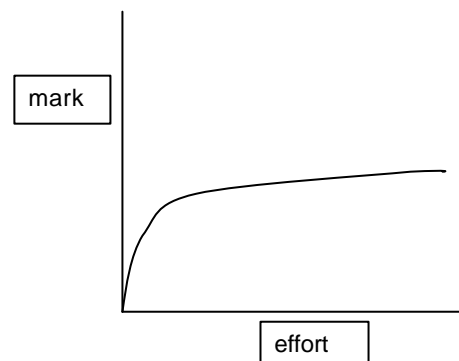
down in assessments on particular aspects. This is your chance to see how it all fits together: how concepts relate to (and differ from) each other; how facts relate to concepts, and so on. Having done this, you will be in a far better position to score marks on a question, even if you don't have all the facts at your fingertips (see below, for an example).

### Devise a Revision Schedule

There is some research indicating that those who do well in exams revise for no longer than those who do poorly, suggesting that it is the style of revising that is the crucial issue (as suggested earlier). Here are some tips to help you maximise the effectiveness of your revision. The extent to which you put this into effect obviously depends on the number and importance of your exams.

1) Calendar – Find out when and where your exams are (i.e. dates, times, rooms). Plan your time up to the exams themselves. Draw up a schedule of revision slots, making sure that they fit around your normal routines, with some breaks for leisure.

2) Make sure you allocate space to all topics. Don't just concentrate on a few that you think you can perform well in. Make sure that you have at least a pass-mark knowledge of each topic. And remember, the first marks are easiest to get; thereafter, extra marks are harder and harder to attain, as this graph illustrates.



3) Don't forget to include topics you already know. You still need to practise making this implicit knowledge explicit. Otherwise, there's a tendency to take it for granted, to lose easy marks.

4) You might also like to consider the following points:

- intersperse the known with the less well-known: this will keep up your morale, and avoid the feeling that you know nothing, that you are going to fail!
- change topics regularly (topics that are more alike are more likely to be confused if revised alongside each other).
- research suggests that you learn better if you divide a topic into a number of small chunks, learnt over an extended period of time, rather than trying to do everything at once. The psychologist

Ulrich Neisser puts it like this:

You can get a good deal from rehearsal  
If it just has the proper dispersal.  
You would just be an ass to do it *en masse*:  
Your remembering would turn out much worsal.

- don't concentrate on the first exam (which always looks the most threatening) – there are others lurking behind it
- build in rewards for yourself, in terms of your calendar (e.g. an evening out after a day's revision)
- stick to your schedule once you've devised it!
- avoid procrastination! In *Red Dwarf*, the character Rimmer has perfected the art of finding 'more and more elaborate ways of not doing it in a "doing it" kind of way', so that he can 'revise solidly for three months and not learn anything at all' (Naylor, 1989, p. 63). He does this by spending time drawing up elaborate revision schedules. Be warned!

### **Revision itself – finally!**

Do you remember the exam earlier? What did you say was the most successful way of learning and revising, and, more importantly, is this the way you learn? I would say that (a) is the least effective way (at least for HE material) in that it just requires 'parroting' the material without any understanding; (c) is next, in that there is more structuring of the process, but it is still seen as being about holding on to information, in its original form, and giving it back when asked; (b) seems the best method, as it emphasises a number of things, such as establishing what you already know, and making you more active in retrieving it; it also stresses the importance of understanding rather than repetition; finally, it suggests an awareness of how an argument is constructed (very important in the Humanities and Social Sciences) – how facts and ideas are tied together.

You were also asked what was the best method of revision. In my opinion these seem to get better from (a) to (c). The word 'revision' is itself misleading, in that it means to 'see again' – a rather passive process. A better term might be 'rehearsal', which suggests preparing for a future event, rather than simply revisiting past material. And, if you think about it, what are you asked to do in exams? It is not a test of who can read their notes the best; it is about who is best at answering

questions. So... wouldn't it be a good idea to practise doing this? Hence the method recommended here: **Active Rehearsal to Simulate Exams.**

1) Don't start by reading through your notes: you'll never ascertain what you already know and, more importantly, what you don't know. Start by finding out the existing state of your knowledge: do you know just a few isolated facts, or can you show how these facts are interconnected, and have an awareness of what they explain?

The pattern note method is recommended for this, as a quick way of making your knowledge explicit. It is sometimes known as 'conceptual diagramming', or 'mind-mapping', and this is exactly what you are trying to do: to map out the existing content of your mind. At first you might find your mind a blank, but after a few minutes the flow should begin. It is even better if you make your diagram a response to a question. The advantages are as follows:

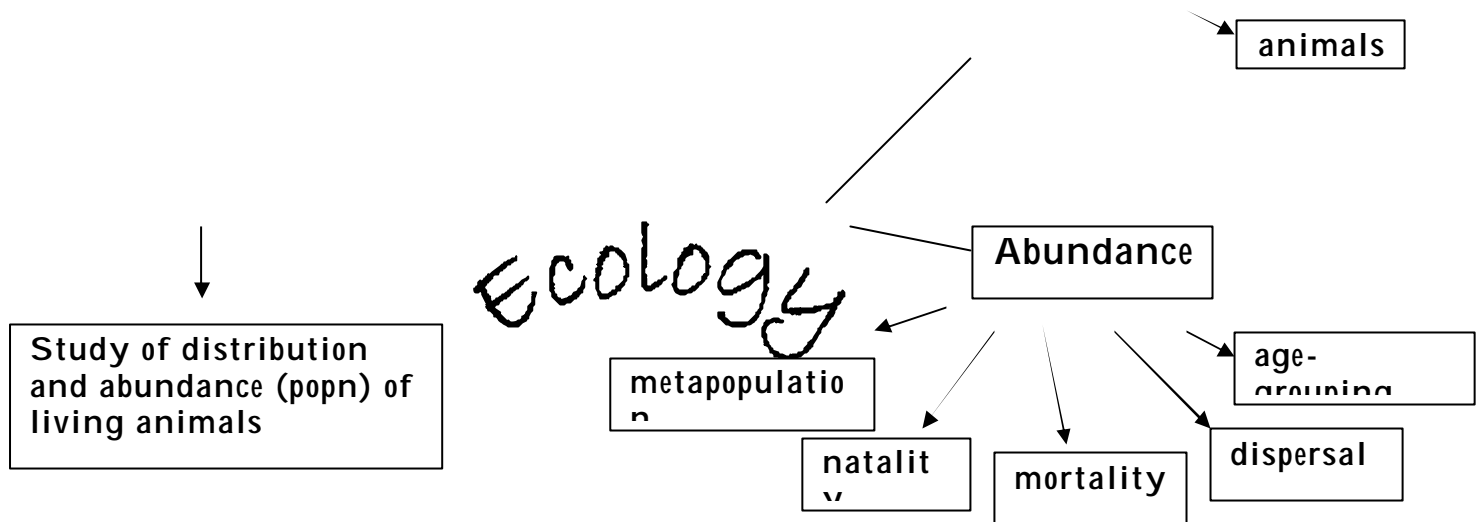
- It helps you focus on the question. (Note this fairly typical response from an Examiner's Report: 'It is quite possible that if many candidates had less information ... and more skill in presenting their knowledge and ideas, they would have received higher marks.'
- It puts you in the right mental frame of mind.
- It gives you a framework to build on, based on your existing views.
- It shows up your misconceptions (studies have shown that students often have serious misunderstandings of topics; these persist unless an effort is made to relearn the information correctly. It is better to get these misunderstandings clarified before you are sitting in an exam room).
- It lets you assess your level of knowledge: is it simply isolated facts you know, or can you fit them into a more sophisticated framework of understanding?
- It points up the gaps in your knowledge. It is more important to be aware of what you don't know, so that you can revise in a more focused and productive way.
- It should boost your confidence, allowing you to see that you can dredge up some relevant material if you think hard enough in a focused way. Sometimes, you even come up with fresh insights into the material.

Here is an example of a student's concept map for Ecology.

Definition: E. Haeckel,  
1866  
From Greek *oikos*  
(household) + *logos*  
(study) = study of

Distributio

environment



The student has some factual knowledge, giving the origin of the term and a definition; unfortunately, this definition omits one of the main aspects of Ecology: how an organism interacts with its environment (the ecosystem), and such related issues as biodiversity. The word 'animals' is also inadequate (under 'Distribution'): 'species', or 'organisms' would be better terms. The student is stronger on 'Abundance', but the relationship between terms needs specifying (especially 'metapopulation'). But the usefulness of this exercise should be evident: it allows you to see what you know, what you don't, what you have wrong or confused, how you think things relate to each other (or not), and so on.

2) Return to your notes and check your understanding, especially attending to any areas of ignorance. Construct richer, patterned notes on particular topics: these should provide a useful revision tool. Use different fonts, coloured pens and doodles to make them distinctive and more memorable. This is your opportunity to develop a comprehensive understanding of a topic, synthesising all the isolated bits of information you have (e.g. from lecture notes, seminar topics, extra reading).

3) It is recommended that you try to tailor the length of your periods of revision to the time you have to answer questions in the exam; for instance, if it's a 3 hour exam, and you have to answer 3 questions: that's an hour for each (or 55 minutes, to be on the safe side), so make this the length of your revision period. It should then become second nature to you, and you shouldn't be caught out in an exam, wondering what happened to the time.

4) It is easy to lose a sense of reality when you are revising day after day, to feel that you've done nothing. So it's important to highlight what you *have* done after each revision session. Ask yourself, explicitly, 'What have I just learnt?' Sometimes, after a whole hour sitting in front of your books, the answer is 'nothing', or 'nothing' you can recall, anyway. If this is a problem for you, this tactic of trying to recall your learning will not only help you clarify your learning, but make you more attentive in future to what you are doing (or not doing) when you sit down to revise.

Some research showed that those who spent the whole of a period of learning trying to retain information actually learnt less than those who spent only *half* the period trying to learn new information; the latter group spent the other half of their time recalling what they had learnt.

When you have recapped what you have learnt, tick the topic off on your revision schedule.

5) Focus on answering questions in your revision; after all, this is what you'll have to do in the exams. Remember: *Active Rehearsal to Simulate Exams!* Obviously this is time-consuming (and mentally exhausting) to do in full so, once again, it is suggested that you do it in note form – perhaps using the pattern note method.

Although you will draw on previous exam papers (or lists of questions from class assignments) to generate most of your questions, it is also worthwhile trying to come up with your own. This will give you an insight into how examiners think, into what they are after, and into the whole process of what makes a question worth asking: what is related to what, and in what way? Lastly, it should help you be less restricted, so that if an unusual question crops up, you will feel more open to responding to it.

6) Practise writing. Despite what was said above, it is worthwhile trying to complete at least one answer in full, to remind you of just how demanding this is (especially as most of us use a keyboard for our writing nowadays). Practise writing fairly fast and legibly – and practise trying to relax your hand, arm, shoulder and neck as you do so. (Some rubrics explicitly state that 'examiners attach importance to legibility and clarity of expression'.) You might find it useful experimenting with different pens, making sure you get one that you find most relaxing to

hold.

You might also find it useful to practise certain parts of answers. This applies particularly to subjects that use essays. Try turning out a standard introduction to a question (i.e. one that explains what the question asks of you and outlines how you intend to answer it, defining any key terms as you go), and a standard conclusion, too. As mentioned earlier, make sure that you have standard definitions of key terms at the ready (these always impress examiners). Aside from content, it is also good to be armed with a variety of signpost words, to avoid you starting each sentence with 'however'. You don't want to be sitting in the exam room chewing the end of your pen while you think of suitable synonyms. Finally, on practising writing, try creating your own exam style paper (the sight of this terrifies some students); that is, take an A4 sheet and rule a 2.5 cm margin down each side, one for the 'Ques. No.', the other stating, 'Do not write on this Margin'.

7) Avoid negative thoughts! Don't worry that there are bits you don't know, facts you can't recall. Ask yourself, does it really matter? Just think of the experts on *Mastermind* who, even with a lifetime of expertise, still don't know all there is to know about a particular topic. It is the main points that are important. For this reason, avoid reading a new book on a topic just before an exam. It will only unnerve you.

8) Mental rehearsal is also important. We've talked about practising the physical elements (writing, relaxing, and so on), but research has shown that mentally rehearsing an event can improve performance. So imagine yourself going into the exam room on the day in question. See yourself confidently sitting down at a desk, receiving the exam paper, reading it through, and noting a number of questions you can answer, then writing fluently for the whole exam period.

9) Group Revision. So far, preparing for exams has been discussed in personal terms. Exams can certainly bring out the worst in people, setting them competitively against each other, with students seeking to hide library resources from colleagues, and other anti-social behaviour. But it need not be like this. Again, some research indicates that group revision is very productive – if, that is, you make sure you choose a group of like-minded people (e.g. dedicated, sharing, and positive, just like yourself).

Many of the activities mentioned above can then be shared; for example, working out what needs revising, drawing up a rota; sharing

out areas to ‘mug up’ and devising questions to respond to, then discussing and ‘marking’ individuals’ answers, suggesting how they might be stronger. Working in this way takes away the isolation of revision, which many find off-putting. It should also lessen the likelihood of procrastination – as long as you don’t devolve into endless discussions of how terrible it’s all going to be (ban any Jeremiahs!).

10) Mnemonics. In the exam you undertook earlier, it asked you to define this word, and to give two examples. Mnemonics are memory aids, from a Greek word meaning ‘memory’. You should be able to remember this by thinking of the word ‘amnesia’, which is the loss of memory: a-mnemo (this aid itself being a mnemonic). Mnemonics are artificial grids we put over material, in order to make the material look like something we already know. They are ultimately false, of course, as it is *understanding* that is really required. However, they can also be very helpful, especially when you are trying to hold on to large amounts of information (doctors and taxi drivers, each of which group has to remember large numbers of facts, use them extensively – see below). But we all use them some of the time – whether it be such things as using diaries or knotting our handkerchiefs. Here are the main categories.

i) The Visual

The main idea is to form a visual image of the material. Try to make it vivid, colourful, bizarre and active. Try to imagine it with all your senses – smells, textures, and sounds – and, for greatest impact, make it personally relevant, emotionally charged.

a) *Peg System*. This involves developing a number of visual pegs or hooks on which you can hang the material to be remembered. For up to ten items there are two common systems. The first uses words that rhyme with the number, and the second uses words based on the shape of the numbers (see below)

<u>Rhyme</u>		<u>Shape</u>	<u>Rhyme</u>		<u>Shape</u>
Bun	1	Pole	Sticks	6	Golf Club
Shoe	2	Swan	Heaven	7	Cliff
Tree	3	Double chin	Gate	8	Hourglass
Door	4	Sailing boat	Vine	9	Tadpole
Hive	5	Pregnant woman	Hen	10	Footballer

To use the system simply create an image linking the item to be

remembered with its peg; e.g. suppose the exports of a particular country were paper, timber and coconuts. Using the rhyming scheme you might picture a sticky-bun wrapped in paper, some shoes made out of real timber, and a tree hung with coconuts.

*b) Place Method.* You imagine an area you know well (e.g. your house or neighbourhood) and place the items to be remembered around this area; e.g. using the exports again, you would walk into your house and find a paper lying on the mat; in the lounge you'd notice the walls of an alcove were completely timbered; and in the kitchen, on the floor, there would be some matting made out of real coconuts!

## ii) The Verbal

These mnemonics are generally more suited to abstract material, for things that cannot be pictured.

*a) Rhymes/Sayings.* This was a very common technique when our culture was more orally based, though it is equally useful now – e.g. ‘Thirty days hath September ...’, ‘Spring forward, Fall back’ (for British summertime), or ‘*i* before *e* except after *c*’.

*b) First-letter Method (Acronyms)* This is one of the most popular – and overworked methods – used today (NATO, UNESCO, WASPs, YUPPYs, etc). The first letter of each word is taken and, collectively, these initials form a pronounceable new word. Sometimes these become so popular that they become words in their own right, and the original expansions are forgotten – as with Posh, Radar and Laser. In maths, for instance, BODMAS is used for the order in which mathematical operations should be undertaken: Brackets of Division, Multiplication, Addition and Subtraction. ROY G. BIV is often used to remember the colours of the rainbow. Many find that the cruder the word, the more memorable it is. In this booklet, for instance, the technique of **Active Rehearsal to Simulate Exams** has followed this advice.

*c) Sentence Method.* This is an elaboration of the above. Again, the first letters are taken, but this time a new sequence of words is derived from them, to make a meaningful phrase. It sounds complex, but many of us probably remember the sequence of rainbow colours in this way: ‘Richard of York Gave Battle In Vain’. How about this one: ‘Men Very Easily Make Jugs Serve Unaccountably Numerous Purposes’ (for the planets in the Solar System, moving outwards); or this, No Plan Like Yours To Study History Wisely (for the different ruling houses in English

history: Norman, Plantagenet, Lancastrian, Yorkist, Tudor, Stuart, Hanoverian, Windsor). Medical students use such mnemonics extensively; e.g. Old people from Texas eat spiders (for the bones of the skull: occipital, parietal, frontal, temporal, ethmoid, sphenoid).

*d) Numeric into Alphabetic.* This is useful for remembering formulae, PIN numbers, or any other number that you need to commit to memory for security reasons. You take the number, and turn each digit of that number into a word. The corresponding word must have the same number of letters as the digit it represents - e.g. 'think' for '5', 'back' for 4, etc. So, the number for pi is 3.141592, which can be remembered as 'How I wish I could calculate pi'. Or, if your PIN number was 13584, you might remember this as 'I can never remember that'.

### iii) Combination Methods

These use both visual and verbal techniques to maximise memorability.

*a) Narratives.* With this technique items to be remembered are linked into a story; e.g. 'I went to the shop to buy a paper. Mr. Timber was there eating a coconut'. The story is visualised in the process.

*b) Using symbols pictorially.* This technique involves taking any part of the word or phrase you want to remember, and turning it into a picture. Bactrian camels can be distinguished from Dromedary camels in this way, imagining the first letter of each lying on its side. Many people remember the difference between *stalactites* and *stalagmites* by thinking of tights falling down and mites running up.

### iv) Special areas where mnemonics can help

#### *a) Spelling*

Poor spelling can be very demoralising, though many intelligent people have found it a problem. If you can think of meaningful reasons for a word's spelling, so much the better; e.g. that 'mnemonic' is spelt the way it is because it has the same root as 'amnesia'.

Here are some examples, using commonly misspelt words:

A good speller can spell propeller.

Cars are stationary, but envelopes are stationery

Corduroy is durable.

For more ideas on spelling, see the booklet *Writing: the Basics* (Rudd, 2004c).

*b) Jargon/ technical/ foreign terms*

This method is a development of the one above, 'Using symbols pictorially'. Although it sounds complex, impressive results have been obtained with it. As an example I have used a problematic term from Sociology - 'Gemeinschaft' -denoting societies based on 'community' rather than 'association' (the latter has its own, confusingly similar term - 'Gesellschaft')

Link part of the term with a similar sounding word.

- part used = 'meinschaft', which sounds like 'mineshaft'.

Associate this keyword with the term's meaning.

- keyword = Mineshaft, which is associated with a visual image: of a community of people living at the bottom of a mineshaft.

v) State-dependent memory. There are other, subtler mnemonic devices that you might want to consider. They are based on the fact that we remember things better if we can recreate the original conditions under which we learnt them. So, if you could revise in the room in which your exam was to be held, you'd tend to remember more. However, this doesn't just relate to your external environment, but your internal one too; that is, the mood you were in when you learnt the material. So, if you were depressed when you learnt it, you'd recall more if you were depressed during the exam (although it would be better if you were happy on both occasions). What some students do, therefore, is use particular fragrances when revising individual topics, then make sure that they have some appropriately scented tissues in the exam.

Many find mnemonics an artificial, roundabout way of learning material. They complain that they end up learning extra material. This can seem so, but what is usually happening is that we are using what we already know to make the unknown less alien. Even if ultimately you don't use a mnemonic, simply reorganising and manipulating what you want to learn increases your involvement in the learning process, thus making it more likely to be remembered, and more fun!

11. Understanding. The emphasis, ultimately, is not on Remembering, but Understanding. Research into higher education students'

approaches to studying has found that there are two main types. There are those who adopt a “Surface” and those who adopt a “Deep” approach. Of greatest significance is the finding that students adopting a deep approach do substantially better: they study for longer, enjoy it more, remember more, and perform better in exams. Below is a table detailing the main characteristics of each approach.

A student adopting...	
A SURFACE APPROACH	A DEEP APPROACH
- learns something because s/he has been told to	- learns because s/he wants to understand
- learns isolated bits of information, reads about a topic at random	- learns by inter-relating information, relating evidence to conclusions; reads looking for main ideas
- learns by memorising material, to be ‘given back’ at some future date	- learns by relating material to previous knowledge, trying to think of personal examples, applications, exceptions
- sees learning as essentially something external, to ‘get your head round’	- sees learning as a personal process of coming to know reality better

Understanding, then, is about the ability to go beyond the information presented to you, to see how discrete facts fit together in certain patterns. It involves developing a framework of knowledge within which information becomes meaningful.

If we take the above mnemonic for the colours of the rainbow “**R**ichard **O**f **Y**ork **G**ave **B**attle **I**n **V**ain”. This is useful for remembering the sequence of colours, but it doesn’t help us to understand any more about the physics of the spectrum. Indeed, the mnemonic framework is irrelevant. We could, instead of luckless Richard, have devised a mnemonic reflecting school meals: **R**abbits **O**n **Y**our **G**reens, **B**ug **I**nfesting **V**egetables; or, we have another type of mnemonic altogether, the acronym **Roy G. Biv**. The important point is that none of these mnemonics has anything intrinsically to do with rainbows.

To “understand” about rainbows involves going beyond this. Like mnemonics, understanding can be developed using a framework, but one which:

- a) inter-relates the material;
- b) relates the material to You, the learner.

So, to understand about rainbows you would consider your existing knowledge, trying to assemble all you know in one place. Frequently you will experience problems: bits of information won't gel, you can't understand how they relate to each other or, worse, they contradict each other. But this is actually fruitful, for now you have some questions to guide your learning. You are not mechanically trying to ingest a lot of new material (only to have the contradictions surface later – most embarrassingly, in examinations!).

What, then, might you know about “rainbows”? Obviously this is a personal matter, depending on whether you studied physics or not, but for the lay person it might involve such thoughts as the following: *“Rainbows ... pretty ... bit about it in the Bible ... term suggests the rain “bowing” the light – like prisms do, but don't some bits bend more than others? ... What do they call it – contraction, or something? ...”*

Having explored your personal knowledge, you are in a far better position to make the *new* information meaningful to you. Terms like “spectrum” and “refraction” can now be understood rather than simply memorised and parroted back on request.

A person seeking understanding would also try to add personal details and explore the implications of their new knowledge: “Red wavelengths are the longest and bend the least, whereas the shortest, violet, are refracted most ... could that be why red is always on the outside of the bow – which must be longer than the inner side – and also why its rays must bend less?”

By developing your thoughts in this way, you are learning actively. You are thinking about the material; you are *linking* its various parts; finally, you are ensuring that it is all linked *in your head* – using your own unique storage network.

There are various long-term benefits that result from this. Your memory for the material will improve. This is because you are always rehearsing the old knowledge when you learn the new. Hence your knowledge

network is progressively increasing. Your problem-solving and creative abilities should also improve. This is because you have laid down a solid network of interconnections. Thus any thinking on a related topic will trigger off a multitude of associations.

To sum up this complex process, imagine an efficient Border Guard, interrogating would-be information trying to get into your Brain – into that personal country of yours, Headland:

- ❖ “Who/What are you? What business do you have here?”
- ❖ “Are you related to anyone here?”
- ❖ “Could they come and identify you?”
  - “Have you any distinguishing features?”
  - “If we let you in, where will you be staying?”
  - “Where can we find you for future reference?”

Bearing this analogy in mind, you might like to use the following mnemonic to recall the keywords: **Quit Dozing And Interrogate the Aliens.**

QUESTION What do I already know about this topic? Does it confirm or contradict the new material?

DETAIL Add any details to the information to make it more distinctive.

ANALOGIES In what way is this new information like other things I know? Also, in what ways is it different from other things?

IMPLICATIONS How does this new information affect other things that know?

APPLICATIONS How could this information be used?

### **Exam tips**





As was stated at the outset, exam tips are not too useful on their own.

The clever bit is revising properly, then the exams tend to go well too. However, the following should help you on the day.

1) Arrive early for an exam (if you start late, you usually don't get extra time), making sure you have the correct details on where it's being held. Make sure you have lots of spare pens and any other equipment you might need (a watch, tissues, snacks, brain cells, etc).

2) Read the exam paper carefully, write through. That's right, read the exam paper carefully, right through (did you spot the error just now?). Exams can give you tunnel-vision – that is, you often miss the wider issues in your intense focus on detail. As an exercise (to promote *active learning*) read through the boxed-in example of an Exam paper (p. 22), then answer the questions that follow it and, finally, read the comments on these questions. Do this NOW, then return here.

3) Decide which questions you'll answer, using a pre-prepared code, like the following:

-  Piece of cake.
-  Can do.
-  Could scrape something together if desperate.
-  Piece of pooh! Unfairly set! Don't touch it!

4) Some like to begin with their strongest answer. Others prefer to save their best, doing something slightly less familiar first. Whichever is your choice, structure your answer quickly in pattern note form.

5) Jot down any insights to other questions as and when they occur to you. (If you read through the exam paper a number of times, this should happen.)

6) If untidy, try writing on alternate lines. It can also help in that there are spaces for you to add bits later.

7) If there's a time problem, structure your answer – that is, leave a space for an introduction and go straight into the 'meat' of the answer. Add a conclusion if more time. If more still, add that introduction.

8) Treat yourself throughout: chocolate sends sugar to the brain. Well earned!

9) It is best to be concise, to the point, avoiding waffle (remember, marking exam scripts can be tedious; spare your examiner all you can).

10) Try to write readably, to aid the marking process.

11) Remember, you can only gain marks by responding to the question – not for anything else that you happen to know, or have revised (see the *Essay Writing* booklet – Rudd, 2005). There's a story (probably apocryphal) about a student sitting a Literature examination at Oxford University (or possibly Cambridge), who had noted that on previous exam papers there had *always* been a question about the English poet, Spenser. The student couldn't believe it when he read through his exam paper and found that, this year, there was no question on Spenser. After about five minutes, becoming more and more agitated (it was Spenser that he'd revised), he finally brightened up. He picked up his pen and wrote, on the end the exam paper (which had 14 questions), Question 15: 'Is Spenser's *Faerie Queen* merely an allegory of the Elizabethan court, or is it more?' He then proceeded to answer his own question and, so legend has it, passed the exam. The point of the story is that *you* would get no marks at all for such a practice (if anyone ever did!).

**UNIVERSITY OF BOLTON**  
**DEPARTMENT OF LIFE, THE UNIVERSE & EVERYTHING**  
**COMMUNICATION SKILLS PAPER**

Date: 10th June 2005

Time: 2½ hours

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**INSTRUCTIONS TO CANDIDATES:**

**Read through the following questions then respond to each as appropriate.**

**You may write your answers on this Examination Paper.**

**Answer THREE questions. ONE only must be from Section 1. The other TWO must be from Section 2. Section 1 carries 40 per cent of the marks; Section 2 carries 60 per cent.**

**Section 1**

1 What do you understand by the term "Communication Skills"?

2 Outline the main elements that constitute a good Personal Development Profile.

## **Section 2**

3 Is it possible to improve your creativity?

4 Briefly outline two stage theories of student development and evaluate their relative strengths and weaknesses.

5. Intelligence = exam success. Discuss.

6. Students who attend lectures and other classes regularly and punctually obtain better degree classifications. Discuss.

7. "Men create art whilst women create babies." Discuss.

8. 'Student fees are a good idea, making those who benefit from higher education pay for it, unlike the previous system, in which all taxpayers contributed to it, though only an elite minority benefited from it.' Discuss the strengths and weaknesses of this argument.

9. Compare the use of qualitative and quantitative methods in research.

### Which of the following are correct/incorrect?

a) You decide to answer questions 1, 3 and 6.

b) You intend to spend 45 minutes on each answer...

c) ...However, you end up spending an hour on the first question, 55 minutes on the next, and 35 minutes on the third.

d) In question 2, you define what 'Personal Development Profiles' are, giving a brief outline of their purpose, then go through the various elements that you think should comprise one (CV information which lists achievements, especially in terms of skills, both inside and outside University; also a reflection on how the student has developed, and what the person still needs to do to make him/her an even more well-rounded person). You haven't read about this, but it seems like common sense to you.

- e) You don't know anything about *improving* creativity, but you do know a lot about theories of how creativity works. You decide to write about these instead.
- f) In question 4 you write about 'two stage' theories of student development.
- g) In question 1 you think it would be a good idea to talk about 'Communication Skills' by contrasting it with 'Study Skills' and 'Personal Skills'.
- h) You have answered question 5 but realise that a lot of the material you've used would also be relevant to question 6, so you tackle this one too.
- i) You don't know who made the statement quoted in question 7, so don't tackle it – though you do think you know a lot about the arguments involved.
- j) You don't tackle question 8 because it looks too long and complicated.
- k) In question 9 you decide to look at qualitative methods first, then discuss quantitative methods; finally finishing by comparing the two approaches.

How did you do on the above questions? They raise a number of issues, but the key thing to note is that it is easy to go wrong in an exam: you are tense, and you can easily misread a question.

Quickly now, answer this: *What's the opposite of not out?* (The answer follows the notes on the Correct/ Incorrect responses.)

### **Correct/ Incorrect Responses – Some Observations**

- a) Correct. Always watch out for exams with different sections, and make sure you answer the right number of questions from each. Also watch out for compulsory sections, and ones that carry more

marks.

- b) Incorrect. 45 minutes for each question totals 2¼ hours, which gives you 15 minutes to review your responses, and to allow for any mistakes in your timing. This would be fine but for the fact that the first section carries more weight (40%), so you'd be better giving it extra time.
- c) Incorrect. Presumably the student would have liked to spend more than 35 minutes on the final answer, but ran out of time. It is always wise to set aside your answer after the allotted time and move on to the next question. It is a fact that most of the marks for an answer are achieved fairly quickly, so going on longer is unlikely to give you much of an advantage. Once you have given each answer a decent stab though, by all means, return to your unfinished answer and try to improve it.
- d) Correct. This sounds a sensible response. It sometimes happens that you have to 'think on your feet' in an exam, pulling together any information you can. You often get marks for stating things explicitly – even if you think them obvious (giving definitions, dates, names, etc), so make sure you do this. Examiners are keen to award whatever marks they can to an answer, and are particularly keen on seeing evidence that a student is thinking intelligently.
- e) Incorrect. You can only get marks for giving the information that has been asked for. You are wasting your time writing down irrelevant material. However, with a bit of thought, as noted under (d), it might be possible to rework information about how creativity works, so that it *does* address the question about improving creativity (e.g. if creativity works by the unconscious making unusual associations, then it might be impossible to improve it by training people to think 'laterally', by reading books on different topics simultaneously).
- f) Incorrect. This student has misread the question – a common failing under the stress of exams. However, it does look a bit ambiguous: 'two-stage theories' as opposed to 'two stage-theories'. Read your questions carefully, several times.
- g) Incorrect. Once again, stick to what the question asks of you! You won't get extra marks for material that is irrelevant.

- h) Incorrect. Sometimes the rubric explicitly tells you not to reuse the same material across questions. But even if it does not, don't do it. It suggests that your knowledge is limited.
- i) Incorrect. Who made this statement is not relevant (in fact, such statements are sometimes made up by the examiner). The statement is simply a springboard for examinees to state their arguments.
- j) Incorrect. Long questions are often easier to answer than short ones (like number 5) in that they give you hints about structuring your answer – and sometimes they give you hints about the shape of the arguments (as does this one).
- k) Incorrect. If the question asks you to compare, then you need to compare throughout, not just in a conclusion.

*The opposite of 'not out' is 'out', of course (not in).*

Now return to page 20, point 3.
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### **SUMMARY - A DOZEN USEFUL TIPS GARNERED FROM STUDENTS WHO REGULARLY FAIL THEIR EXAMS**

1. Never read the instructions before starting the paper. In fact, if you can avoid it, don't read the questions either.
2. Don't bother planning your answers, just start writing.
3. Don't worry about time - unless you are studying Physics.
4. Write as much as you can think of in the broad subject area. Latch on to the buzzwords in the question and free-associate. Don't be pedantic by trying to work out exactly what the question means – only examiners need worry about this!
5. Words such as 'analyse', 'discuss', 'explain', 'estimate', and 'evaluate' mean more-or-less the same thing: i.e. 'say something about'. They are just changed for the sake of variety.
6. Lecturers love the sound of their own voices, so give them back as much of their lectures as possible, preferably verbatim.

7. If you can't manage (6), large lumps of secondary source material will do, especially if given without references or quotation marks. Don't worry about putting it into your own words—the original writer probably had longer to choose theirs, so are probably better.

8. Marking examinations is lonely work, so examiners love the personal touch: doodle, tell them about your problems (your memory blocks, your problem with revising when the pubs/shops are open, etc.).

9. Examiners are also mind-readers, so don't worry about writing legibly, comprehensibly, or about spelling and punctuation.

10. Examiners want to give marks, and give the benefit of the doubt where they can, so be as ambiguous as possible.

11. Invigilators are most impressed with students who finish first, so try to leave the room before the time-limit has expired. (In case they don't notice you, try to make your exit memorable.)

12. One final tip: resits are usually easier, so don't put in too much initial effort.

### **Further Reading**

Barrass, Robert (2002) *Study! A Guide to Effective Learning, Revision and Examination Techniques*. London: Routledge

Burns, Richard (1997) *The Student's Guide to Passing Exams*. London: Kogan Page

Evans, Mike (2001) *The Things You Need to Know to Make Exams Easy*. Oxford: Essentials

McIlroy, David (2005) *Exam Success*. London: Sage

Naylor, Grant (1989) *Red Dwarf*. Harmondsworth: Penguin.

Race, Phil (2000) *How to Win as a Final Year Student: Essays, Exams and Employment*. Buckingham: Open University Press

Rudd, David (2004a) *Giving a Presentation*. Bolton: Learning Support and Development, University of Bolton.

Rudd, David (2004b) *Note-Taking*. Bolton: Learning Support and Development, University of Bolton.

Rudd, David (2004c) *Writing: The Basics*. Bolton: Learning Support and Development, University of Bolton.

Rudd, David (2005) *Essay Writing: A Brief Guide*. Bolton: Learning Support and Development, University of Bolton.

Tracy, Eileen (2002) *The Student's Guide to Exam Success*.  
Buckingham: Open University Press

