

## LEARNING TO LEARN

### Use this sheet to help you:

- understand the different ways in which people learn

### 5 Minute Self-Test

1. What is the difference between "deep" and "surface" learning?
2. What is "strategic" learning?
3. What is "intrinsic" and "extrinsic" motivation?

## 1. Learning to Learn

Your study experience should be interesting, exciting and challenging. Developing good learning skills will enhance both your enjoyment of your course and your academic success.

University learning is not achieved through just one method. It involves different ways of teaching, study skills and technologies. Your formal education will be comprised of lectures, tutorials, study groups, working individually, reading, writing, problem-solving and using web based learning materials.

- These teaching and learning methods will require you to work alone, in small groups, in formal class settings and in large groups.
- You will develop skills with technology that will be useful in your future career using spreadsheets, databases, statistics and the internet.
- You will also use other learning technologies such as the LMS, online tutor, Feedback and Assessment Tests, etc.

### 1.1 Approaches to learning

Subject material taught at university can be very specialised and abstract. Maintaining motivation can sometimes be difficult. A central problem is how to internalise academic knowledge - to connect the new material with things that we already know and to understand how to use it for our own purposes. We need to convert knowledge and make it part of our own patterns of thinking. In other words we need to learn to think like an economist, an accountant or a manager. One way of doing this is to apply the theories you are learning to real life situations and work with others to solve problems. The approaches to learning that you will develop in your course will help you to learn actively and to think deeply and critically about ideas you are encountering. To succeed you will learn to be an organised and self-regulating student.

As you study at university, it is important that you think not only about the subject matter that you are studying, but also about the ways in which you learn.

### 1.2 The 'why', 'how' and 'what' of learning

Thinking about thinking and learning is known as metacognition." (Flavell, 1979; Zimmerman, 1995)

You need to start to think about what learning is, about why you learn, how you learn, what you are learning and about the most effective ways to learn. Everyone has their own distinctive way of learning and what works for you may not work for your friends. Learning is affected by physical conditions (the place you study, temperature, noise, light etc) and by emotions (how you feel about the subject, the teaching, what is happening in your life). Learning is also affected by the forms of assessment in the subjects you are studying.

Why are you learning?

You are probably learning for a number of reasons, such as:

- You find it interesting, enjoyable and challenging
- You need to study to get the job you want
- A particular subject is compulsory or a prerequisite for another you want to do

These factors will affect how you feel about your learning and the ways in which you approach it. Finding something interesting is one of the most powerful ways of promoting effective learning (Biggs, 1999).

## How are you learning?

- Are you trying to cram or memorise everything without really thinking about it?
- Are you understanding, using the ideas, thinking about the relationships between new concepts and things you already know?
- Are you thinking analytically?
- Are you working regularly or in a haphazard way?
- Can you organise your time effectively?
- Are you motivated?
- Do you work well with others?

Understanding, thinking analytically, working regularly, organising your time, being self motivate and working with others can all help you to maximise your learning.

## What is learning?

Learning is a combination of:

- Acquiring knowledge.
- Memorising.
- Applying knowledge in some new situation.
- Understanding explanations and interpretations.
- Evaluating the relative worth of evidence.
- Gaining an understanding of the world.

## What kind of a learner are you?

How do you learn? Why do you learn in this way? Think about why you are doing something in a particular way?

"It is important not only to see learning as learning subject matter but also learning skills." (Donald, 1995; McKeachie, 1999)

- Is this the best way?
- Are there any other ways?

There are a variety of different approaches to learning styles (eg the Keirsey Temperament Sorter <http://www.keirsey.com> or Gardner's Multiple Intelligences (Gardner, 1999). Here is a short test you can do to discover the ways in which you learn.

	Always	Sometimes	Never
<b>Visuo-spatial</b>			
I like to have my room organised so that they things that go together stay together.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to draw a map if someone is giving me directions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to make poster-style charts to study from.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I use my hands or a drawing to help me describe complex things to other people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When I try to remember things, I can picture the page or the place I first saw them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Visuo-verbal</b>			
I like to read over the instructions before I try something new	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to rewrite things I have to learn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to make lists of things to do	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I use lots of describing words when I'm explaining things to people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to take notes in complete sentences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Auditory</b>			
I like to repeat instructions as I do new tasks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I prefer to listen to a story than to read the book	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to talk over the lessons with some of my friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like people asking me questions so I can talk about what I've done or learned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I take point form notes and don't like writing essays	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Kinaesthetic</b>			
I like to try something without bothering about the written instructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I love taking things apart to see how they work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I like to make patterns of things I have learnt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I'm good at practical tasks if people don't pester me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When I explain something, I use anything around me – knives and forks, sauce bottles – to show how the parts fit together	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Rhoden and Starkey, 1998)

None of these ways of learning is better than the other, but different methods suit different learning styles. You need to find out what is effective for you and how you can best apply it to the subjects you are studying.

## 1.3 Different approaches to learning

### Surface learners

Some students rote-learn without really understanding the concepts. They memorise but do not really think about the ideas in the context of other ideas. Often they study just to 'get through'. This is called a surface approach to learning.

### Deep learners

Others think in more depth about the ideas and theories they are learning. They ask questions. They make connections between ideas and think about the reasons underlying concepts and their implications. This is called deep learning.

### Strategic learners

Other students combine memorising where it is necessary with an understanding of the theories and concepts. They are strategic in their approach to learning, utilising the best approach for a particular situation.

Deep and strategic approaches are the most effective way of achieving in an academic environment, in which assessment is part of your learning. According to Grabe and Grabe (1998) for students to learn effectively, they must be doing active, cognitive processing. This means they must be engaged with what they are learning, thinking, doing, writing, talking, and fitting what they are learning with what they already know. They also need to be asking questions, explaining and so on.

Biggs (1999) has carried out extensive research into deep and surface approaches to learning.

Some important factors in successful learning:

- Motivation
  - Intrinsic motivation - wanting to learn for its own sake.
  - Extrinsic motivation - needing to learn.
- Experiencing - having a go, practicing, trial and error, learning by doing.
- Feedback - finding out how your learning is progressing.
- Making sense of what you are learning - digesting the material, using it, applying your knowledge. (Race, 1999)

## 2. Strategies For Successful Learning

### 2.1 Setting goals

To keep yourself motivated, you will need to have meaningful goals which allow you to keep on top of the work.

## 2.2 Managing your time

You should be aware of how many hours a week you spend studying for this course (both private study and contact hours). You need to keep up to date with the reading each week, prepare for tutorials and review your lecture notes. In addition you will need to make time to complete essays and assignments.

## 2.3 Self-regulation

Not only do you need to manage your time, you need to manage your learning and be an active participant in your own learning. As discussed earlier this means learning actively and thinking about the most effective and enjoyable ways of maximising your education.

## 3. Ways Of Thinking

### 3.1 Critical thinking

Critical thinking is an important part of learning. It does not necessarily mean finding fault with something but can mean the following:

- Assessing a writer's expertise - who are they, how much can they be expected to know?
- Recognising their purpose - why are they writing, what do they hope to achieve?
- Recognising assumptions underlying the model, theory or explanation.
- Recognising the quality of an argument - are the ideas connected, well developed and logical?
- Linking the ideas to others - what have other writers said about the same or related idea?
- Providing a critique of a theory or position.
- Understanding the social and political contexts of the ideas - what social and political influences are there on the writer? How are they important?
- Understanding the language choices that the writer has made - how do they use language and why have they made these choices?
- Recognising how the text influences the reader - in what ways does the writing position the reader to think in certain ways?

Critical thinking often involves looking to see if something is reasonable, reliable and complete and considering other ways of seeing the matter. It is important to question and not take what you hear and read for granted. Be careful not to repeat what someone else has said without thinking about it first.

- Are there other points of view?
- Is this the only perspective?
- Is this the way you see things? Why or why not?
- Are there other explanations?
- Are there aspects which may have been assumed or ignored?
- For more detailed information regarding critical thinking, see **Study and Research Helpsheets: Critical Thinking 1,2 and 3**

## 3.2 Analytical thinking

In the academic world, you are expected to analyse. To analyse means to look at something carefully and understand how it works, what it means or what it implies. In other words it is the 'How?' and the 'Why?' element of your thinking and writing. You are also expected to think in a logical and connected way, to draw conclusions from what you know. You are expected to look carefully at the arguments and explanations of others and consider their strengths and weaknesses. You are also expected to make connections between ideas and understand how one idea is linked to others.

Look at this example of a paragraph from *Principles of Microeconomics* (Mankiw, 1999, 7).

"Because people make decisions by comparing costs and benefits, their behaviour may change when the costs and benefits change. That is people respond to incentives. When the price of an apple rises, for instance, people decide to eat more pears and fewer apples because the cost of buying an apple is higher. At the same time, apple orchards decide to hire more workers and harvest more apples because the benefit of selling an apple is also higher."

When reading this passage there are a number of things you need to consider if you are thinking critically. These questions might seem obvious to you now. It is important to think critically about the ideas and assumptions underlying a piece of writing.

The passage begins "Because..." You need to ask yourself:

- Does people's behaviour really change because the costs and benefits change?"
- Do people really make decisions by comparing costs and benefits?
- Is this always the way they make decisions?
- How do we know this and how can we demonstrate it?
- If the price of an apple rises, do people actually eat more pears and fewer apples?
- Is it because the cost of buying apples is higher or might there be another reason?
- How do we know what the reason is?
- What are the assumptions upon which this argument is based?
- What is the theory underlying the passage?

If your going to be a good student of economics (or any subject in the Faculty of Business and Economics) you need to be able to think critically and to explain how an idea works.

Whenever you read or listen to something ask yourself these questions:

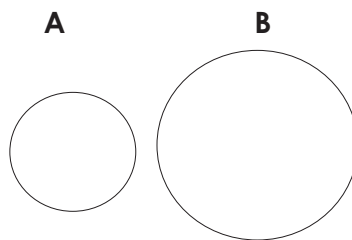
- Why is this the case?
- Is this the only explanation?
- Is there sufficient evidence?
- Does the explanation or argument make sense and is it logical?
- What are the implications of this point of view?
- Where is this point of view coming from?
- What is the social and political context for this perspective?
- Are there things that have been left out or assumed?
- Are there other ways of seeing things?

## 3.3 Comparing and contrasting

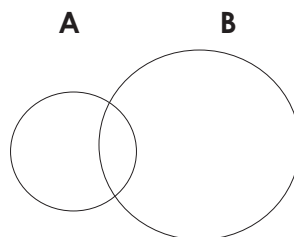
In your writing, you may be asked to look at the similarities and differences between a theory or practice, or the strengths and weakness, or to compare and contrast. You are being asked to analyse pairs of concepts. It can be tempting to take the simplest approach to the relationship between the pair and see them as completely separate or as opposites of each other. This is known as dichotomising. However this is not always a useful or indeed accurate way of seeing a pair of ideas - it is not always appropriate to see the two entities as not only distinct but diametrically opposed to each other. On the other hand, it can be equally misleading to treat two ideas or practices as if they were exactly the same and to exaggerate the similarities and to ignore the differences.

One way of seeing ideas which are connected yet different is to see them as part of a continuum in which there is a range or spectrum between the two extremes. Another is to see the concepts in terms of their relationship to each other in the following diagrammatic way. These diagrams demonstrate different ways of visualising pairs of concepts.

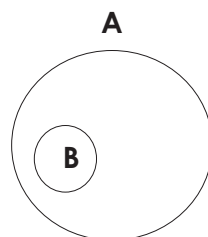
1. Two concepts (A and B) can be quite separate from each other. There is no overlap of meaning.



2. Two concepts may overlap with one another. There are areas in which both concepts apply. The difference between A, B and the overlap area needs to be defined.



3. One concept may be a subset of the other.





Another very useful way of understanding ideas and the connections between them is by using concept maps. Concept maps are a very useful way of understanding and organising large amounts of complex information as they allow you to:

- See connections between ideas.
- Connect new ideas to knowledge you already have.
- Organise ideas into a logical structure.

### ***Exercise in analytical thinking***

In first year economics you may be asked to analyse a current economic issue and apply the theory you have learnt. Read the following synopsis of an article from *The Financial Review* 3/12/99.

The article comments on a crisis meeting of the chief executives of Australia's four car manufacturers with senior Government ministers. This meeting is to discuss the fears that a pre GST strike by car buyers will cripple local production. The car makers want an immediate cut in sales tax to 13% and measures to curb a flood of second hand imports. *The Financial Review* claims that the Treasurer Mr Peter Costello is resisting calls for a sales tax cut because of revenue implications.

*The Financial Review* also mentions that Senator Minchin refused to guarantee that car prices would fall after the introduction of the GST and that exchange rate fluctuations and retail competition would effect the final price of new cars. *The Financial Review* quotes Senator Minchin as saying "This is not a socialist State where the Government sets prices".

Using your knowledge of economic theory explain the article to someone who has never studied economics.

- What has caused the buyers strike?
- What effect will the cut in the sales tax have on buyers? Why?
- What effect will the second hand imports have on the local market?
- What will be the effect on the economy if the government introduces measures to curb these imports? What will be the effect on the local industry, the balance of trade etc?
- Why is Peter Costello resisting calls for a sales tax cut? What are some of the economic theories underlying this?
- How do exchange rate fluctuations and retail competition affect the final price of new cars?
- What would happen if the government were to set prices? Why?
- Why does Nick Minchin choose to use the words "This is not a socialist state where the government sets prices." What is his thinking underlying this comment?
- How does this position the reader?

What assumptions are you using in your explanations of the above questions?

## 4. Ways Of Working

Some of your formal learning time will be involved with group problem solving tasks. Learning to apply the theories you are learning in the lectures and reading to other situations forces you to come to grips with the ideas. Working in groups helps your learning in a variety of ways. If you are confident in a particular area, explaining it to other members of your group will allow you to refine and develop your idea. If you are unsure of a concept, working on a problem with other students will give you a chance to ask them questions to clarify your ideas. Sometimes it is easier to ask your peers questions than the tutor if you really don't understand.

- In less formal learning situations, you will also have the opportunity to work with other students in study groups and peer tutoring groups or with friends. Collaborative and team learning can be a very valuable way of learning. You should think of your peers as one of your most valuable resources.
- Meeting regularly as part of a study group or joining a Peer Assisted Study Scheme (PASS) group in the subjects where it is offered can allow you to make sense of what you are learning and find out the areas in which you are unsure. You will be alerted to think of questions you may not have thought of yourself.
- Working with others will also allow you to see questions and theories from other perspectives, giving you a much broader understanding. Putting your ideas into words as you do in a group helps you to express them more clearly and think about the connections between ideas.
- If you explain something that you have only recently learned, the act of choosing the words to get the idea across in itself crystallises it in your own mind and helps it to stay in your memory. This is good preparation for the writing you will have to do as part of your assessment, and for the exams at the end of the semester.
- It is very useful to have feedback from other students, even indirectly about where you are with your own learning.

“Peer learning is an extremely effective way of studying (Johnson & Johnson, 1975; Johnson et al 1981; Miller & Groccia, 1997). Teaching others results in better learning than being taught as it promotes deeper studying of the material, a careful selection of materials and a processing of ideas (Annis, 1983).”

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