

Thinking Skills

Learning
Resources



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useful revision strategies?
to improve your presentation skills?

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Thinking as a skill



There is a common misconception that thinking is a skill you are born with. However, just like any other action, we get better at thinking with practice. We use thinking skills to make sense of information and, as you are exposed to so much information during your time at college, it is essential that you develop these thinking skills if you wish to succeed in your course of study.

The information you receive in your classes is only valuable if you know what to do with it and you will have to use information in a meaningful way to successfully complete your assignments. For example, you could learn a lot about the Second World War but if you cannot apply this information to answering an essay question, then it is not valuable. Developing your thinking skills will give you a more thorough understanding of the topics you are studying and allow you to use information to better effect.

Information retention

People process information in a variety of ways, but mostly through reading, listening or observing. Many methods of assessment, such as exams, presentations, group discussions, etc. require skilled use of memory.

Throughout your studies, you will be exposed to large amounts of new information in a short space of time. This can make it difficult to remember information, as our memory is finite and we are only able to process a certain amount of information at any one time. There are, however, many techniques that you can use to help improve your memory and your ability to retain information.

Chunking

Chunking is exactly what it sounds like - breaking down information into smaller pieces. This works best when you are dealing with words or numbers. When you have a long list of information to remember, for

instance a telephone number, it is easier to break it down into smaller chunks. You can then recall these chunks of information in a sequence, rather than as separate numbers. For example:

0-7-8-9-5-1-2-3-4-5-6
is more difficult to remember than
07895 123 456

This is because your brain only has to recall three chunks of information, rather than eleven. The average human brain can store around seven different pieces of information in the short term memory at any point in time. So by creating chunks of information, rather than individual pieces, you can increase your capacity to recall.

Visualisation: the method of loci

The method of loci is a technique that works well for visual or physical learners. Dating back to the Ancient Greeks, this is one of the oldest known methods of improving memory and recall:



Imagine a place you are very familiar with, maybe your house or places you pass on your journey to college



Visualise each room of the house or each step of the journey in a logical order



In each room of the house or step in the journey, visualise one piece of information you need to memorise

you remember the sequence of events or the major characters in a story. For example, if someone asks you how many wives Henry VIII had beheaded, you can recall the simple rhyme:

‘Divorced, beheaded and died
Divorced, beheaded, survived
I’m Henry VIII I had six sorry wives
Some might say I ruined their lives’

Acronyms and acrostics

Acronyms and acrostics use the chunking technique as a recall tool. As previously discussed, by limiting the amount of information you have to remember, you are able store more in your short term memory. An acronym is created by using the first letter in a series of ordered words. An acrostic is created by using the first letter in a series of ordered words to create a sentence.

Active learning

Active learning means you are processing information by engaging with it. You are not simply passively receiving the knowledge, you are doing something with it. There are various techniques and strategies you can use to become more active in your learning processes, including:



Take time to listen - summarise periodically rather than taking extensive notes



Analyse the information you have been given - think about positives and negatives to gain a broader understanding of the topic



Write your own definition or explanation of the key concepts and ideas. This will help you to clarify your understanding of the topic



Review your notes. Underline or highlight key points from your notes and identify any gaps in your understanding

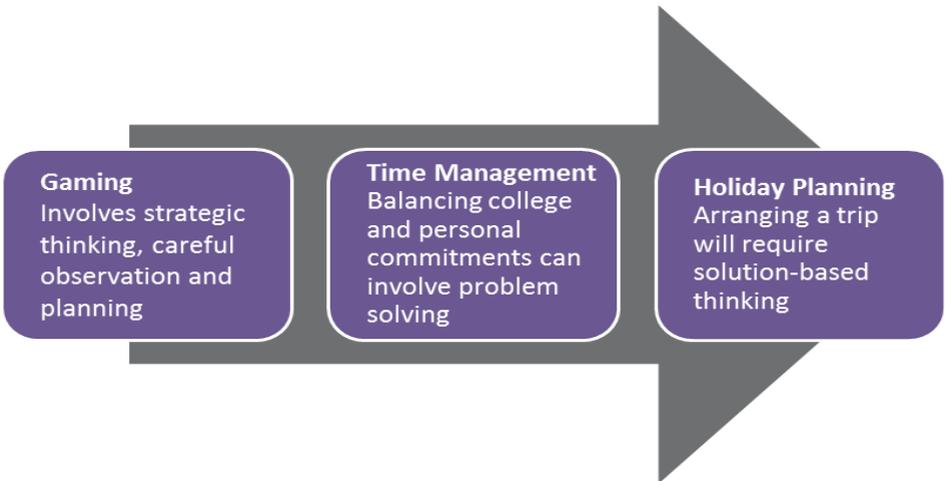


Study and discuss with others to allow you to explore different viewpoints

Engaging in your learning and being active in your practices will enable you to become a more effective learner. This, in turn, will allow you to improve upon your problem solving and critical thinking skills, which are required for assignments.

Problem solving

Problem solving is a transferable skill, which involves a particular way of seeing and thinking about a situation. It is very likely that you already undertake activities in your personal life which require problem solving skills. For example:



The more you engage in activities which require you to devise solutions and be strategic, the stronger your problem solving skills will become. One of the key elements of activities like those listed above, is that they allow you to be creative, and creative thinking is a really important part of problem solving.

Any assignment you are given will involve problem solving to some extent. This could range from figuring out which resources are most relevant, to solving a mathematical formula. Research suggests that people who spend more time working out exactly what is involved at the beginning of a task are more successful problem solvers. Breaking down the problem or task into stages will allow you to gain a full understanding of all aspects involved in reaching a solution.

Creative thinking

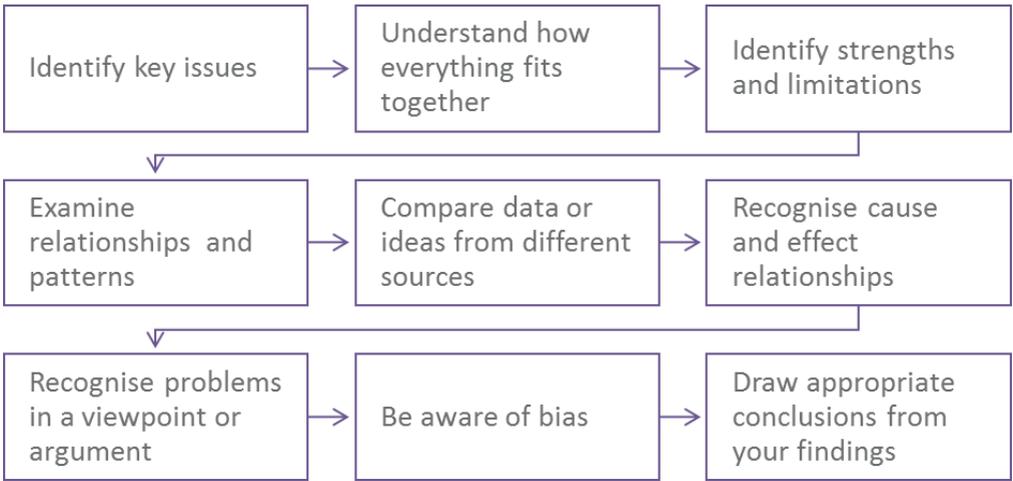
Thinking creatively about a problem is a skill that employers are increasingly looking for. Creativity involves generating lots of ideas and is often less ordered or structured than other ways of thinking. This approach will allow you to find many potential solutions to problems and give you more freedom in your thought processes. Not everyone finds it easy to think in a creative way, but there are techniques you can use to help develop your ability to think creatively.



Creative thinking will help you to generate solutions to problems, however, it is not enough on its own. It is also important to make sure you develop logical, analytical thinking skills too.

Analytical thinking

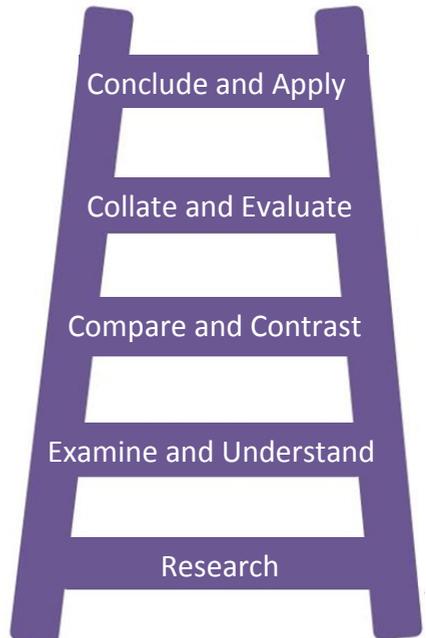
Analytical thinking requires you to draw conclusions from evidence rather than using your opinion, even if this goes against your intuition or instinct. It is about thinking methodically and in context, which means going further than simply describing the information. If you are required to analyse a situation, you should:

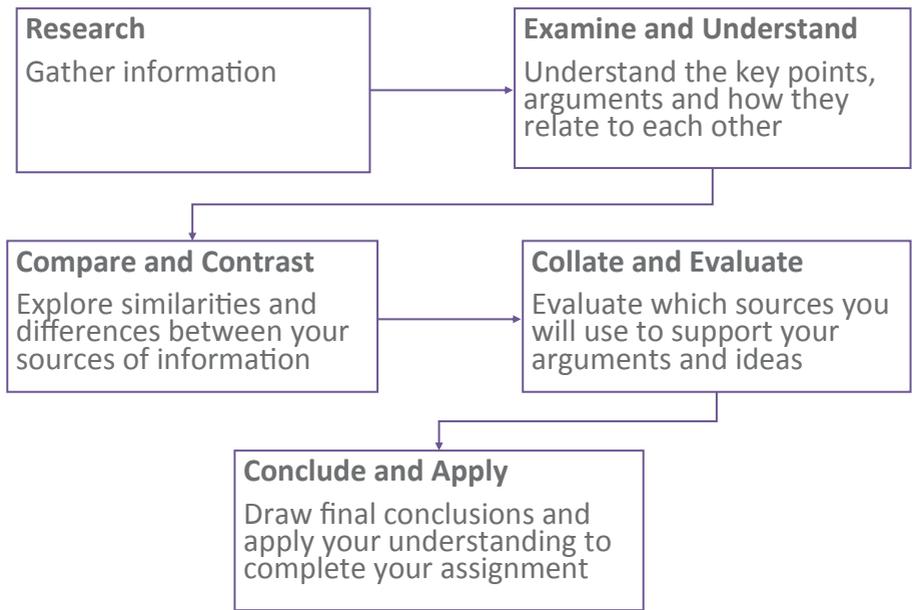


There is a close relationship between analysis and critical thinking; they are both ‘higher level thinking skills’. This means they go beyond assumption and opinion to evaluate ideas in a wider context.

Critical thinking

Thinking critically does not mean being negative, it is about judging the value of information objectively so you can make an unbiased assessment. Using the critical thinking ladder, as illustrated right, will help you take a logical approach to thinking critically about your assignment.





Writing critically

When writing your assignments, there are three steps you should follow. Doing so should allow you to organise your thoughts and research in a way that is both critical and coherent:

Description

Provide your reader with background information. Ask yourself - Where? What? When? Who?

Analysis

Compare arguments and identify relationships. Themes and patterns. Ask yourself - Why? How?

Evaluation

Does your information answer your question and support your conclusion? Ask yourself - What if? So what? What next?

And finally

Ask

This guide should provide you with an introduction to some of the important thinking skills you will need to develop and use at college. This is a very broad area of study and there is much more to learn. The libraries at all three main campuses contain resources on Thinking Skills. Please contact any member of the Learning Resources team for more information.



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Contact learningresources@dundeeandangus.ac.uk for more information.

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