

CUA - Creative Arts and Culture Training Package
CUA20215 - Cert 2 in Creative Industries



Unit

BSBCRT301

Develop and extend critical and
creative thinking skills

*This is not to be used for training purposes.
SAMPLE ONLY*

Trainer/Teacher Manual



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SAMPLE SAMPLE

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STUDENT/TRAINEE DETAILS

Student/Trainee Name**Student/Trainee Email****Teacher / Trainer Name****School / Institution / Training Organisation / Employer**

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INTRODUCTION

This manual is developed to provide training content that addresses the specific 'Unit of Competency' as outlined on the following pages.

It provides the teacher and/or trainer with a document that includes all that the student and/or trainee manual content plus guidance notes as well as answers to the learning activities in the student/trainee manual.

This manual can be packaged with various manuals addressing other 'Units of Competency' in order to meet the 'Packaging Rules' of a particular Australian Training Package Qualification.

This resource has been designed to be delivered in a form that is conducive to the learning environment including:

- ☆ Online delivery
- ☆ Classroom delivery
- ☆ On the job training

The documents are designed in a 'landscape' format in order to make reading on a computer screen easier as well as reduces the need to scroll down pages. Documents can be easily printed if the learning environment requires the student or trainee to have hard copies of the learning materials.

INTRODUCTION—CONT'D**LEARNING ACTIVITIES**

The learning activities in the student and/or trainee manuals are 'Form Enabled' so that if the resources delivered online, the activities can be filled in using the computer keyboard.

Each learning activity is identified with the following icon.

A blue rounded rectangular button with the text "Learning Activity" in white.

Learning activities come in the following forms.

- ☆ Questions
- ☆ Research
- ☆ Tasks
- ☆ Interviews

Questions

Questions would relate to the information presented on previous pages.

Research

This type of learning activity would require the student or trainee to locate information by using research methods. The information they would be required to locate would be in line and/or support the information that the manual had outlined in previous pages.

INTRODUCTION—CONT'D**Tasks**

This learning activity type would require the student/trainee to actually do or undertake something and would be reinforcing the knowledge they have gained from reading the manual's previous pages.

Interviews

This learning activity type would require the student/trainee to interview person(s) in an actual workplace environment or a person(s) who are experienced in the industry sector which the student/trainee is currently undergoing training.

The student/trainee is made aware of the type of learning activity by noting the learning activity type displayed under the learning activity icon.

**Learning
Activity**

Research

SELF ASSESSMENT

At the end of each manual is a series of questions that the student/trainee should review and answer.

This self assessment is to ensure in the student's or trainee's mind that they have reviewed and understood the information that was presented in their manual.

If they are unsure of their understanding in any of the topics reviewed, they are encouraged to go back and review the information again and/or seek the assistance of their teacher or trainer.

UNIT OF COMPETENCY OVERVIEW

The following pages are extracts from Training.gov.au website and outlines this specific 'Unit of Competency' including the 'Elements' and the 'Performance Criteria'. The content within this manual has been developed to address this unit.

BSBCRT301 - DEVELOP AND EXTEND CRITICAL AND CREATIVE THINKING SKILLS

ELEMENT	PERFORMANCE CRITERIA
1 Develop a questioning mindset	1.1 Develop the habit of asking questions from different perspectives 1.2 Take responsibility for exploring a variety of information sources to provide relevant answers to own questions 1.3 Sort through information and ideas to identify the central questions, issues and challenges 1.4 Challenge preconceptions and assumptions to determine actual constraints in defining a problem for resolution
2 Generate ideas and responses	2.1 Explore and use a range of creative thinking techniques to generate ideas and responses 2.2 Muse on, play around with and have fun with ideas in relation to a perceived objective 2.3 Identify and challenge blockers to creative thinking 2.4 Consider and explore realities beyond the current situation 2.5 Evaluate, and where appropriate, challenge existing boundaries to determine perceived or actual constraints 2.6 Show willingness to take risks with ideas and thought processes 2.7 Look around in familiar and unfamiliar places for new inspiration and habitually record observations, experiences, ideas and reflective thoughts to broaden personal knowledge base 2.8 Acknowledge and accept the opportunity for revelation when least expected 2.9 Identify connections and associations from things that seem unconnected
3 Challenge, test and reinvent ideas	3.1 Identify, interrogate and challenge the assumptions behind ideas 3.2 Experiment with variations, and explore and challenge a range of different solutions and ideas 3.3 Consciously change perspectives, and evaluate ideas and situations in new ways 3.4 Where appropriate, involve others in ideas and how they might change or be improved

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ELEMENT	PERFORMANCE CRITERIA
4 Enhance creative thinking skills	<ul style="list-style-type: none">4.1 Consciously challenge and question own thought patterns and ways of responding to work and life situations4.2 Identify and take opportunities to self-assess and to learn about new ideas and different ways of thinking4.3 Take opportunities to practise and experiment with creative thinking techniques across work and life situations4.4 Pro-actively talk to others about ways that new ideas and patterns of thinking can be encouraged and developed
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Section One

Develop a Questioning Mindset

DEVELOP AND EXTEND CRITICAL AND CREATIVE THINKING SKILLS

SECTION ONE—DEVELOP A QUESTIONING MINDSET

INTRODUCTION

‘Creative thinking’ is defined as a way of thinking differently about things – looking at problems or situations from different and fresh perspectives, which may bring into play a range of solutions or courses of action, which can be both conventional as well as unconventional.

There are two other terms that appear at times throughout this unit.

‘Lateral thinking’ is like creative thinking. The term was first used by Edward De Bono, whose work is covered later in this unit. He defined lateral thinking as “...a set of systematic techniques used for changing concepts and perceptions and generating new ones. Exploring multiple possibilities and approaches instead of pursuing a single approach.”

‘Critical thinking’ is the process of conceptualising, understanding, questioning, evaluating and making decisions. It has also been called ‘thinking about thinking’ – questioning assumptions and asking ‘is this the best approach?’

Creative, lateral and critical thinking are continually developed by observing, analysing, contemplating, implementing solutions, testing and evaluating them.

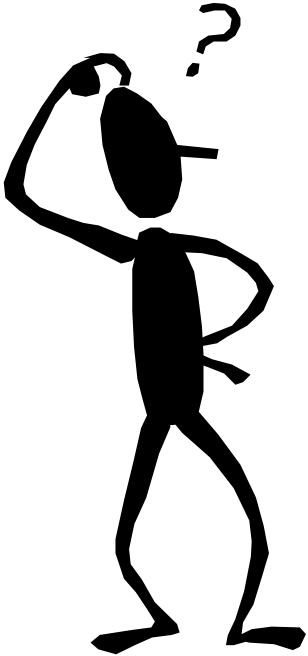
A creative thinker is not bound by his or her own mindset, but is prepared to approach issues and situations from perspectives other than their own.

Just about any issue or situation in life can have creative thinking applied to it – from working out the best way to get somewhere, to managing personal finances to conceiving and writing a feature film, or inventing something that changes the lives of millions.

SECTION LEARNING OBJECTIVES

At the completion of this section you will learn information relating to:

- ☆ Developing the habit of asking questions from different perspectives
- ☆ Taking responsibility for exploring a variety of information sources to provide relevant answers to your own questions
- ☆ Sorting through information and ideas to identify the central questions, issues and challenges
- ☆ Challenging preconceptions and assumptions to determine actual constraints in defining a problem for resolution



DEVELOP THE HABIT OF ASKING QUESTIONS FROM DIFFERENT PERSPECTIVES

‘Critical and creative thinkers’ come from all backgrounds, but they share some general personality traits. One of these is a questioning mind – critical and creative thinkers are curious people.

A questioning mind is an open mind – a mind that is willing and wanting to ask what, what else, why, or why not? A mind that is not content to simply absorb information – critical and creative thinking always pushes boundaries and looks to new horizons.

Other questions could include:

- ☆ Why is this so?
- ☆ What boundaries exist in this situation? Do they have to exist?
- ☆ Are there new ideas that can come into play here?
- ☆ How can I solve this problem...how else?
- ☆ Why is something done this way? Is there a different way to do it?
- ☆ What do I need to make this better – what information, what resources, who do I need to speak to?

Many believe that creativity is something you’re born with, not something that’s developed. While it’s true that many creative people are born that way and creative thinking and expression seem to flow naturally from them, creative, lateral and critical thinking skills can be consciously developed, enhanced and improved.

Approaching life with an open and questioning mind is where it starts. An open mind works on the premise that there is always something more to consider and that there will always be different perspectives that are valid, worthy of consideration and, quite possibly, better or more appropriate than what currently exists.

This ability to recognise ways in which others might approach problems or situations is vital. An open and questioning mind looks at things from a range of perspectives – including cultural, social, academic, ideological and personal – and understands different approaches and mindsets.

It recognises social and cultural factors that shape one’s own approach as well as biases and can move beyond the boundaries of one’s own mindset. An open and questioning mind challenges assumptions, critically evaluates prevailing opinion and wisdom, generates and is receptive to, a whole range of ideas.

**Learning
Activity**

Task

LEARNING ACTIVITY ONE

In this activity we want you to define the following terms:

Critical**Creative****Perspective****Open mind**

Lateral thinking**Assumptions****TEACHER/TRAINER GUIDANCE NOTES**

Critical—expressing or involving an analysis of the merits and faults of something

Creative—relating to or involving the use of the imagination or original ideas to create something

Perspective—a particular attitude towards or way of regarding something; a point of view

Open mind—having or showing a mind receptive to new ideas or arguments

Lateral thinking—the solving of problems by an indirect and creative approach, typically through viewing the problem in a new and unusual light

Assumptions—a thing that is accepted as true or as certain to happen, without proof

**Learning
Activity**

Task

LEARNING ACTIVITY TWO

Fill in the missing words:

An _____ mind works on the premise that there is _____ something more to _____ and that there will always be different _____ that are valid, worthy of _____ and, quite possibly, better or more _____ than what _____ exists.

TEACHER/TRAINER GUIDANCE NOTES

An open mind works on the premise that there is always something more to consider and that there will always be different perspectives that are valid, worthy of consideration and, quite possibly, better or more appropriate than what currently exists.



TAKE RESPONSIBILITY FOR EXPLORING A VARIETY OF INFORMATION SOURCES TO PROVIDE RELEVANT ANSWERS TO OWN QUESTIONS

Once a problem or issue is identified, an important question to consider is what information from what sources is needed to help solve or improve the situation? Where might suitable ideas come from?

Factual information and ideas come from many sources. They include:

- ☆ Directly from people
- ☆ Published information online or in print
- ☆ Conventional media
- ☆ Multimedia sources
- ☆ Your own questioning and surveying (first-hand research)

People, groups, companies, other organisations and governments all make information and ideas available in different ways.

Both critical and creative thinking involves gathering information, examining ideas, critically evaluating and assessing them, applying solutions and continually improving them.



RESEARCH METHODS

There is a skill to doing information research. There are two main methods you can use:

- 1) Direct information gathering
- 2) Indirect information gathering

Direct method—Gathering direct information is the best form of research and the most reliable form of acquired knowledge. It involves personal research and requires you to gather the information from reliable sources. Direct information should be the type of information you concentrate on. Examples of places from which you can gather direct information can include:

- ☆ Credible industry approved written materials
- ☆ Information provided by a qualified person in the subject manner
- ☆ Training sessions
- ☆ Websites of known credible organisations or persons

Indirect method—Indirect information is the next best form of research and should only be used as support information for direct information gathering. Do not base your all your research and gathered knowledge on indirect information.

Indirect information can come from other sources, for example, other colleagues, those providing information that clearly supports other commercial interests and so on. For example, friends, family and associates may have their own view on the subject matter that you are researching information for.

Always take indirect information and confirm its reliability from what you already know. Indirect information sources should not be solely relied on .

**Learning
Activity**

Question

LEARNING ACTIVITY THREE

What are the two types of research methods and what should one be aware of when using both methods?

TEACHER/TRAINER GUIDANCE NOTES

- 1) Direct information gathering
- 2) Indirect information gathering

A person should always take indirect information and confirm its reliability from what they already know. Indirect information sources should not be relied on solely.



SORT THROUGH INFORMATION AND IDEAS TO IDENTIFY THE CENTRAL QUESTIONS, ISSUES AND CHALLENGES

Critical thinking is something everyone does frequently in everyday life. In most cases it comes naturally. For example it does not take critical thinking to brush your teeth each morning, or to go for a jog. However it does take critical thinking to buy a new car, accept a new job offer, or buy a new Smartphone.

For each of those examples you would have gathered or been presented information and in many cases sought additional information from other sources. You would start developing those central questions such as:

- ☆ Is it what I want?
- ☆ Is it what I need?
- ☆ Is it right for me?

Then you will start to identify some issues and challenges such as:

- ☆ Can I afford the new car?
- ☆ Am I skilled enough to do the tasks at the new job?
- ☆ Will I be able to learn how to use the new Smartphone correctly?

Although, as these examples show, critical thinking is something we all use to manage our day to day lives, the word 'critical' is commonly thought to have a negative meaning, for example finding fault with someone or something.

In fact it is the opposite. Being critical involves serious evaluation and then making judgements, not just an uninformed personal opinion or decision. This involves distinguishing between fact and opinion, or evaluating the validity of information sources and their application to particular situations or ideas. Making judgements and evaluation would also include consideration of all possible viewpoints.

Critical thinking is integral to developing ideas. Only through constantly questioning is new knowledge added to an idea; questions such as:

- ☆ what if?
- ☆ how could?
- ☆ is there another way?

In this way, ideas are constantly evolving.

**Learning
Activity**

Task

LEARNING ACTIVITY FOUR

In this Section we learned that we all perform critical thinking in our daily lives. In this Section we gave some examples. In this activity we want you to give us four examples of something that is common in your life that involves critical thinking and four examples that do not involve critical thinking.

Requires Critical Thinking

Does Not Require Critical Thinking

TEACHER/TRAINER GUIDANCE NOTES

The answers will vary widely, however it should be clear that any event, process or situation requiring critical thinking would require the need to gather, analyse and evaluate information. There could be some answers that are questionable whether they are, or are not and this could provoke some discussion.



CHALLENGE PRECONCEPTIONS AND ASSUMPTIONS TO DETERMINE ACTUAL CONSTRAINTS IN DEFINING A PROBLEM FOR RESOLUTION

Everyone has many preconceptions and assumptions about something and some have preconceptions and assumptions about everything.

We've picked up ideas from everywhere and we are influenced by patterns or status quo. For many, their preconceptions and assumptions have created unwavering beliefs.

Preconceived ideas about ideas, problems, others and even ourselves are so close and strong that not many will challenge them. Only a few people have the courage to challenge their preconceptions, assumptions and beliefs.

Critical thinkers ask themselves the question:

Do I want to know truth even if it does not correspond to my ideas, preconceptions as well as assumptions and beliefs?

When developing ideas or problem solving, critical thinkers will question themselves first.

Are my preconceptions and assumptions actually helping me define the actual problem or formalise an idea?

Often the answer is, no.

If a person puts aside their preconceptions and assumptions and start to critically analyse the problem or idea, they will find that they have a lack of understanding about the problem or the idea and need more information, or do additional fact finding before any idea can be formalised or problem resolved.

In other words, what you think you know and what you should know are often quite poles apart.

Sometimes the adoption of a changed approach to a situation happens when the actual problem is redefined or understood in a different light. Consideration of different perspectives often results in a changed understanding of the nature of the problem that needs addressing, or an idea being developed.

**Learning
Activity**

Task

LEARNING ACTIVITY FIVE

In this activity we want you to test your critical thinking levels. There are two websites that provide critical thinking tests. They are short and based on a popular testing concept developed by 'Watson Glaser Critical Thinking Appraisal' which are used by many Universities and businesses.

The two websites are:

<http://www.linklatersgraduates.co.uk/application-process/critical-thinking-test>

or

http://graduates.hoganlovells.com/apply_now/critical_thinking_test/

Tell us your best score here _____

TEACHER/TRAINER GUIDANCE NOTES

These tests can be downloaded and printed for classroom use.

These tests are just a way of showing the student or trainee what is involved in order to developing critical thinking skills.

Section Two

Generate Ideas and Responses

DEVELOP AND EXTEND CRITICAL AND CREATIVE THINKING SKILLS

SECTION TWO—GENERATE IDEAS AND RESPONSES

INTRODUCTION

We are going to start this section off with a quote:

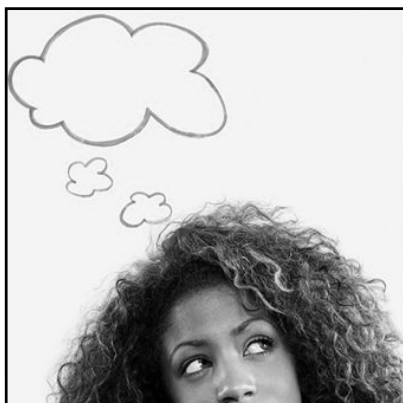
“Since new developments are the products of a creative mind, we must therefore stimulate and encourage that type of mind in every way possible.” - George Washington Carver (scientist and inventor)

That pretty much sums up what we will be reviewing in this section.

SECTION LEARNING OBJECTIVES

At the completion of this section you will learn information relating to:

- ☆ Exploring and using a range of creative thinking techniques to generate ideas and responses
- ☆ Musing on, playing around with and having fun with ideas in relation to a perceived objective
- ☆ Identifying and challenging blockers to creative thinking
- ☆ Considering and exploring realities beyond the current situation
- ☆ Evaluating, and where appropriate, challenging existing boundaries to determine perceived or actual constraints
- ☆ Showing willingness to take risks with ideas and thought processes
- ☆ Looking around in familiar and unfamiliar places for new inspiration and habitually record observations, experiences, ideas and reflective thoughts to broaden personal knowledge base
- ☆ Acknowledging and accepting the opportunity for revelation when least expected
- ☆ Identifying connections and associations from things that seem unconnected



EXPLORE AND USE A RANGE OF CREATIVE THINKING TECHNIQUES TO GENERATE IDEAS AND RESPONSES

People in certain jobs, such as those involved in writing, producing and directing films, or those who design multimedia games are involved in work where much of the thinking is creative. Their job is to research, initiate, develop and realise ideas, and are often the type of people most of us would readily think of in relation to creative thinkers in creative industries.

But creative thinking can be applied just about anywhere – to any problem. Creative thinking is imaginative and looks at a range of possible solutions.

There are a number of methods through which creative thinking can bring about improvement. They include:

Evolution – where better ideas are developed over time.

An example is vehicle technology. Compare a vehicle built 100 years ago with one built today. Then compare those built 50 years ago, 20 and 10 years ago – with one built today. Evolutionary changes in ideas and technology mean today's vehicle is far superior to those built decades ago.

Revolution – where a completely different idea is used to solve a problem.

An example is personal insect protection. People sitting outside on a warm night attract mosquitoes and other insects. Over many years personal roll on spray on products have been available, which work with varying degrees of effectiveness, as do fume-emitting candles and oils. A revolutionary idea was the illuminated zapper, which attracted the insects to another point altogether, away from people and killing them once they land on it.

Synthesis – combining two or more existing ideas to make a new third idea.

An example is combining mobile phone technology with digital camera technology to create mobile communication devices that can take photos, record video and communicate visually with anyone across the world.



Reapplication – looking at something old in a new way.

For example, the rotary clothesline is a well-known Australian invention. As back yards became smaller in the latter decades of the 20th century, the fixed clothesline became less popular because of the space they occupied. One solution came in the form of a collapsible rotary clothesline that functions the same as a fixed one, but which can be folded and removed from the ground when not in use.

Changing direction – shifting focus from one angle of a problem to another.

Consider the example of a highway authority, which had issues with skateboarders skating in a curved concrete drainage ditch alongside a highway. The authority erected a fence, which was cut through. They erected a stronger fence, which was also cut through. They put up threatening signs, which were ignored. Finally, some creative thinking was applied – the authority identified the problem as the fact the skateboarders wanted to skate in the ditch, not that they kept breaking through the fence. The solution was to put roughly finished concrete along the ditch, which removed the skateboarders' desire to get in there, but still allowed the drainage ditch to function as it should.



Here are two techniques that encourage creative thinking:

1) *Brainstorming:*

Brainstorming is designed to generate ideas. It is usually carried out in groups numbering anywhere between two and a dozen or more. Groups of between four and eight generally work well.

With every person in the group contributing and discussing ideas, brainstorming is particularly useful for tackling more specific problems, rather than general ones.

Brainstorming works best when people don't judge any ideas during the session – it is about listening to all the possibilities that individuals in the group can come up with.

It is also important that everyone thinks freely and lets their imagination run. Ideas can be developed very well during a brainstorming session. Group members should be encouraged to add to the ideas of others.

Recording ideas is critical – it can be done in a range of ways, such as making lists of dot points and/or diagrams, mind maps, and audio or video recording of a brainstorming session. Depending on the size of the group, a dedicated non-participating observer/recorder may be preferable.



2) Asking the six important questions:

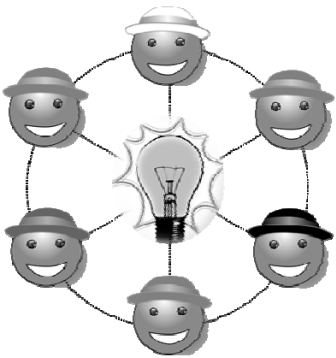
Who?
What?
Where?
When?
Why?
How?

They are good questions to ask to encourage a flow of ideas.

Take an idea and ask:

- ☆ **Who** is involved/affected; who else needs to be brought in; who won't be involved; who, if anyone, needs to take the lead; who is best to do what?
- ☆ **What** is it all about; what would happen if this idea was implemented; what are the positive and negative outcomes; what if something goes wrong?
- ☆ **When** does it need to happen; how important is the timing; what if it can't be organised in time?
- ☆ **Where** would things take place; where would they be based; is it the best place – where else, if anywhere, could be suitable?
- ☆ **Why** do it this way; what are we trying to achieve; why did we make the decisions we did; why will/did things work and why won't/didn't they?
- ☆ **How** can this be achieved; how will this idea help to achieve objectives; how can things be improved/changed; how are we safeguarding against failure?

Six Hats



THE SIX HATS

The ability to think creatively requires individuals to recognise and move outside of their own conditioning and biases as well as explore different ideas and realities. For many this is a difficult step to take. One way in which it can be made easier is by using the six thinking hats, a method developed by Dr. Edward De Bono.

The theory behind the method is that the human brain thinks in distinctly different ways. De Bono identified six states where the brain consciously processes thoughts about certain aspects of issues being considered. Each of these states is associated with a colour, which De Bono assigned to hats to represent different types of thinking. Metaphorically, or sometimes literally, individuals put on different coloured hats to think a certain way about issues or problems.

The colours and states of thinking are:

- ☆ **1) Information** – the white hat. This state is about considering what information is available – what are the facts? What information is needed and where will it come from?
- ☆ **2) Emotions** – the red hat. This state is about instinctive or emotional feelings about issues or problems. How do you feel right now? No justification or logic is applied, and feelings can change.
- ☆ **3) Negative judgment** – the black hat. This state is where logic is applied to identify negative points, faults or barriers. What are the risks? Where could failure occur?
- ☆ **4) Positive judgment** – the yellow hat. This state is where logic is applied to identify positive points, benefits and harmony. Why are these ideas useful and what good things will come from them?
- ☆ **5) Creativity** – the green hat. This state is about provoking and exploring ideas and thoughts. What are the alternatives?
- ☆ **6) Thinking** – the blue hat. This state involves thinking about thinking – what type of thinking is most effective for this situation? How does the thinking need to be organised and planned?

Applying the six thinking hats can enhance higher level thinking and assist individuals to explore different approaches and different realities when it comes to addressing issues or solving problems. Consciously breaking out of one's own mindset and 'normal' framework of thinking can provide a much great range of perspectives.

**Learning
Activity**

Question

LEARNING ACTIVITY ONE

What were the five methods through which creative thinking can bring about improvement? Tell us the method and a description on what it means.

TEACHER / TRAINER GUIDANCE NOTES

- 1) **Evolution** – where better ideas are developed over time
- 2) **Revolution** – where a completely different idea is used to solve a problem
- 3) **Synthesis** – combining two or more existing ideas to make a new third idea
- 4) **Reapplication** – looking at something old in a new way
- 5) **Changing direction** – shifting focus from one angle of a problem to another

**Learning
Activity**

Task

LEARNING ACTIVITY TWO

Give us a definition of 'definition of 'brainstorming'.

TEACHER / TRAINER GUIDANCE NOTES

It is generally a group discussion where people bounce around and develop ideas.

**Learning
Activity**

Task

LEARNING ACTIVITY THREE

Give us a definition of 'brainstorming'.

TEACHER / TRAINER GUIDANCE NOTES

It is generally a group discussion where people bounce around and develop ideas.

**Learning
Activity**

Question

LEARNING ACTIVITY FOUR

What are the six questions to ask that encourage creative thinking?

TEACHER / TRAINER GUIDANCE NOTES

- 1) Who?
- 2) What?
- 3) Where?
- 4) When?
- 5) Why?
- 6) How?

**Learning
Activity**

Task

LEARNING ACTIVITY FIVE

In this Section we spoke about the six hats of creative thinking developed by Dr. Edward De Bono. In this activity we want you to describe each of the six hats.

TEACHER / TRAINER GUIDANCE NOTES

- 1) Information** – the white hat. This state is about considering what information is available – what are the facts? What information is needed and where will it come from?
- 2) Emotions** – the red hat. This state is about instinctive or emotional feelings about issues or problems. How do you feel right now? No justification or logic is applied, and feelings can change.
- 3) Negative judgment** – the black hat. This state is where logic is applied to identify negative points, faults or barriers. What are the risks? Where could failure occur?
- 4) Positive judgment** – the yellow hat. This state is where logic is applied to identify positive points, benefits and harmony. Why are these ideas useful and what good things will come from them?
- 5) Creativity** – the green hat. This state is about provoking and exploring ideas and thoughts. What are the alternatives?
- 6) Thinking** – the blue hat. This state involves thinking about thinking



MUSE ON, PLAY AROUND WITH AND HAVE FUN WITH IDEAS IN RELATION TO A PERCEIVED OBJECTIVE

True story.

People on a train platform looking at a drink kiosk keep looking at their watches and glancing to see if the train was coming minutes before it was due. They were being distracted.

The idea!!!

Build drink kiosks with huge clocks on them that facilitated the simultaneous observation of the time and the refreshments on offer.

Another story.

BMW created a tag line “The Ultimate Driving Machine”. Instead of using the traditional advertising model, they used short films to promote their cars.

It was a big hit and very successful.

Each of the above stories had ideas that were created based on a perceived objective. Story One wanted to have the attention directed at the product and not have customers distracted by other things, then Story Two wanted to show their cars in a ‘story like’ type production.

It is hard to develop great ideas when your mind is crowded with everyday thoughts, concerns and status quo. You need find quiet time to clear your mind and quietly focus on your ideas. Commit to regular quiet time sessions every week and soon your new ideas will start to formulate.

On the next page we have given you quotes from several people about how they came up with ideas as well as how they developed them and some quotes about those ‘ideas people’. You will find it quite interesting.



☆ **Peter Ferdinand Drucker—University Professor and writer on innovation**

"If you want something new, you have to stop doing something old"

☆ **Marije Vogelzang—Food Designer**

"My real magic trick is taking a shower. I get the best ideas in the shower, and I've got special notepads that can get wet to write down my ideas. Sometimes when I'm stuck, I go and take a shower. It hardly ever fails!"

☆ **Dana Mauriello—Etsy Crafts**

"I am on an endless quest to learn about and personally experience as many diverse subcultures as possible and never leave home without my adventure backpack and a notebook so that I can collect inspiration and log new ideas."

☆ **Emily Leproust—PhD Twist Bioscience**

"Everything I encounter, I ask myself, 'How I can do this better?' It is automatic. I am not interested by how everybody else is doing a particular thing, I am interested in improving the process and improving the outcome."

"My Saturday morning walks on the beach often offer solutions that evaded me during the week."

☆ **Mike Judge—Writer/Producer**

"From when I first started making animated shorts, I would say, 'By any means necessary.' I'd search my brain for any scrap of memory for any funny story, any interesting thing. And then I was getting writer's block, getting frustrated just sitting around the house and no ideas were coming. So I thought, Well, I'm not getting any ideas, so I'm just going to wash the dishes, go mow the lawn. And then ideas started coming to me. So washing the dishes was the first breakthrough."

☆ **Robin Sharma—Self-help motivation speaker**

"Dreamers are mocked as impractical. The truth is they are the most practical, as their innovations lead to progress and a better way of life for all of us."

**Learning
Activity**

Interview

LEARNING ACTIVITY SIX

In this activity we want you to interview six people of varying ages and genders. We want you to ask each one the following two simple questions.

- ☆ Have you ever had what you thought was a fantastic idea?
- ☆ If yes, what did you do about it?
- ☆ If no, do you think you could come up with ideas?
- ☆ If not, why?

Put your interview results in a report form. Tell us the first name, age, gender and occupation of each interviewee. Also tell us the suburb each lives in.

Once you have the report completed, present it to your teacher or trainer for review and discussion.

TEACHER / TRAINER GUIDANCE NOTES

The student or trainee should be encouraged to interview a wide cross section of people and not just family or friends.

It is likely that the student or trainee will find that most interviewees shy away from developing ideas and most will say they are not creative enough. Those that come up and do pursue ideas will be quite a different type of person that the student or trainee would notice immediately.

This would be a good classroom discussion project once all the interview reports are submitted and compiled.

**Learning
Activity**

Task

LEARNING ACTIVITY SEVEN

Tell us four persons in most recent history has come up with a revolutionary idea and that has impressed you.

To make this a bit harder, do not use any person involved in developing social media or technology ideas and products or services. Tell us their name and their idea.

Person 1

--

Person 2

--

Person 3

--

Person 4

--

TEACHER / TRAINER GUIDANCE NOTES

If the student starts to struggle with who they might pick aside from social media moguls and technology/telecommunications moguls, you could mention areas such as:

Medical
Aviation
Politics
Artists
Musicians

....just to name a few.

IDENTIFY AND CHALLENGE BLOCKERS TO CREATIVE THINKING

Let's start off again by giving a few quotes to set the scene for this part of the section.

"I see no advantage in these new clocks. They run no faster than the ones made 100 years ago." - Henry Ford

"Bureaucracy destroys initiative. There is little that bureaucrats hate more than innovation, especially innovation that produces better results than the old routines. Improvements always make those at the top of the heap look inept. Who enjoys appearing inept?" - Frank Herbert (critically acclaimed author)

"Keep in mind that imagination is at the heart of all innovation. Crush or constrain it and the fun will vanish." - Albert-László Barabási (physicist)

There are many boundaries and blockers to creative thinking. Conventional thinking ties us to logic and can throw up barriers, which have to consciously be broken through.

The first is accepting the fact there are always solutions to problems – more often than not, one problem will have a number of solutions. Arriving at them can require lateral, unconventional and sometimes illogical thinking – but problems always present opportunities to improve things. They can be solved.

Logical thinking presents many boundaries to creative thinking. Because logical and practical thinking have dominated the way we approach the world for so long, it's difficult for some to rise above logic.

Often it's inhibited by an individual's perception of their own limitations when it comes to creative thinking. "My mind doesn't work like that...." The fact is, anyone has the potential to challenge conventions and think outside the square.

Another blocker is feeling that trying to address things in new ways is not worth doing because the best solution to a problem will already have been found. Human history is full of examples of how better solutions are found through new ways of thinking.

For some, lateral and creative thinking can be confronting. They worry about what others will think if they don't conform with conventional thinking. Ideas that fly in the face of logic might seem childish and a waste of time.

Fear of failure is another blocker. There is risk involved with thinking unconventionally – what if an idea doesn't work; what if I fail? Failures are part of life – they are to be expected. They can also be learnt from and serve to make an individual stronger and more resilient.

**Learning
Activity**

Task

LEARNING ACTIVITY EIGHT

Give us a definition of 'bureaucracy'.

Give us a definition of the term 'thinking outside the box'.

Give us a definition of the term 'conventions'.

TEACHER / TRAINER GUIDANCE NOTES

'Thinking outside the box' is a metaphor that means to think differently, unconventionally, or from a new perspective.

'Bureaucracy' refers to an excessively complicated administrative procedure generally put in place by government department workers known as bureaucrats' and often have the effect of resisting change, or new or better ways of doing things.

'Conventions' refers to the a way in which something is usually done.



CONSIDER AND EXPLORE REALITIES BEYOND THE CURRENT SITUATION

If you look up the definition of 'reality', it would go something like this...

"Reality is the state of things as they actually exist, rather than as they may appear or might be imagined. In a wider definition, reality includes everything that is and has been, whether or not it is observable or comprehensible. A still broader definition includes everything that has existed, exists, or will exist." - (Wikipedia)

Wikipedia goes on to say that many philosophers or 'modern thinkers' would have 'coherent abstraction' thoughts. This means they would have thoughts of things that are imaginable but not real in the present.

Again if you look up the definition of 'imaginable' it means...

"Something imagined, conceivable, believable."

Creative thinkers always look past the current situation, scanning their past experiences to learn how they may be useful in future ideas.

That is why many creative thinkers are 'daydreamers'.

Professor Eric Klinger from the University of Minnesota, has been researching daydreaming and mind wandering since the 1970s.

"Daydreaming is a source of creative inspiration. We often discover solutions or better ways of doing things than we would have, had we not had the mind-wandering space," says Klinger.

Dr Muireann Irish works at Neuroscience Research Australia. Dr Irish agrees with Professor Klinger by saying...

"Standing in the shower, wondering what you're going to do at work that day, sometimes we can have this breakthrough that we never would have achieved if we'd laboured on the problem using a very attentive, focused approach."



In an article published by ABC Science it has said...

Contrary to common opinion, the brains of daydreamers may not be slacking off, but working harder, new research has shown.

People who let themselves daydream might bring in more mental and brain resources, says one researcher.

Scientists scanned the brains of people lying inside magnetic resonance imaging (MRI) machines...

The scans showed that the 'default network' deep inside a human brain becomes more active during daydreaming.

But in a surprise finding the scans also revealed intense activity in the executive network, the outlying region of the brain associated with complex problem-solving, says University of British Columbia neuroscientist Assistant Professor Kalina Christoff.

"People assume that when the mind wanders away it just gets turned off - but we show the opposite, that when it wanders, it turns on," says Christoff, who is co-author of the study.

The findings, published in the Proceedings of the National Academy of Science, suggest daydreaming might be a better way to solve problems than intense focusing.

(partial extract from ABC Science online post May 2009)

So it is clear seasoned creative thinkers think 'outside the box'. They take creative leaps in generating ideas and this often includes using creative methods, such as daydreaming.

**Learning
Activity**

Task

LEARNING ACTIVITY NINE

List as many situations you can recall when you personally have 'daydreamed'.

TEACHER / TRAINER GUIDANCE NOTES

Some submissions would include:

- ☆ At school
- ☆ At work
- ☆ In traffic
- ☆ In the shower
- ☆ Watching TV
- ☆ Walking

As a teacher or trainer be prepared for some unusual submissions.

**Learning
Activity**

Task

LEARNING ACTIVITY TEN

We now know that daydreamers do not always daydream about the next best invention or problem solving. However from a personal point of view, tell us when the last time was when you had come up with an idea or solution to a problem when daydreaming and what the idea or problem/solution was.

TEACHER / TRAINER GUIDANCE NOTES

If the student or trainee comes back and says never have, then they are likely lazy. Everyone would have daydreamed about a problem or idea, even if only small, insignificant ones in their minds.

The point of this activity is to suggest to the student or trainee that daydreaming can be a creative outlet.



EVALUATE, AND WHERE APPROPRIATE, CHALLENGE EXISTING BOUNDARIES TO DETERMINE PERCEIVED OR ACTUAL CONSTRAINTS

AND

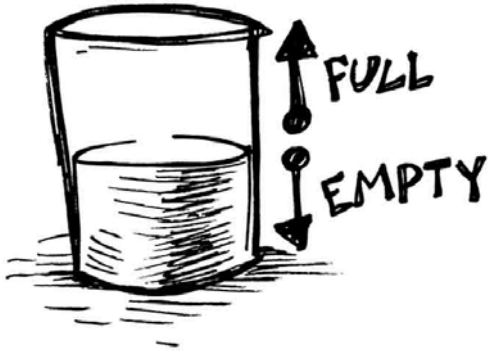
SHOW WILLINGNESS TO TAKE RISKS WITH IDEAS AND THOUGHT PROCESSES

(Over the next few pages we cover two 'Performance Criteria' points at the same time to avoid repetition)

As a creative, innovative person you will be challenged in many ways with constraints and boundaries when trying to develop, formalise and implement an idea or implement a solution to a problem.

In a workplace environment here are the most common:

- ☆ **Available resources**—this would include financial resources, human resources and physical resources (such as tools, equipment or facilities)
- ☆ **Established tradition or practice in a given field of activity**—"In this industry or this company it is not done that way" is a common phrase heard when an new idea or a radical solution to a problem is presented.
- ☆ **Communication protocols**—this refers to whom and how an idea is presented and this can sometimes be difficult to determine.
- ☆ **Procedures and processes**—all organisations will have policies and procedures, however these can truly be an issue when trying to get an idea or solution across, especially in very bureaucratic structures
- ☆ **Specifications**—this can be a significant boundary or constraint when working on a project with very defined specifications. Having an idea or having a solution to a problem in a project may require changing or going outside the project specifications.
- ☆ **Unspoken agreements**— about who does what and how
- ☆ **Work conditions**—this refers to areas such as hours of work, working schedules, physical ergonomics and the basic physical and mental demands of the job which can have an effect on the development, formalisation and implementation of an idea, or implementation of a solution to a problem.



CHALLENGING EXISTING BOUNDARIES OR CONSTRAINTS PERCEPTIONS

To a creative person constraints and boundaries are there to be challenged. To challenge constraints and boundaries does not mean you simply ignore them. Nor does it mean you simply agree and comply with them.

What is does mean is to determine which ones are actual constraints or boundaries and which are perceived.

To '**perceive**' something is to '**come to an opinion about something, or have a belief about something**'.

This perception could be one that you may have. By taking the time to challenge your own perceptions, you may find that they are in fact not actual constraints and boundaries, you have only perceived them to be.

To challenge your perceptions you would ask yourself:

Is your perception based on valid information, or based on assumptions?

You would need to question your assumptions. You would need to validate your perception with supporting information. You will often find that what you previously thought, is in fact not the case.

This is the same with when dealing with other people's perceptions. You need to challenge their assumptions on which they have based their perceptions. If their perceptions are based on supporting information, you would want to make sure that the information is valid and reliable.



TAKING THE RISK

There are risks associated with challenging a person's or an organisation's boundaries and constraints; perceived or not. You have likely heard of the saying:

'Stepping on someone's toes.'

In a workplace once you start challenging a person's or an organisation's boundaries and constraints you take the risk of also challenging a person's authority, challenging the continuation of current ways of doing things; maybe trying to change the rules, traditions or practices.

In some organisations you may start getting harsh criticism and this could lead to you questioning your idea or solution. You start to feel apprehension or start developing a personal fear of failure. All creative persons will encounter this. So it is best to be prepared for it when it happens.

In relation to the creative person, most have a very strong tendency to identify with their ideas. Generally creatives put their heart and soul into their idea, so most criticism will hurt. So, it is important to find a way of managing those initial feelings while they are getting feedback and still be persistent with their creative approach and mindset.

First and most importantly, try not to take the criticism personally and determine whether the criticism is destructive or constructive.

If the criticism is recognised as completely destructive and hurtful, then it is important to think about why the person might have given such criticism and this alone starts to make the criticism not so hurtful. Maybe the person was jealous or threatened of the idea. Maybe the person is adversely affected by the innovative solution to a problem. Maybe the person was just in a bad mood and felt like taking it out on someone. Whatever the reason, it is important to remind oneself that it had little to do with who you are.

However, there will be those times when the criticism you are receiving is constructive. Start by thanking the person giving the criticism. Expressing appreciation does not have to mean you are agreeing with what is being said, but it does show that you are acknowledging the effort the other person's efforts to share their thoughts.

Avoid engaging in a debate; instead, ask questions to get to the root of the actual issues being raised and possible solutions for addressing them. Then ask for a follow up session. This gives you the time to process the issues raised, come up with solutions and if needed to, come back and clarify other points raised.

Constructive criticism is often the only way we learn about our weaknesses. Without it we cannot improve.



Aside from opening yourself up to criticism or rejection, there are also risks in pursuing your ideas or solutions.

Some of your ideas or solutions may be quite creative and innovative, but to bring them to reality or implement them may be out of your scope of capabilities.

The risk here is accepting the limitations of one's own knowledge or capacity and letting go of control of your idea or solution and have someone else take it forward.

Many creative and innovative ideas require a level of financial investment to bring them into reality or implementation. Any financial investment can be a risk, but worth the risk in many cases if the idea or solution has been well thought out and developed.

Here are some more quotes to ponder over regarding taking risks:

"One does not discover new lands without consenting to lose sight of the shore for a very long time." - Andre Gide (author and Noble Peace Prize winner)

"Go out on a limb. That's where the fruit is." - Jimmy Carter (former President of the USA)

"Twenty years from now you will be more disappointed by the things you didn't do than by the ones you did. So throw off the bowlines, sail away from the safe harbor, catch the trade winds in your sails. Explore. Dream. Discover." - Samuel Langhorne Clemens (better known as Mark Twain)

"I can accept failure. Everybody fails at something. But I can't accept not trying. Fear is an illusion." - Michael Jordan (retired professional athlete; businessman)

**Learning
Activity**

Question

LEARNING ACTIVITY ELEVEN

In a workplace environment there are six common constraints and boundaries. What are they?

TEACHER / TRAINER GUIDANCE NOTES

- 1) Available resources
- 2) Established tradition
- 3) Procedures and processes
- 4) Specifications
- 5) Unspoken agreements
- 6) Work conditions

**Learning
Activity**

Question

LEARNING ACTIVITY TWELVE

What is the definition of perception?

TEACHER / TRAINER GUIDANCE NOTES

To '**perceive**' something is to '**come to an opinion about something, or have a belief about something**'.

**Learning
Activity**

Task

LEARNING ACTIVITY THIRTEEN

Fill in the missing words:

**You may start getting harsh _____ and this could lead to you
_____ your _____ or _____. You start to feel
_____ or start developing a personal fear of _____. All
_____ persons will encounter this. So it is best to be
_____ for it when it happens.**

TEACHER / TRAINER GUIDANCE NOTES

You may start getting harsh criticism and this could lead to you questioning your idea or solution. You start to feel apprehension or start developing a personal fear of failure. All creative persons will encounter this. So it is best to be prepared for it when it happens.

**Learning
Activity**

Question

LEARNING ACTIVITY FOURTEEN

Why would a person give another person harsh and destructive criticism?

TEACHER / TRAINER GUIDANCE NOTES

Maybe the person was jealous or threatened of the idea. Perhaps the person is adversely affected by the innovative solution to a problem. It could be just that the person was just in a bad mood and felt like taking it out on someone.

**Learning
Activity**

Question

LEARNING ACTIVITY FIFTEEN

What were three other risks a creative person may encounter when pursuing an idea or solution?

TEACHER / TRAINER GUIDANCE NOTES

- 1) Out of your scope of capabilities
- 2) Financial risks
- 3) Losing control of the idea or solution



LOOK AROUND IN FAMILIAR AND UNFAMILIAR PLACES FOR NEW INSPIRATION AND HABITUALLY RECORD OBSERVATIONS, EXPERIENCES, IDEAS AND REFLECTIVE THOUGHTS TO BROADEN PERSONAL KNOWLEDGE BASE

Earlier in this section we presented a quote from *Dana Mauriello—Etsy Crafts* who said:

“I am on an endless quest to learn about and personally experience as many diverse subcultures as possible and never leave home without my adventure backpack and a notebook so that I can collect inspiration and log new ideas.”

We mention this again to bring home the point that creative and innovative ideas are not filed in a filing cabinet where you can go to in order to find the idea.

New and innovative ideas are everywhere and the creative person is always on the lookout for them.

Ideas may come to you when you are simply walking around the house, taking the dog for a walk, making a meal; something that is common place in your daily routine.

- ☆ Ideas may come to you when you are having a conversation with a friend, family member, work colleague or even a stranger. The idea often is totally unrelated to the conversation you were having but something that was said may have been an idea trigger.
- ☆ Ideas may come to you when you are visiting unfamiliar places, museums, shopping centres, while on holidays, opportunity shops; the list is endless.
- ☆ Ideas may come to you when surfing the internet, reading a book, reading an industry magazine and again the idea often is totally unrelated to the information you were reading but something you saw may have been an idea trigger.

As *Dana Mauriello from Etsy Crafts* mentioned; she always carried a notebook to write down any idea that presented itself. The proactive creative person will not let an idea go by without making a note of it. It could be jotting it down on a small pocket notepad, it could be recording the idea on your Smartphone.

If the idea involves something physical, you may want to take a picture of it. It does not matter how you record those ideas, as long as they are recorded. You may not visit the idea immediately, but sometime down the track who knows what the idea may lead to.

**Learning
Activity**

Interview

LEARNING ACTIVITY SIXTEEN

In this activity we want you to interview six people of varying ages, genders and occupations.

We want you to ask them the following questions:

- ☆ When was the last time you came up with an idea?
- ☆ What were you doing when the idea came to you?
- ☆ Did you write down the idea or record the idea?
- ☆ What was the idea?
- ☆ Did anything come of your idea?

Put your interview findings in a report format and tell us the first name of the interviewee, their age, gender, occupation as well as the suburb they live in.

Once your report has been completed, present it to your teacher or trainer for review and discussion.

TEACHER / TRAINER GUIDANCE NOTES

The student or trainee should be encouraged to get as wide a cross section of interviewees as possible. All submission should be of some substance and not include persons that have never come up with an idea.

This activity is to show the student or trainee how people approach new ideas when they come to them.



ACKNOWLEDGE AND ACCEPT THE OPPORTUNITY FOR REVELATION WHEN LEAST EXPECTED AND IDENTIFY CONNECTIONS AND ASSOCIATIONS FROM THINGS THAT SEEM UNCONNECTED

(Over the next few pages we cover two 'Performance Criteria' points at the same time to avoid repetition)

How often do you hear someone say that an idea just came to them out of the blue, or a solution to a problem just all of a sudden came to them.

This is not an unusual occurrence especially those with creative tendencies. In fact those creative people will often say that the harder you try to come up with an idea or solution, the harder it is. And surprising research has shown that it is likely that new innovative ideas or solutions will often surface when the creative person is least alert or rested.

"Psychologist Mareike Wieth and her colleagues in a research project found that when people have to solve 'insight problems' that require a high degree of creativity, solvers are much more successful when they tackle these problems at the time of day in which they are least alert.

Wieth uses the following problem as an example:

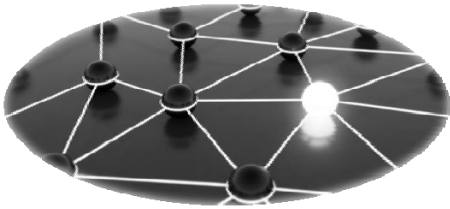
Water lilies double in area every 24 hours. At the beginning of summer there is one water lily on the lake. It takes 60 days for the lake to become completely covered with water lilies. On which day is the lake half covered?

Wieth explains this water lilies puzzle is called an 'insight problem' because the solver feels that the answer comes all at once, in an "Aha!" moment of illumination. This is compared to more analytic problems that require the solver to grind out the solution by systematically working towards the answer, incrementally narrowing down the problem search space—which requires a heavy dose of working memory.

What Wieth and her colleagues did was ask volunteers to fill out a questionnaire that assessed whether they were at their best in the morning or evening at solving problems. She then invited the volunteers to the lab to solve both insight and analytic problems in either the morning (between 8:30 and 9:30 AM) or the afternoon (between 4:30 and 5:30 PM). While people did slightly better on the analytic problems during their optimal time of day, volunteers were much more likely to come up with a creative—and correct—answers to the insight problems at their self-professed non-optimal time."

(Mareike B. Wieth & Rose T. Zacks (2011): Time of day effects on problem solving: When the non-optimal is optimal, Thinking & Reasoning, 17, 387-401/ web blog Sian Beilock Ph.D. Feb 2012)

Associations



Connections

What people see everyday becomes ordinary to them. People, sights, sounds and smells seemingly disappear from their awareness. Creative people deal with this by inventing a brand-new pattern, a fresh way of seeing the commonplace.

It is a known fact that highly creative people alternate between imagination, fantasy and reality. All great ideas, innovations and solutions to problems often involve jumping into a world of imagination that is different from the present.

Non-creative people often view these new ideas as fantasies and not close to reality and frankly they are right. But the creative person goes beyond what they consider real and create a new reality and this leads to new ideas formalising and problems being solved.

In terms of day-to-day routine activities most people are realists. But when a person begins to work creatively, reality starts to blur. Thinking creativity gives the person the ability to see things in a fresh way, which is vital to the creative process and the willingness to question any and all assumptions.

These behaviours of creative people were further investigated by another research project and outlined in a book called “The Innovators DNA”.

The authors interviewed 5000 inventors and business innovators and they came up with some key behaviours that they all demonstrated. One behaviour we want to focus on is ‘Association’.

An association is the person’s ability to successfully connect seemingly unrelated ideas, concepts, questions or problems from different fields or subject areas. This is the foundation of creativity and is built upon the framework of connecting things in a new and original way.

When it comes to creativity, person’s using the behaviour of ‘associating’ will often not know how all the pieces will connect, however they all have faith that eventually as they connect more pieces together, by finding unique associations, that in time the idea will evolve.

Persons using ‘associating’ behaviour successfully always question their assumptions and never solely rely on past experiences to make conclusions. This forces people to think more broadly and out of their ‘comfort zone’.

**Learning
Activity**

Research

LEARNING ACTIVITY SEVENTEEN

Do some research and tell us what an 'insight problem' is.

TEACHER / TRAINER GUIDANCE NOTES

An insight problem is a problem that requires the examinee to shift his or her perception and view the problem in a novel way in order to achieve the solution.

**Learning
Activity**

Task

LEARNING ACTIVITY EIGHTEEN

In this Section we were present with an 'insight problem'. It is shown below:

Water lilies double in area every 24 hours. At the beginning of summer there is one water lily on the lake. It takes 60 days for the lake to become completely covered with water lilies. On which day is the lake half covered?

What is the answer?

TEACHER / TRAINER GUIDANCE NOTES

59 days.

**Learning
Activity**

Question

LEARNING ACTIVITY NINETEEN

What is the definition of 'comfort zone'?

TEACHER / TRAINER GUIDANCE NOTES

Your comfort zone is a Behavioural space where your activities and behaviours fit a routine and pattern that minimises stress and risk.

**Learning
Activity**

Question

LEARNING ACTIVITY TWENTY

What is the definition of 'imagination'?

What is the definition of 'fantasy'?

TEACHER / TRAINER GUIDANCE NOTES

Imagination—the mind's ability of forming new ideas, or images or concepts of external objects not present to the senses

Fantasy— activity of imagining impossible or improbable things far removed from reality

Section Three

Challenge, Test and Reinvent Ideas

DEVELOP AND EXTEND CRITICAL AND CREATIVE THINKING SKILLS

SECTION THREE—CHALLENGE, TEST AND RE INVENT IDEAS

INTRODUCTION

Innovative and creative people go through a significant amount of thought processing with an idea they have come up with.

In this section we review those processes as well as look at 'visual thinking' techniques' and involving others in idea development.

SECTION LEARNING OBJECTIVES

At the completion of this section you will learn information relating to:

- ☆ Identifying, interrogating and challenging the assumptions behind ideas
- ☆ Experimenting with variations and exploring and challenging a range of different solutions and ideas
- ☆ Consciously changing perspectives and evaluating ideas and situations in new ways
- ☆ Where appropriate, involving others in ideas and how they might change or be improved



IDENTIFY, INTERROGATE AND CHALLENGE THE ASSUMPTIONS BEHIND IDEAS

AND

EXPERIMENT WITH VARIATIONS, AND EXPLORE AND CHALLENGE A RANGE OF DIFFERENT SOLUTIONS AND IDEAS

AND

CONSCIOUSLY CHANGE PERSPECTIVES, AND EVALUATE IDEAS AND SITUATIONS IN NEW WAYS

(Over the next few pages we cover three 'Performance Criteria' points at the same time to avoid repetition)

There are a few words that sum up how a creative person would approach and work with ideas.

They are:

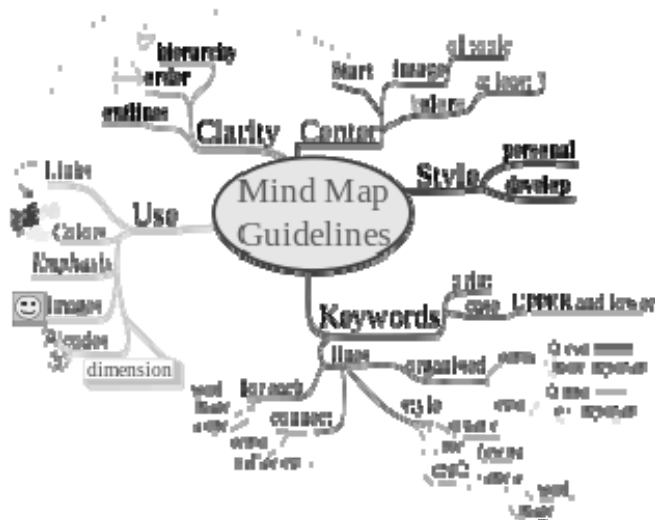
- ☆ Interrogate
- ☆ Challenge
- ☆ Experiment
- ☆ Explore
- ☆ Perspective
- ☆ Evaluate

Many times those words describe the thought processes a creative person would likely go through when developing an idea.

The word 'interrogate' simply means to question everything about the idea. A new idea as it is being formalised will be based on numerous assumptions. These assumptions need to be 'challenged'. To challenge an assumption is to dispute the validity of the assumption. After being challenged and the assumption proves to be valid, the idea is one step closer to reality.

Many ideas are a result of a problem needing a solution. Looking at the problem from various 'perspectives' or approaching the problem in a new way will often lead to a far better solution.

Also trying out or 'experimenting' with new ideas or solutions will often result in the best solution being found, instead of sticking with the first one that came to mind.



MIND MAPPING (ALSO KNOWN AS VISUAL THINKING)

On the previous page we learned that a creative person would often go through numerous thought processes when developing ideas and solutions to problems.

Another often used method is called 'mind mapping'. It involves taking those thought processes and drawing them out on a piece of paper.

A mind map is an excellent tool to both broaden and focus thinking. Start with an idea that is drawn in the middle of the page and then generate all associated terms, ideas and thoughts that can be generated radiating from the original idea in the middle.

From there, try to take it one more step. You now consider all of the 'what-ifs'.

Those who use mind mapping extensively offer these tips:

- ☆ **Use colours, drawings and symbols copiously**—Be as visual as you can, and your brain will thank you. I've met many people who don't even try, with the excuse they're "not artists". Don't let that keep you from trying it out!
- ☆ **Keep the topics labels as short as possible**—They should be kept to a single word or, better yet, to only a picture. Especially in your first mind maps, the temptation to write a complete phrase is enormous, but always look for opportunities to shorten it to a single word or figure – your mind map will be much more effective that way.
- ☆ **Vary text size, colour and alignment**—Vary the thickness and length of the lines. Provide as many visual cues as you can to emphasise important points. Every little bit helps engaging your brain.

As you can see to the left, the keywords are written on the 'branches' coming out from the centre. Some of those branches have other branches radiating from them and so on. Some of those branches end at an image of illustration.

There is no limit as to how big or how small the mind map can be. Many people start the mapping and then leave and come back to it.

The main goal of mind mapping is to exhaust all 'what-if's, variations, associations, connections, perspectives and more.

**Learning
Activity**

Research

LEARNING ACTIVITY ONE

In this activity we want you to do some research and locate examples of the following types of mind maps:

- 1) A mind map that you think is outrageously creative and intricate
- 2) A mind map that is too simple and boring

Print them out or take a screenshot of each example and present the examples to your teacher or trainer for review and discussion.

TEACHER / TRAINER GUIDANCE NOTES

There are many, many examples of mind maps on the internet. Some are quite a piece of art, while others simply show no effort at all.

Mind mapping exercises are useful in a group brainstorming discussion in a classroom.

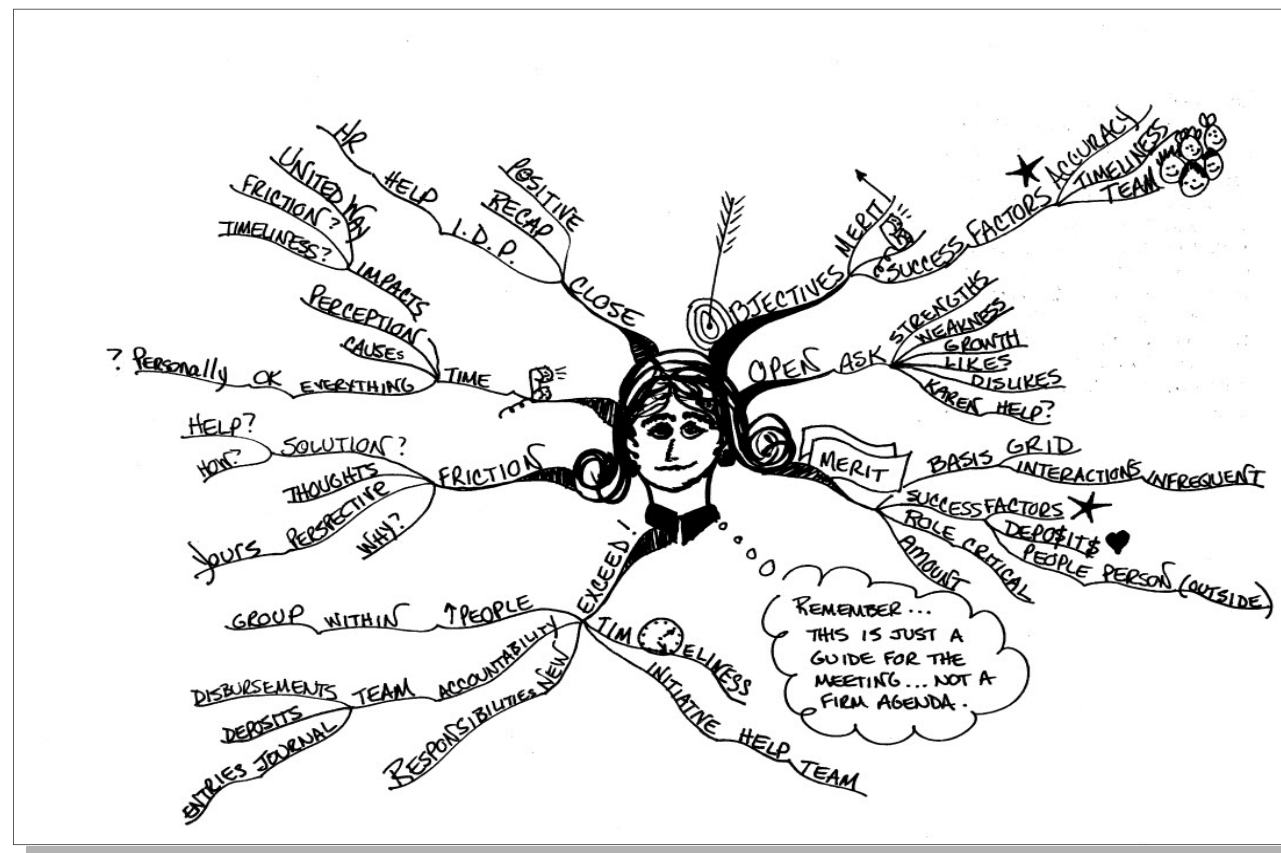
You could have a whiteboard and pose a problem or an idea and then have the students or trainees begin to develop the mind map.

**Learning
Activity**

Question

LEARNING ACTIVITY TWO

Below is a picture of a mind map done by an employer outlining points to be discussed at a meeting. From looking at the mind map, who do you think the meeting was with?



TEACHER / TRAINER GUIDANCE NOTES

It was with a problem employee. This is a real life example. It was done by an executive of a large insurance company who was having serious problems with an employee.

WHERE APPROPRIATE, INVOLVE OTHERS IN IDEAS AND HOW THEY MIGHT CHANGE OR BE IMPROVED

Yes, another quote...

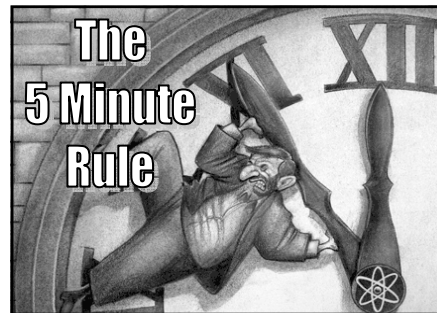
“If you have an apple and I have an apple and we exchange these apples then you and I will still each have one apple. But if you have an idea and I have an idea and we exchange these ideas, then each of us will have two ideas.” — George Bernard Shaw (a playwright, critic and polemicist)

What the above quote is suggesting that ideas can be and many times should be shared with others. Others will see the idea from their point of view, from their perspective and will often have helpful comments to add.

Also many times an idea needs the input of others if it is going to develop into anything significant or useful.

One method of getting others involved is using the brainstorming method. In Section Two we went through the benefits of brainstorming.

Several organisations in Silicon Valley have installed what they call the ‘Five Minute Rule’, method of introducing new ideas.



The rule permits anyone to suggest an idea. Then for the first five minutes after the idea is expressed only positive comments can be made. By the time the idea is talked about for five minutes it has usually developed into a brainstorm session that cultivates truly great ideas and some suggestions from the discussion are often used.

The thought behind having only positive comments allowed, has the result of having employees not afraid to present ideas and have them shot down.

**Learning
Activity**

Task

LEARNING ACTIVITY THREE

As a summary, explain to us the 'Five Minute Rule' used by numerous Silicon Valley organisations.

TEACHER/TRAINER GUIDANCE NOTES

The rule permits anyone to suggest an idea. Then for the first five minutes after the idea is expressed only positive comments can be made.

This is an ideal classroom exercise. You could have the students or trainees come up with some ideas ahead of time and then in the classroom, have them present the idea and use the 'Five Minute Rule'.

Section Four

Enhance Creative Thinking Skills

DEVELOP AND EXTEND CRITICAL AND CREATIVE THINKING SKILLS

SECTION FOUR—ENHANCE CREATIVE THINKING SKILLS

INTRODUCTION

Innovative and creative people always are always honing their creative thinking skills.

At every opportunity they will see how they can take on what looks to be something very ordinary and make it extraordinary, both in their work and their lives using their creative skills.

We look at this topic in this section.

SECTION LEARNING OBJECTIVES

At the completion of this section you will learn information relating to:

- ☆ Consciously challenging and questioning your own thought patterns and ways of responding to work and life situations
- ☆ Identifying and taking opportunities to self-assess and to learn about new ideas and different ways of thinking
- ☆ Taking opportunities to practise and experiment with creative thinking techniques across work and life situations
- ☆ Pro-actively talking to others about ways that new ideas and patterns of thinking can be encouraged and developed



CONSCIOUSLY CHALLENGE AND QUESTION OWN THOUGHT PATTERNS AND WAYS OF RESPONDING TO WORK AND LIFE SITUATIONS

AND

IDENTIFY AND TAKE OPPORTUNITIES TO SELF-ASSESS AND TO LEARN ABOUT NEW IDEAS AND DIFFERENT WAYS OF THINKING

(Over the next few pages we cover two 'Performance Criteria' points at the same time to avoid repetition)

Creativity is a natural skill that gets rusty when not used. Like playing a musical instrument, or a sport, some people seem naturally talented while others have to practice more to develop their skill. For many people there may be blocks to overcome. Left-brain dominance has long been respected in organisations for its logic, reason and rationality. Creativity however requires the services of the right side of our brain to think outside the logical square. As a child we used our right brain to create fantasies in drawings and in play and this is the type of thinking we need for challenges requiring creativity.

The main blocks to our creative potential are the three following limiting beliefs:

I am not creative

I don't know how to be creative

It's not ok to be creative around here

Creativity



Blocks

Here are some ideas to help overcome these blocks.

- ☆ ***I'm not creative*** – The first step is to develop a positive belief in your own creative talent. Think back at the many times you have been creative, even in small ways. You may not have thought about creativity in this way before, but most people soon begin to realise how often they have been creative outside the work context. As a child your imagination was at its peak and it is this innocent and free creative thinking you had as a child that needs to be rekindled and put to use for your grown-up situations. In today's workplace environment, rigid opinions and quick judgements stifle creative thinking, so free your mind to have different thoughts and accept that there are many ways of perceiving a situation.
- ☆ ***I don't know how to be creative*** - Developing creativity is the same as developing any skill, you have to learn about it and practice it regularly. Curiosity is a good place to begin. More than anything else creativity is an attitude of mind, which is developed through a curiosity to see things from different perspectives and to connect things from different contexts. Think of two totally unconnected things and make a link between them, no matter how ridiculous the link may be. This is exactly what the inventor of cats' eyes in the road did - he made a connection between the cat and road safety. This is one of many techniques you can use to exercise your creative mind.
- ☆ ***It's not OK to be creative around here*** - Having learned to be creative you need the courage to do things differently. This may mean breaking rules and conventions, the barriers to creativity in your workplace and your life. It means being a leader and a role model and encouraging others to be creative with you. Stepping outside an organisation's cultural standards can at times be difficult, but there will be others who share the desire to be more creative and who may also be willing to share the risk. It is more likely that your workplace will welcome your creativity skills.

**Learning
Activity**

Interview

LEARNING ACTIVITY ONE

In this activity we want you to interview six people of varying ages, genders and occupations. All interviewees must have a job.

We want you to ask them the following questions:

- ☆ Do you think you are creative and if so, explain and if not, why not?
- ☆ Do you feel the job you have or the workplace is a creative environment?
- ☆ Do your friends and family think you are a creative person and if so, explain and if not, why not?

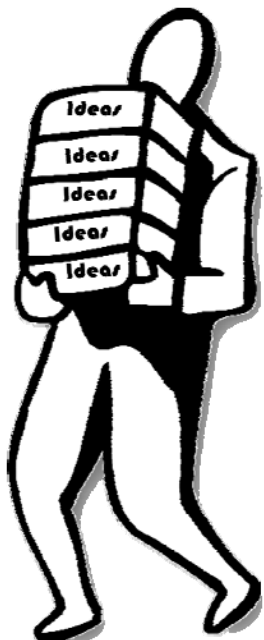
Put your interview findings in a report format and tell us the first name of the interviewee, their age, gender, occupation and the suburb they live in.

Once your report has been completed, present it to your teacher or trainer for review and discussion.

TEACHER / TRAINER GUIDANCE NOTES

The student or trainee should be encouraged to get as wide a cross section of interviewees as possible. All submission should be of some substance and not include persons that have never came up with an idea.

This activity is to show the student or trainee how people feel about their creativity and frankly many will suggest a low level of creativeness both in themselves, at work and at home.



TAKE OPPORTUNITIES TO PRACTISE AND EXPERIMENT WITH CREATIVE THINKING TECHNIQUES ACROSS WORK AND LIFE SITUATIONS

A creative person is one who comes across a pile of scrap metal and sees the making of a wonderful sculpture. A creative person is one who drives through an old decrepit part of town and sees a new housing development. A creative person is one who sees opportunity in all areas of life.

To be creative and innovative is to keep your eyes open and your mind active. It is to be skilled enough, confident enough, creative enough and disciplined enough to seize opportunities that present themselves.

Creative and innovative people always see the future in the present. They always find a way to take advantage of a situation, not be burdened by it. And creative and innovative people are not lazy. They do not wait for opportunities to come to them, they go after the opportunities.

You need creativity to see what is out there and to shape it to your advantage. You need creativity to look at things a little differently. You need creativity to take a different approach, to be different.

What goes hand-in-hand with the creativity is the second requirement: the courage to be creative. You need courage to see things differently, courage to go against the crowd, courage to take a different approach, courage to stand alone if you have to, courage to choose activity over inactivity.

And lastly, being creative does not just relate to the ability to make money. Being creative also means feeling good enough about yourself, having enough self worth to want to seek advantages and opportunities that will make a difference in your future. Also, by doing so you will increase your confidence, your courage, your creativity, your self worth and your innovative nature.

CREATIVITY VERSUS INNOVATION

Creativity is the process of generating new ideas. Any idea, even slightly different from something that already exists, is a creative idea. Creativity is often confused with innovation, which is more about planning and implementing ideas. You can have 100 new ideas each day, but you are only innovative when you have successfully implemented one of them.

**Learning
Activity**

Task

LEARNING ACTIVITY TWO

Fill in the missing words:

Creative and innovative people always see the _____ in the _____.

They always find a way to take _____ of a situation, not be

_____ by it. And creative and innovative people are not _____. They

do not _____ for _____ to come to them, they go after the

_____.

TEACHER / TRAINER GUIDANCE NOTES

Creative and innovative people always see the future in the present. They always find a way to take advantage of a situation, not be burdened by it. And creative and innovative people are not lazy. They do not wait for opportunities to come to them, they go after the opportunities.



PRO-ACTIVELY TALK TO OTHERS ABOUT WAYS THAT NEW IDEAS AND PATTERNS OF THINKING CAN BE ENCOURAGED AND DEVELOPED

Another important habit to get into is to associate with as many other creative people as possible.

You may have a creative work colleague, friend or family member. Ask them how they keep those creative juices going, how they keep their mindset creative.

There are training programs, seminars and workshops that offer opportunities to learn about creative thinking techniques as well as interact with like minded people.

You may have a mentor or role model that you consider creative. Make contact with him or her and discuss about ways that new ideas and patterns of thinking can be encouraged and developed.

And finally we have extracted from a website the 15 of 20 common signs that you are creative. Some are not the best traits to have and should be worked on. Here are those signs.

- ☆ **1. You have an authority problem**—Creative types don't always get along well with management because they would rather march to the beat of their own drum.
- ☆ **2. You have a hard time relating with people**—Most people have a strong desire to fit in, something that creative people do not understand.
- ☆ **3. You like to solve problems**—While most people are running and hiding from problems, you purposely seek them because you love nothing more than a fresh new challenge.
- ☆ **4. You are your own worst critic**—You can identify approximately a thousand ways that your ideas can be better.
- ☆ **5. You ask lots of questions**—A stagnant mind devoid of curiosity does not have the capacity to create.
- ☆ **6. You carry a notebook everywhere you go**—Because how else can you remember all those brilliant ideas that strike you on the fly?
- ☆ **7. You find beauty in the ordinary**—Creatives live in the present and are in constant awe of the world around them.
- ☆ **8. You are numb to rejection**—If becoming a writer or actor or artist was easy, a lot more people would do it. Getting your ideas rejected stings at first, but eventually you become able to just shrug it off and go on to the next one.



- ☆ **9. You understand the power of atmosphere**—There is a reason some creative people travel to a rustic cabin or sandy beach to develop their ideas. Some atmospheres are more conducive to creativity than others. Maybe you like to pack up your laptop and go to a coffee shop, downtown bench, or under a tree at the park. Whatever the case may be, you know the locations that boost your creative juices.
- ☆ **10. You are a people-watcher**—Why do people watch TV when real life is infinitely more interesting?
- ☆ **11. You aren't in it for the money**—Money pays bills but it does not provide happiness. There are much easier ways to make a living. This isn't about money, it's about passion.
- ☆ **12. You seek inspiration**—Inspiration does not happen on its own. You search for inspiration wherever you can find it.
- ☆ **13. You hate stereotypes**—You understand that human beings are way too complicated to be dumped into gender roles or stereotypes.
- ☆ **14. You take time to think**—Your brain is your greatest asset.
- ☆ **15. You don't bend to pressure**—Whether it's a hater who thinks your ideas are terrible, a family member who thinks you should stop dreaming or a friend who thinks your idea will never work, you do not cave to outside pressure.

(Extracts from Lifehack post by Daniel Wallan (writer, and health coach))

So given those fifteen signs of a creative person, how many do you show?

**Learning
Activity**

Task

LEARNING ACTIVITY THREE

On the previous pages we introduced 15 signs of a creative person. In this activity tell us which ones you exhibit.

TEACHER/TRAINER GUIDANCE NOTES

This is basically a self assessment activity. You the teacher or trainer could discuss with each student or trainee why they think or do not think they display any of those creative signs. It also would be an ideal classroom topic for discussion.

SELF ASSESSMENT

Self assessment is where you ask yourself certain questions to ensure you have understood what you have learned while reading this manual and completing the learning activities.

This unit requires you the student or trainee at the completion of your training to have a certain level of 'Required Knowledge' in which you would need to have acquired and in which you will be assessed on. This self assessment section reviews this required knowledge by way of questions and if you are able to say YES to all of them you can be confident your assessment will be satisfactory.

- ☆ Do you understand why it is important to develop the habit of asking questions from different perspectives?
- ☆ Could you take responsibility for exploring a variety of information sources to provide relevant answers to own questions and sort through information and ideas to identify the central questions, issues and challenges?
- ☆ Would you be able to challenge preconceptions and assumptions to determine actual constraints in defining a problem for resolution?
- ☆ Would you be able to explore and use a range of creative thinking techniques to generate ideas and responses and then muse on, play around with and have fun with ideas in relation to a perceived objective?
- ☆ Can you explain what the blockers to creative thinking are?
- ☆ Are you able to explain what it means to consider and explore realities beyond the current situation as well as evaluate, and where appropriate, challenge existing boundaries to determine perceived or actual constraints?
- ☆ Did you see the importance of showing willingness to take risks with ideas and thought processes?
- ☆ Is it true that a creative person should look around in familiar and unfamiliar places for new inspiration and habitually record observations, experiences, ideas and reflective thoughts to broaden personal knowledge base?
- ☆ Can you now explain what it means to acknowledge and accept the opportunity for revelation when least expected and identify connections and associations from things that seem unconnected?
- ☆ Is it true that a creative person should identify, interrogate and challenge the assumptions behind ideas, experiment with variations, and explore and challenge a range of different solutions and ideas as well as consciously change perspectives, and evaluate ideas and situations in new ways?
- ☆ Is it appropriate, to involve others in ideas and how they might change or be improved?
- ☆ Should a creative person consciously challenge and question own thought patterns and ways of responding to work and life situations, identify and take opportunities to self-assess and to learn about new ideas and different ways of thinking and take opportunities to practise and experiment with creative thinking techniques across work and life situations?
- ☆ Is it true that a creative person should pro-actively talk to others about ways that new ideas and patterns of thinking can be encouraged and developed?

If there were any questions that you were unable to confidently say YES to, we encourage you to review the information again in this manual and if needed seek the assistance of your teacher or trainer.

NOTES

SAMPLE SAMPLE

SAMPLE SAMPLE