The C.R.E.A.M strategy for learning

Learning outcomes

This chapter offers you opportunities to:

- become aware of mthe contribution of each aspects of the C.R.E.A.M tratgy to the learning process
- develop ideas on how to take more creative and active approaches to your study
- understand the difference between being a *virtuous* student and being *effective* student
- consider effective approaches for different kinds of study
- clarify your motives for study and develop strategies for maintaining high level of motivation
- build upon the reflective work of previous chapters.

C.R.E.A.M

C.R.E.A.M stands for :

C – Creative
Have the confidence to apply imagination to your learning and problem-solving.

R – Reflective
Be able to sit with your experience, analyze and evaluate your own performance, and draw lessons from it.

E – Effective
Organize your time, space, priorities, state of mind, resources and use of technology to maximum benefit.

A – Active
Be personally engaged physically and mentally, in making sense of what you learn.

M – Motivated
Be clear about the outcomes you want to achieve, the steps you need to take to achieve these, and what you will do to build and maintain your engagement and enthusiasm

Developing each of these aspects strengthen all the others. For example, being motivated involves refection about what you really want. Active learning and creativity require motivation and help you to stay motivated. Effective organizational strategies benefit from imagination and refection – and so on.

C - CREATIVE

Finding your creative streak

Creative is especially important for generating ideas in the early stages of new assignments. You can use more logical approaches later, to evaluate which creative ideas to use.

Attitudes that prevent creativity

- 'It's a waste of time.'
- 'It's childish.'
- 'There's a time for work and a time for play.'
- 'There's a right way of doing things.'
- 'It's not logical.'
- 'I cant't.'

Approaches that foster creativity

'Play' and lateral thinking
Select any two random objects, such as a cup and a plant. Find as many connections between them as you can (e.g. by size, color, owner, the way they break, how they spin, when they wee bought). How could you apply this type of 'play' to your coursework?

You find what you are looking for

- Find ten round things in the room.
- Find ten things that 'open'.

Once you start to look, you may find your attention drawn to many such items. If you look for new strategies or answers, it is more likely that you will find them too.

There's more than one right answer
Once you have come up with an answer, look for more. These may be better – or give you a way of fine-tuning the first idea.

Combine things
Take the fron half of one animal and the rear of another. What new animal have you invented? The essence of invention is missing two different ideas or contexts to create a new variety. This helps in academic thinking too – such as comparing viewpoints.

Metaphor
Let one thing stand for, or represent, another: that is, use metaphor or analogy. Look at objects, or study problems from different perspectives, making these visual or concrete in playful ways. Take an issue out of the academic context and see what it looks like in the world of oranges and apples, or knives, forks, salt and pepper. If an issue doesn't make sense to you, map it out with pbjects on a table – just s generals mapped out military strategies using 'toy' soldiers.

Activity - Search for connections
See how many ideas you can generate by completing he sentences below.

- Writing an essay is like making cakes because …
- Study is like a game of football because …
- Being a student is like being a sandwich because …
- What other metaphors can you think of to describe what study or learning is like ?

Be a professor – and other ideas

Give yourself a new sub-personality

In our minds, we carry various sub-personalities, such as an internal *critic* who tells us off, a *playful child* who sees the funny side of things, a hero who wades in to save the situation, and many others.

If you pay attention to your thought process, you can become aware of those different characters within.

Activity – You are the world's leading expert

Experts don't find problems easy, but they are more open to dealing with the seemingly impossible. Those working at the forefront or research cannot look up the answer in a book – it isn't there yet! Like Ensitein daydreaming on a sunbeam they may play with ideas, juggle with options that seem crazy, and go on flights of fancy, imagining 'what if…?', generating lots of possible answers, and then examining them more closely to see whether any could actually work.

You can do that too. When you cannot think of a way of doing a piece of work, imagine that you are a professor or inventor dealing with a world-important problem. What does your internal professor look like> Sound like? How do you move your hands and head when you are in 'professor' mode? Let your professor come alive, and talk to you about possible approaches to study problems.

Keep an ideas notebook

Value each passing idea, as writers and artists do. Jot ideas down at once in a notebook or on sticky labels. Keep paper and pen by your bed.

Go through the ideas later to see which you can use. Many will lead nowhere – that's part of the creative process – but sometimes one will be just what you need.

Be curious about what you don't know

Creative people are curious. They want to know everything – just in case it fits together with something else one day.

It is difficult to be creative if you fear or resist what you don't know. Be open to the curious child in you who wants to have a go at everything.

Create opportunities to break a routine

When you take a different route, even if it is not the quickest way, you discover new things of interest.

Examine your routines. Ask:

- Why am I doing it this way?
- Have the original reasons now changed?
- How else could I do things?

Imagine alternatives

Ask 'what if …? questions
What if the weekend were three days long? What if this essay had to be in tomorrow? What if I were only allowed 100 words to write up my research – what would I include?

How would others do it?
Consider: how might Pablo Picasso approach this study problem? Or Nelson Mandela? Aung San Suu Kyi? J.K.Rowling? Mozart? Beyonce? A politician? A choreographer? Your mother? Your internal professor? Whose approach would most help and inspire you?

Creative problem-solving

What?
Problem-solving takes different forms such as:

Real-life, everyday situations in study, personal life or work.

A 'teaser' question or activity in class or on a discussion board for a group to solve. This could be a game or puzzle.

A case study that provides a problem-based or enquiry-based, approach to a complex issue such as healthcare, politics or business, and often requiring you to make recommendations.

A mathematical problem requiring an answer using specific measures (of time, distance, length, energy, etc.)

Why? …

Exercise in problem-solving train you in a range of thinking skills. They enable you:

- to develop creativity and reasoning abilities in generating potential solutions and deciding between them
- to research issue from different perspectives
- to develop your understanding of theory and principles and put these to practical use
- to practice specific procedures

You can apply a problem-solving approach to any research or study activity.

Easy problem-solving
Problem solving is easier if you use the following approaches.

Mind-set Approach it as a puzzle rather than a 'test'. As this is more enjoyable, it is more likely that you will stay on task in a relaxed, engaged mental state until you arrive at a solution.

Time Spend as much time as you need to really tease out precisely what is needed before you start to search for an apply solutions.

System Use an organized, step by step approach, so that you take account of all important information and clues with which you are provided, and so that you cover all essential stages in the right order.

Knowledge Call upon what you know. As a student, it is likely that any problems that you are set will relate in some way to material covered previously in class or about which you can find essential information in the reading materials and resources provided.

Preparation Research the problem carefully before deciding on a solution. Assemble all the information and material that you need. Go through your formulae, or undertake the background reading or investigations.

Typical mistakes

Do any apply to you ?

Rushing at the problem … rather than taking the time needed for the early stages in defining the task. This can create difficulties later, and leads to students thinking that they can't solve problems they could manage

Being imprecise about the specific nature of the problem; not examining the details in a systematic way.

Jumping to conclusions … about the strategy or formula to use before thinking through all the options.

Missing out on clue… rather than using the initial information provided in order to work out further information, which they need in order to solve the problem.

Giving up too early… rather than keeping going, looking for new agles, or researching examples that throw new light on the set problem.

Under-use of material… such as course work and texts that could have thrown light on how to understand the problem and solve it.

Disorganized working… jumping steps in the process; misreading their own working out.

Creative problem-solving : stages in problem-solving

Stages in problem solving

1 **Define the task.**
2 **Identify a strategy.**
- **Draw upon familiar problems.**
- **Weigh up alternatives approaches.**
- **Make a decision.**

3 **Work it through systematically.**
4 **Check your answer.**
5 **Write it up.**
6 **Evaluate.**

1 Define the task

The most important part of problem-solving is 'elaborating' what is being asked of you. This usually provides a pointer to the kind of answer required, which in turn can prompt a means of finding the answer. Unless you recognize the nature of the task instantly, you may need to move back and forth between the following strategies until you are clear what is being asked.

(a) Put it into your own words Reword the problem to check you understand it.

(b) What sort of answer will it be? A formula? Actions? A decision? A set of conclusions? A particular unit of measurement? Recommendations?

(c) Verbal sketch Jot down a quick outline of the problem.
What do you know? What are the key facts in the information supplied?
What do you need to find out?
What kind of problem is this? How does it compare with problems already covered in class?
Simplify: If relevant, identify a formula or equation that represents the problem in a generalized way.

(d) Sketch it as a diagram For mathematical problems, and for other problems if it helps, make a rough sketch to outline the problem. Use stick people, symbols or basic shapes that help you to see at a glance how one part of the problem relates to another.
On your diagram, mark in:

- what you already know
- anything you can work out
- what you need to find out.

(e) What information do you need?

- Which of your notes, texts or other resources are relevant?
- Which theories, case studies or formulae apply?

(f) Define it
Write out clearly
Once you are clear in your thinking about what kind of problem it is, write this out as the

first part of writing up the problem.

Keep referring back to this … so that you remain focused on the precise task in question.

Defining the task : clarify the problem precisely

Defining the issue: the tortoise and hare

One hot day, a tortoise and a hare decided to race each other. The hare shot away quickly whilst the tortoise followed at a very slow pace. The hare was nearly at the finishing line when he decided he could afford to stop for a drink. In the heat of the day, he soon fell soundly asleep. Many hours later, the tortoise crept past the sleeping hare and crossed the finishing line first.

A question of speed?

If you were set the problem of whether the hare or tortoise was faster, you would need to attend to the exact wording of the problem. A hare can run faster in general terms, and did so for the greater distance. The tortoise took less time to complete the race overall. To calculate speed, you divide the distance by the time taken:

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

As the tortoise completed the whole distance in the least time, it was faster. The correct answer would depend on the eact wording of the problem set.

2 Identify a strategy

For your subject, there will be formulae, precedents or protocols that would be applied to the kind of problem you have been st. If you identify the nature of the problem correctly, this generally gives you a clear steer about the steps needed to arrive at a solution.

Draw upon familiar problems

Of problems covered previously on your course or in the recommended course materials:

* Which are the most similar to those you have been set? How might their solutions help here?

- In what ways does the problem you are working on differ from previous problems you have worked on? As a result, how might the solutions to this problem also be different

Weigh up alternative approaches

Jot down a list of strategies that might, potentially, lead to a solution to the problem. Give initial thought to where each might lead.

- What are the advantages of each solution or combination of solutions?
- What might be the disadvantages?

Make a decision

Make a reasoned decision about which is the best approach for arriving at the solution. Apply this to the problem to test it out.

Difficulties finding a solution?

If the answer isn't immediately apparent, work creatively to find a different approach.

(a) Simplify

Remove *unnecessary detail*: sift the essentials from the braoder background information. Hone this down to get to the core of the problem.

Generalize: Find points of commonality with other material you have covered.

- In maths and sciences, this usually means identifying the appropriate formula, as in the Tortoise and Hare example above.
- For other subjects, look for features or protocols, genre or theories that enable you to make cross-comparisons with other events or situations in your discipline.

Make broad assumptions that help you generalize the problem. In the Tortoise and the Hare, if we didn't know the hare fell asleep, we would solve the problem of relative speed by making reasonable assumptions based on the known typical average speed of hares and tortoises.

(b) *Consider alternative ways of looking at it*

Take a different angle

If you find it difficult to understand a problem:

- Rephrase it.
- Look up similar examples of the problem.
- Use analogies to gain insights into this problem.
- Consider who might benefit from the solution.

Make it real

It can be helpful to relate problems to parallel, concrete problems fro real life: when might you or others apply this kind of problem to a real situation? What would you need to know or do? Which parts of that real-life issue match which parts of the problem you have been set?

Combine the possibilities

Consider combining solutions from diverse problems you have solved in the past. Coul the problem have several parts to it that each need to call upon a different aspect of previous course work?

R – Reflective learning journals

In a strong notebook, or using your computer or mobile device, start a reflective learning journal.

Why?

- The act of writing things down helps you to clarify your thoughts and emotions, work out strategies, and focus on your development.
- A written record will help you see your progress and improvements: it can be easy to lose sight of this otherwise.

Who is it for?

For yourself – to help you focus on your own performance.

What do you write?

Anything which helps you to reflect on:

- your feelings about the course, the lecturers, other students, your progeress
- things you find difficult: challenges
- changes in your attitude or motivation
- how you tackle tasks – your strategies
- things you find out about yourself
- thoughts about how you learn best
- ideas that arise from your studies
- how different areas of study link up
- how your studies relate to real life.

Other uses of reflective learning journals

As a basis for discussion
It can be helpful to discuss your journal or blog entries with other students on your course. How do their experiences of the course compare with your own? DO they use strategies which you could adopt too?

Preparing for tutorials
Go through the journal and make a list of issues that you want to discuss in your next tutorial. Put these in order of priority, if you have any problems, think through some possible options, so that the discussions with your tutor will be more focused.

Risky writing
Keeping a private journal helps to develop your writing. You can experiment with different styles if you want to. You can take risks. The journal is for your benefit – and for *your* benefit – and for your eyes only. This may make a welcome change from writing to the demands of your course or tutors!

E – Virtue versus Effectiveness

Studying hard is not the same as working efficiently or effectively. Consider the table below, which shows the study strategies of one student, Leila. Leila feels she should get good marks because she works very hard. She studies 50 hours a week, and gets all her work done by the deadlines.

Reflection : Ineffective strategies

Can you see why Leila's marks are getting worse, even though she is working harder? Note your thoughts in your journal.

Leila's study strategies	
Leila feels virtuous because…	**…Yet her study strategy is weak because …**
1 Leila reads every book on the reading list, and searches the internet constantly.	* The same information is repeated in several books. She does select from one book to another.
2 She reads every book from cover to cover.	* Not all of the book is equally relevant. She does not use smart reading techniques
3 She writes very detailed notes.	* She has more information than she needs. * Her notes are repetitive and take a long time to read. * She doesn't think much about what she is noting down. * It takes her a long time to find things in her notes. * She has to rewrite her notes to revise from them. * She copies out large sections – and then copies these into her own work – which loses her marks.
4 She writes her notes neatly, and in full sentences.	* Using abbreviations would save time. * As long as she can read her notes and find information easily, they do not ned to be neat.
5 She works long hours with few breaks	* She get tired and cannot think as clearly * She gets bored and loses interest easily. * Her mind wanders and she forgets what she has read * Sometimes she takes notes without realizing she has done so with no idea what they say.

6 She locks herself away to work solidly.	* She misses out on other people's opinions, suggestions and perspectives.
7 She never asks for help or her attends support workshops	* She would benefit from guidance on how to use study time, and the experience of being a student, more effectively.

Effective and efficient study

Activity Virtuous or effective

Do you think the following examples are 'virtuous' or 'effective' ways of studying – or neither?

In the boxes below, write:

V for Virtuous **E** for Effective **N** for Neither

1 _____ Linking new information to what you already know or have studied
2 _____ Learning difficult information 'off by heart'.
3 _____ Copying chunks from textbooks – because the writer says it better than you could.
4 _____ Questioning whether what you have heard is really true or representative.
5 _____ Writing fast so that you can take down almost everything the lecturer says.
6 _____ Reading your essays and other writing slowly and out loud before you hand it in.
7 _____ Studying when you are too tired to concentrate.
8 _____ Changing to a new topic or type of study activity if you find that your mind is wandering to other matters.
9 _____ Asking for help as soon as you find something difficult.
10 _____ Relating your studies to real life

Reflection : Effective strategies

- Jot down any other examples of ineffective study that you have noticed either in yourself or others.
- What strategies would be more effective in these examples?

Unhelpful thinking

Do you:

- feel guilty if you are not working?
- feel you are cheating if you don't read a book from cover to cover?
- worry if you cannot remember every detail of what you have learnt?
- worry that other people have taken far more notes than you ?

Start tasks early …

- You only need an available computer or a piece of paper and a pencil to get started. Don't wait until you have all your books, or tidied your desk (excuses to put off getting started.
- If you don't feel like studying, give yourself permission to study for only ten minutes. Quickly jot down questions to focus your etc. Attend to the 'excuses' afterwards – if you still want to. You will probably find you are 'hooked' into the study and want to keep going.
- Get your mind working on a problem as soon as you can. It will continue working else. This is why it pays to start looking at new assignments as soon as you receive them .

E- Effective organization : space and resources

Dedicated study space

Create a separate space for study where you can leave things and come back to them. If you don't have access to a desk or table, use a shelf or cupboard to keep all your study things together.

Light and comfort

It is good to work near a window so that you have adequate light. Sitting with the window behind or to one side will cut down on distractions. A reading lamp and natural daylight bulbs are a good investment if you study in the evening.

Make the study area a pleasant one to come back to, preferably with a comfortable chair, so that it encourages you to return to study. As far as possible, keep surfaces clear and papers organized. This not only makes it easier to find things, but is relaxing for study.

Good broadband or wireless connection

If you need to go online to access material or link in with tutors, make sure that you have a strong and reliable connection before you start to study.

Combining work and study effectively

Students may combine work and study in various and circumstances, such as:

- part-time students in employment students whose work is home-based, including family and care commitments
- full-time students who need to work for money or help out with a family business
- students on programmes or option include work placements
- students on programmes that are primarily work-based, such as for medicine-related professions and Foundation Degrees.

Benefits

Which of the following potential benefits of combining work and study are relevant to you?

____ A braoder range of experience and skills.

____ Greater confidence in adult work settings.

____ Increased maturity and self-reliance.

____Professional and /or business awareness.

____ Understanding how academic theory relates to professional practice.

____ Income from work

____ Networks and work contacts.

Reflection: Working whilst studying

- What other benefits would work/study combinations bring for you?
- What arrangements would you need to make?

Before you start

If you want to combine study and employment, it is worth investigating, early on, potential obstacles and ways of managing these. For example:

_____ Check that you can attend as required

_____ Find out if there are tutorials, tips and non-timetabled events you need to attend.

_____ Plan out typical weeks to see whether your proposals are manageable.

_____ Check how your timetable might change from one term or year to the next.

_____ Sort out your finances – study costs, loans and financial support can vary depending on what you earn and your mode of study

Look for creative and efficient work/ study synergies

If you are already in employment and have sympathetic employers, talk to them about how best to manage your work alongside study:

- Are there ways your study could be counted as professional development as part of a work-related appraisal scheme?
- Can you undertake relevant work-based projects that could count towards your qualification?
- Would your employer be willing to provide study leave, quiet space and time to study at work, or support towards costs?
- Some jobs lend themselves less easily to work-study combinations than others, but appropriate projects may still be possible.

A – Active learning

Why is it important to develop the habit of active learning techniques ?

Consider the characteristics on both passive and active learning, summarized in the chart bello

From these, you should be able to see for yourself why active learning methods make success more likely.

Characteristics of passive learning	**Characteristics of active learning**
1. You wait for directions and information to be fed to you	1. You look for ways of being more involved what you are learning
2. Information is delivered to you – you just (and follow what is said or written, and do as you are told.	2. You are engaged in the whole learning process in a position to see why information has been selected)
3. Different pieces of information are treated as separate units.	3. You look for links between different things that you discover.
4. You repeat information without understanding it. Understanding	4. You make a conscious effort to make sense of, And find meaning in, what you learn. is usually deeper.
5. You don't reflect upon what you have learnt.	5. You are involved in reflection and self-evaluation
6. You may become bored and tired easily	6. Your attention span s longer because your mind is more fully engaged.
7. You use surface processing ,in which case you are less likely to understand or to	7. Long-term memory is assisted. If you understand what you learn, and keep relating what you learn

remember	what you already know, you are more likely to remember what you have learnt.
8. You are less likely to be able to use what you learn.	8. Linking information helps you to see how you can apply it to different situations.
9. What you study may seem irrelevant.	9. Learning is personalized and interesting.
10. You expect others to prompt you or to remind you of steps, stages and deadlines, so you often feel uncertain about what to do next.	10. You take charge of your learning and manage it like a project, so you feel confident that you know what to do, when, and why.

Pic: Page 109

M- MOTIVATION

Your level of motivation will affect your success. No matter how much you love your subject or want to gain a good degree, there may be times when you don't feel like studying or wonder whether you would be better off doing something else. You need strong motivation to keep yourself going at such times.

What affects motivation ?

Motivation can be affected by all kinds of things, from changing your mind about the career you want and the qualifications you need, through to your friends leaving the course. Most students experience periods of lower motivation at times, though they usually work through these.

Key influences on motivation

Motivation to study is affected by such things as:

* clarity of purpose
* being on the right course
* managing the 'boring bits'
* confidence of the outcome
* using time well.

Reasons for weak motivation

* loss of direction
* boredom, resulting from poor study strategies
* too much or too little challenge
* crises of confidence.

Signs of weak motivation

* finding excuses not to study
* not being able to settle down to study
* losing interest in the subject
* becoming easily distracted
* giving up quickly.

How strong is your motivation? **Rating**

Make a frank evaluation of your own motivation.
Rating: 1 = low , 5 = high.

1	I have a strong sense of purpose	1	2	3	4	5
2	I know my reasons for study	1	2	3	4	5
3	I am clear how my study will benefit my life	1	2	3	4	5
4	I set myself clear targets for completing tasks	1	2	3	4	5
5	I am driven to achieve well	1	2	3	4	5
6	I can get going quickly when I sit down to study	1	2	3	4	5
7	I have strategies for getting myself down to work	1	2	3	4	5
8	I stay focused once I sit down to study	1	2	3	4	5
9	I always complete work by the deadline	1	2	3	4	5
10	I create the time I need to complete tasks well	1	2	3	4	5
11	I set personal challenges that inspire me	1	2	3	4	5
12	I take pleasure in achieving milestone/goals	1	2	3	4	5
13	I study well even when I don’t feel like it	1	2	3	4	5
14	I keep going even when things get tough	1	2	3	4	5
15	I give thought to how to keep myself inspired	1	2	3	4	5
16	I find ways of making study sessions enjoyable	1	2	3	4	5
17	I make the subjects I study interesting to me	1	2	3	4	5
18	I avoid actions that might sabotage my study	1	2	3	4	5
19	I use criticism as a spur to doing better	1	2	3	4	5
20	I manage anxieties and crises of confidence	1	2	3	4	5