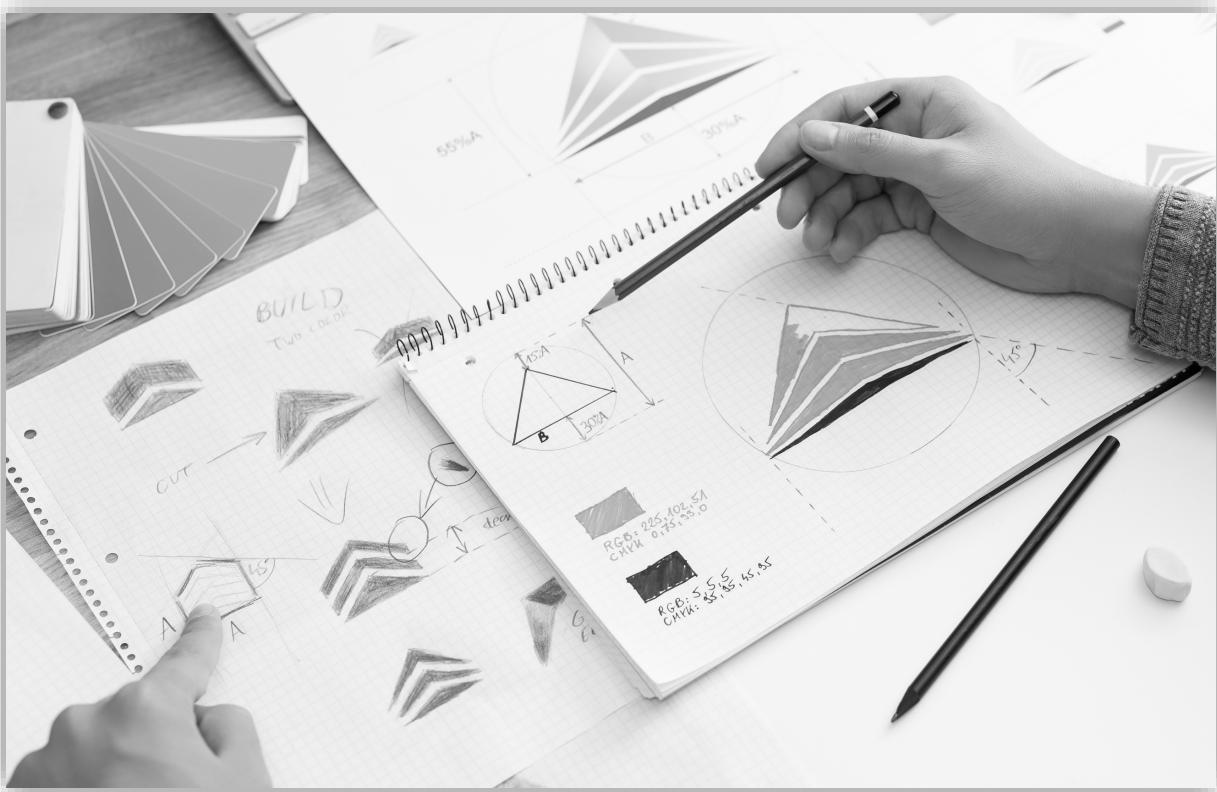


# Learner Guide



1613250211 / REDPIXEL.PL / shutterstock.com

**BSBCRT512**

Originate and develop concepts

[tafe.qld.edu.au](http://tafe.qld.edu.au)

**MAKE  
GREAT  
HAPPEN**



<b>Unit version</b>	<b>Document version</b>	<b>Release date</b>	<b>Comments/actions</b>
BSBCRT512	V1	February 2022	

## **Copyright**

© TAFE Queensland 2022

Copyright protects this material. Except as permitted by the Copyright Act 1968 (Cth), reproduction by any means (photocopying, electronic, mechanical, recording or otherwise), making available online, electronic transmission or other publication of this material is prohibited without the prior written permission of TAFE Queensland.

Inquiries must be addressed to the TAFE Queensland Copyright Officer, Office of the Chief Academic Officer, TAFE Queensland, PO Box 16100, CITY EAST QLD, 4002, or Email [TAFEQLDIP@tafe.qld.gov.au](mailto:TAFEQLDIP@tafe.qld.gov.au).

## **Disclaimer**

Every effort has been made to provide accurate and complete information. However, TAFE Queensland assumes no responsibility for any direct, indirect, incidental, or consequential damages arising from the use of information in this document. Data and case study examples are intended to be fictional. Any resemblance to real persons or organisations is coincidental.

If you believe that information of any kind in this publication is an infringement of copyright, in material in which you either own copyright or are authorised to exercise the rights of a copyright owner, and then please advise us by contacting the TAFE Queensland Copyright Officer, Office of the Chief Academic Officer, TAFE Queensland, PO Box 16100, CITY EAST QLD, 4002, or Email [TAFEQLDIP@tafe.qld.gov.au](mailto:TAFEQLDIP@tafe.qld.gov.au).

## Introduction

This Learner Guide has been developed to support you as a resource for your study program. It contains key information relating to your studies including all the skills and knowledge required to achieve competence.

## What will I learn?

You will be learning the skills and knowledge required to originate and develop concepts for products, programs, processes or services to an operational level.

The unit applies to individuals who develop concepts for any business or community activity or process. This may include marketing and advertising campaigns, staff development programs, information technology and communication systems, radio and television programs and entertainment events. These individuals operate with a high degree of autonomy and also collaborate with others to generate ideas and refine concepts for implementation.

## Where can I get more information?

For further information on your qualification, accredited course or Unit/s of Competency, please go to: <https://training.gov.au/Training/Details/BSBCRT512>

## TAFE Queensland student rules

TAFE Queensland student rules are designed to ensure that learners are aware of their rights as well as their responsibilities. All learners are encouraged to familiarise themselves with the TAFE Queensland student rules, specifically as they relate to progress of study and assessment guidelines. A full guide to student rules can be found at Student rules<sup>1</sup>.

## Information to support your learning and assessment

There's always someone to help you. Undertaking further study can bring both excitement and challenges. Our Student Services, Learning Support and Library staff can help you make the most of your time at TAFE.

## Callout panels

A number of panels have been designed to help guide you to important information and actions throughout this Learner Guide. The full choice of panels you are likely to encounter to support you in your studies are included below. NB: not all the panels will be used in every learner guide.

<b>Applied - how things work</b>
 Case study  Example  Scenario
<b>Action - things you do</b>
 Activity  Assessment  Journal  Self-check
<b>Alert - things to take special note of</b>
 Did you know?  Tip
<b>Knowledge - things to learn</b>
 Reading  Sustainability  Legislation  Note  Research
<b>Understanding - what you have learned</b>
 Discussion  Recall  Reflection
<b>Warning - things you must know</b>
 Important  Safety
<b>Other</b>
 Video  Weblink

<sup>1</sup> <http://tafeqld.edu.au/current-students/student-rules/>

# Contents

Introduction.....	3
What will I learn? .....	3
Where can I get more information? .....	3
TAFE Queensland student rules .....	4
Information to support your learning and assessment .....	4
Callout panels.....	4
Contents .....	5
Welcome .....	7
Originate concepts .....	8
Introduction.....	8
The design brief.....	9
Rebriefing .....	12
Schedule .....	13
Constraints of the design process .....	14
Research .....	16
Mood boards .....	19
Generate ideas.....	21
Critical thinking vs creative thinking .....	22
How creative are you?.....	24
Creative thinking technique – brainstorming .....	28
Creative thinking technique: Mind maps .....	30
Creative thinking techniques: Word and forced associations .....	31
Creative thinking techniques: Six thinking hats .....	33
Creative thinking techniques: Doodling, Take a break .....	34
Evaluate, develop and refine concepts .....	35
Introduction.....	35
Evaluate ideas .....	36
Develop and refine concepts .....	38
On-screen development .....	40
Evaluate own work .....	41
Seek feedback.....	43

Members .....	43
Provide constructive feedback .....	45
Present and finalise artwork .....	47
Introduction.....	47
Pitching.....	48
Presenting final artwork.....	50
Finalising the project .....	53
Self-check answers .....	55
References .....	58
Appendix A – 9 dots puzzle.....	59

## Welcome

Welcome to the *BSBCRT512 – Originate and develop concepts*.

By completing this unit you will be able to:

- Scope issue
- Generate and present solutions
- Refine solutions for implementation.

# Originate concepts

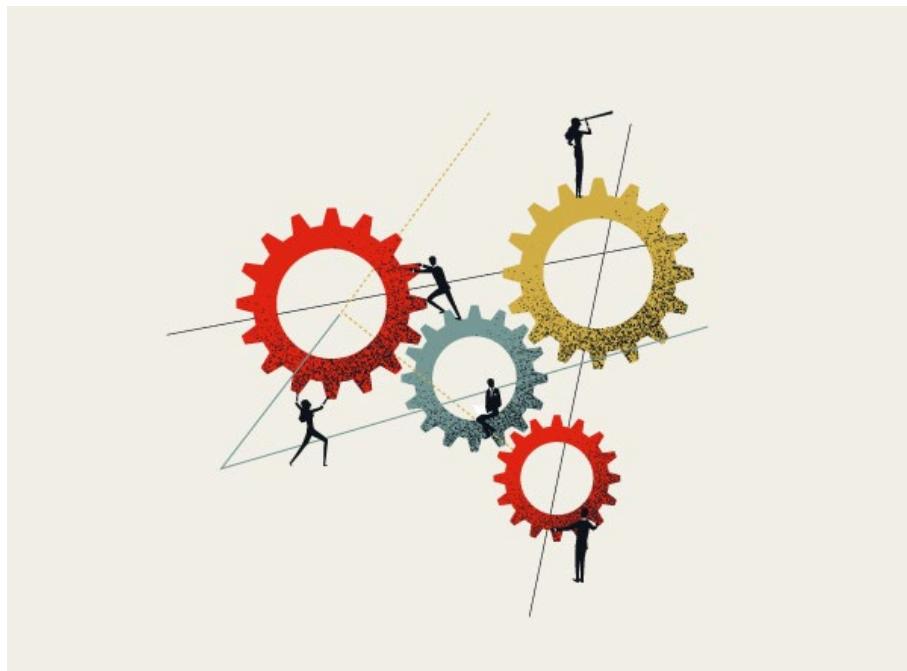
## Introduction

A large part of any creative job is being able to formulate new solutions to problems. How exactly do you go about doing this though? There are many tools that we can use throughout the design process to facilitate creative thinking and idea generation.

## Objectives

Upon completion of this module, you will have some understanding of:

- briefing
- scheduling
- constraints
- research
- idea generation and
- creative thinking techniques.



1987087010 / MJ Graphics / shutterstock.com

## The design brief

Briefing is a two-way process between the designer and the client.

For any design project, the very first step in the process is to take a brief. A brief should contain all the important information to help you to create the best possible outcome for the client. It will continue to inform and guide your work throughout the process. If in doubt, always refer to the brief.



356711438 / vchal / shutterstock.com

- The client may provide a basic brief that does not contain all the information you need, so it is likely that you will ask further questions.
- If the client is inexperienced with design projects, they may not know what information to provide.
- You may need to build your brief from scratch, so it is a good idea to draft a generic brief questionnaire you can adapt for each project.
- Do not be afraid to ask a lot of questions during the briefing stage. This is usually necessary and avoids raising those questions further along in the project, which may slow things down or even worse, waste time on work that will not fulfil project objectives.

Learn more about what information may be included in a comprehensive brief:

### Overview of the business

<b>Details</b>	Business name, tagline, ethos, mission statement.  What the business does: the primary purpose of the business, goods and services offered.
<b>Personality</b>	The personality/identity of the business: Ask for a few key words which can be tools for idea generation i.e. mind maps, word association.  You could even ask the client to describe their business as if it were a person. For example, what would they look like? What would they do for a living? What pets would they have?
<b>Style guide</b>	If there is an existing style guide, it will contain information on elements of the visual brand identity (logo, fonts, colours etc.) and how to use them.

<b>Target audience</b>	Demographics: age, gender, profession, income, level of education, geography etc. of the audience. What are the psychographics (values, opinions, behaviour, personality, interests etc.) of the audience?
<b>Competitors</b>	Who are the main competitors in the market? What do they do right? What do they do wrong? What is the client's point of difference from their competitors?
<b>Other</b>	Any other information in relation to the business that might be helpful could include store locations, number of years operating, future goals etc.

### Overview of the project

<b>Project objectives</b>	Key project goals? (increase sales, promote a new product or service, expand client base, raise awareness).
<b>Deadline/milestones</b>	Final artwork or printed materials delivery date to the client? For a large project there may be key progress milestones for both designer and client to ensure that a project remains on track. For example, dates for: presentation of initial concepts, feedback and concept selection, presentation of digital artwork etc.
<b>Budget</b>	How much is the client willing to spend on the project? Often clients will contact you for a quote before agreeing to proceed with the project. Ensure that you have the client's written approval of a quote before proceeding.
<b>Key message</b>	What exactly is it you need to be communicating to the audience? This should be closely tied to the project objectives.
<b>Assets supplied by the client</b>	Logo files, fonts, imagery etc.
<b>Deliverables</b>	What is the artwork for? ( billboard, a magazine ad etc.)
<b>Where the designs will appear</b>	Print or screen?
<b>Specifications</b>	Exact artwork size, colour space, folded/perforated etc.?
<b>File types to be supplied to client</b>	Seek confirmation about what files the client wants (Illustrator, InDesign or Photoshop etc.) This can be negotiated.
<b>Aesthetic preferences</b>	Follow the style guide if one exists. If not, the client may have ideas for imagery, font, colours etc. It is important the client understands that aesthetics must appeal to the audience and not be based on personal tastes.
<b>Any other helpful information</b>	This could include how the campaign will be rolled out, supplier details for printing and production etc.



## Example

Briefs will differ between projects. For example, a brief for a project where you will be creating a brand identity for a new client will need to be a lot more comprehensive than a brief for project where you will be creating a social media tile for a regular client.



## Video

To find out more about stylescapes please watch the following video:

[The Design Brief \(Ep1/4\) | Free Example | Design Insights<sup>2</sup>](#)

---

<sup>2</sup> <https://www.youtube.com/watch?v=o8g6vqYa5vA>

## Rebriefing



### Important

The best way to understand a brief is to follow a *rebriefing* process. This is a means of dissecting the brief, to gain the relevant information from its key elements and ideas, to determine the course of action.

During this course there are times when your assessments tasks will constitute the brief and it will be your job to develop the process of re-briefing to gain meaning from them. Other assessment tasks will contain external design briefs or "live" briefs (real-life projects).

In all of your tasks you can ask your teacher or the client questions to clarify or add to brief information.

Questions to answer when re-briefing:

- What is the major area of concern?
- What are the objectives and scope of the brief?
- What is the target market?
- Who are the client's competitors?
- What are the specifications?
- What are the client's design requirements?
- What technical/production requirements can you see?
- What keywords describe the focus?
- What collateral are you required to produce?
- What resources/tools will be required?
- Is there any other pertinent information you need?
- Does the client have a brand identity you must stick to?
- Are there current or emerging trends that impact the project? (consumer behaviour, demographic patterns, technology, image style, brand directions)
- Have you considered moral obligations, IP or copyright?

## Schedule

When creating a schedule for a project, it can be difficult to know exactly where to start. A good approach is to write down the start date and the deadline, so you have the entire timeframe established.

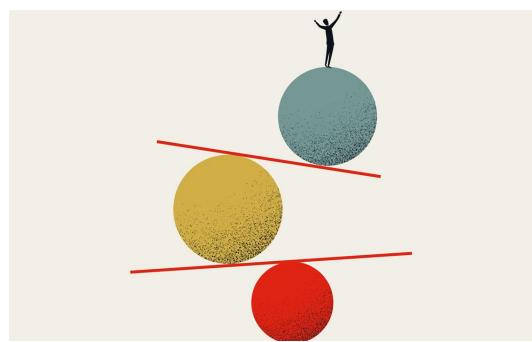
Break the project into easily defined parts and think about how long it will take to do each of these parts. These will indicate project milestones that can be measured along the way.

If possible, add a small "buffer" of extra time to each part to compensate for unexpected issues encountered along the way. These could include things like hardware or software issues, the client taking longer than expected to provide feedback, suppliers not being able to meet turnaround times.

Keep in mind that you may work on multiple projects at once so this may involve many overlapping project schedules.

The following shows a basic graphic design project timeline:

<b>Day 1</b>	Briefing 1 hr
<b>Day 2</b>	Research 1 hr Ideation 0.5 hr Thumbnailing 1 hr
<b>Day 3</b>	Digital artwork 3 hrs Present concepts to client 0.5 hr Thumbnailing 1 hr
<b>Day 6</b>	Make changes 1 hr
<b>Day 7</b>	Present updated artwork to client Await feedback 3 days
<b>Day 10</b>	Make further changes 0.5 hr
<b>Day 11</b>	Present updated artwork to client Await approval 2 days
<b>Day 13</b>	Finalise artwork 0.5 hr
<b>Day 14</b>	Export correct file formats 0.25 hr Supply final files 0.25 hr



442180035 / jozefmicic / stock.adobe.com

## Constraints of the design process

Learn more about some of the constraints:

<b>Commercial</b>	Commercial constraints could include time, budget, resource availability.
<b>Parameters</b>	Project-specific parameters that are outlined in the brief.
<b>Compliance</b>	Compliance constraints include laws and regulations etc.
<b>Style</b>	Style constraints involve adhering to a style guide or existing brand "look and feel".
<b>Responsiveness</b>	Designing while accounting for use on multiple devices.
<b>Feedback</b>	Feedback may not always be objective but could be based on the client's personal tastes.
<b>Integration</b>	Considering if the design needs to work/integrate with other products, services or systems.



### Note

Keep in mind that constraints are not necessarily restraints. Constraints can give designers scaffolding and direction. For example, if you were asked to design a menu for a restaurant it would be very difficult to know where to start unless you were aware of constraints such as the deadline, brand assets to be supplied, what size the menu needs to be and so on.



### Weblink

To find out more read the article [Why Constraints are a Fundamental Part of Design<sup>3</sup>](#)

<sup>3</sup> <https://vanseodesign.com/web-design/constraints-help-design/>



## **Self-check – Constraints of the design process**

Visit the webpage: [Sustainable packaging design: Colgate's bamboo toothbrush.](#)<sup>4</sup>

Look at the image of the product and packaging and think about the following:

- What sort of constraints were the product designer/s and the graphic designer/s working with?
  - Do you think they produced a good solution considering the constraints?

Provide your brief response to these questions in the text panel below.

*Check your answers at the end of this Learner Guide for suggestions on what to look for / think about.*

<sup>4</sup> <https://beardwood.com/updates/sustainable-packaging-design-colgates-bamboo-toothbrush/>

## Research

Ideally, the client will provide you with plenty of information in the briefing stage to help you get started on the project, but you likely will still need to do some research of your own. You may need to gather further information about the client themselves, the target audience or competitors.

There are two different research approaches that you may use: **primary** and **secondary** research. Learn more:

### Primary research

- you collect the data yourself (or hire someone to do this)
- involves going directly to the source e.g., location, staff or customers
- context-specific and aims to solve a particular problem
- usually costs more and can be time-consuming
- more likely to be used for large scale projects
- methods include surveys, focus groups, interviews, observations.

### Secondary research

- conducted by someone else
- involves searching for existing data
- data may be outdated or not specifically relevant to your needs
- usually more cost effective and takes less time
- easy to do for all projects
- methods include online research, books, journals, sales data, census data, companies (eMarketer, Nielson etc.).



1975446842 / metamorworks / shutterstock.com



## Scenario



1841252449 / MJGraphics / shutterstock.com

You have been commissioned to create point of sale signage (visuals that the customer will see when they are in store) for a retail clothing brand. The client brief has provided information about the business, product range, target audience, competitors and project specific details such as specs, deadline, budget etc. Although this gives you a good starting point, you can conduct research to get a clearer picture of all of these things.

**Secondary research:** look at the client's website and socials to get a feel for the brand aesthetics, see the current product line and how the target audience interacts with the brand. Look at competitor's websites to gauge what they are doing and search for image examples of their point of sales material.

**Primary research:** In order to get a true understanding of the shopper's experience in store, it would make sense to visit the site and observe customers. This will give you insights that may not be conveyed in the brief and allow you to look at the current visuals in store, explore the product and possibly speak with staff about previous point of sale displays.



## Did you know?

### Visual research and inspiration

Secondary research also includes gathering visual inspiration.

Visual research is an excellent way to gather information on the client, competitors, target audience and possible design approaches in a clear and simple way.

You can create a mood board of samples of typography, images, colours, stocks etc. that may influence your designs or simply prompt the ideation process.

## Mood boards

A mood board is a tool that you can use to explore existing visuals in order to influence your design direction or to use as a communication device. If you say to a client; "I think a dreamy, retro summer vibe with lots of turquoise will work well" what exactly does this mean? The picture you have in your head may be entirely different to theirs so by showing them a mood board it will ensure you are on the same page.

You can create a mood board by collecting images and other materials. Learn more about creating mood boards:

<b>Online images</b>	Collect images online and arrange them onto a page in Illustrator/InDesign/Photoshop or save them into a specific folder. Pin images to a board on Pinterest
<b>Physical images and materials</b>	Collect physical images and materials (e.g. magazine clippings, packaging samples, fabric swatches etc.)
<b>Take digital photographs</b>	Take photographs on-site at your client's premises, or capture images of competitors sites/products
<b>Content ideas</b>	A mood board may show examples of typography, colours, illustrations, photos, textures etc. that you think would work well for the project. You may create multiple mood boards.



### Tip

A mood board may simply give a general idea of the style you are planning on using or it may spark more specific ideas for the conceptual process.

You can utilise mood boards when conducting primary research too. For example, if you are doing a site visit you can take photos of the store layout, existing branding and/or product displays and create a mood board of these. Seeing this visual information in one place will give you a clearer and more holistic view of the brand.

## Stylescapes

- Stylescapes are usually used in branding and are more curated than mood boards.
- They are often used as a communication tool, to represent possible brand styles to clients.
- A stylescape may include a logo, colours, fonts, form, images, interface, product shots etc.
- Rather than being images which inspire the conceptual process, a stylescape is usually used further along in the design process, when some development and refinement of concepts has already taken place.



### Video

Watch this video on [how to create a brand stylescape](#)<sup>5</sup> to find out more.

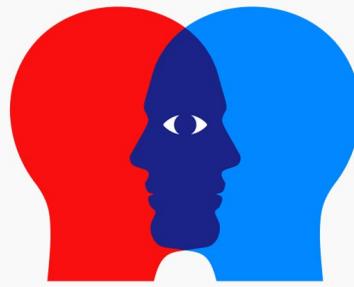
---

<sup>5</sup> <https://www.youtube.com/embed/f8NswKMHiUU?rel=0>

## Generate ideas

Ideation is the process of generating ideas. But where do ideas come from?

Ideas don't appear out of thin air. When faced with a problem we draw from our existing knowledge and experience to generate ideas and solutions.



2052324500 / Topuria Design / shutterstock.com

### Knowledge

- School
- TAFE
- University
- Workshops
- Books
- Documentaries
- Seminars

### Experience

- Childhood
- Relationships (family, friends, love)
- Travel
- Work
- Hobbies
- Leisure

The richer your pool of knowledge and experience is, the more ideas you will be able to generate. This means it is important to add to this pool as often as possible by learning and doing new things; go to places you've never been, explore unfamiliar artforms, do a workshop, cook a new dish or simply take a different route to TAFE. Big or small, it will give you more to draw upon to improve your creativity.



### Video

If you would like to find out more about improving your creativity, check out the following episode of [Todd Sampson's Redesign my brain: Make me more creative.](#)<sup>6</sup>



### Weblink

To learn more about where great ideas come from, see [The secret place where all ideas are born](#).<sup>7</sup>

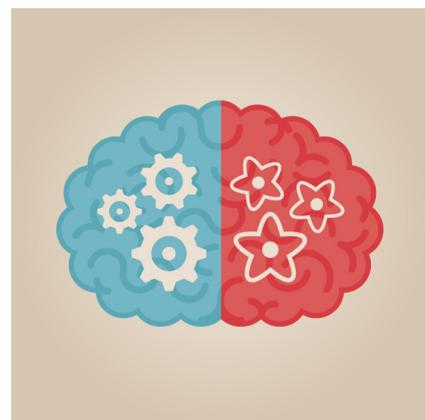
<sup>6</sup> [https://www.youtube.com/embed/HIEi\\_AL2bE?rel=0&wmode=opaque](https://www.youtube.com/embed/HIEi_AL2bE?rel=0&wmode=opaque)

<sup>7</sup> <https://www.lifehack.org/642509/the-secret-place-where-all-great-ideas-are-born>

## Critical thinking vs creative thinking

To solve problems and produce innovative solutions, we must use a combination of critical and creative thinking. During the ideation process however, creative thinking is key. Critical thinking is associated with left-brain functions, whereas creative thinking is associated with right-brain functions.

Many people believe that they have a dominant brain "side", but recent research shows that most people use both sides of their brain equally.



245319931 / Beatriz Gascon J /  
shutterstock.com

### Critical

- Analytical
- Convergent
- Vertical
- Quantitative (numbers)
- Probability
- Detail
- Focused
- Objective
- Verbal
- Linear
- Reasoning
- Yes, but

### Creative

- Generative
- Divergent
- Lateral
- Qualitative (descriptive)
- Possibility
- Big picture
- Diffuse
- Subjective
- Visual
- Associative
- Richness, novelty
- Yes, and



### Did you know?

Creative thinking can also be known as lateral thinking. The term lateral thinking was coined by Edward De Bono in 1967 and refers to a person's capacity to solve problems through an indirect and creative approach, typically by viewing the problem in a new and unusual light.

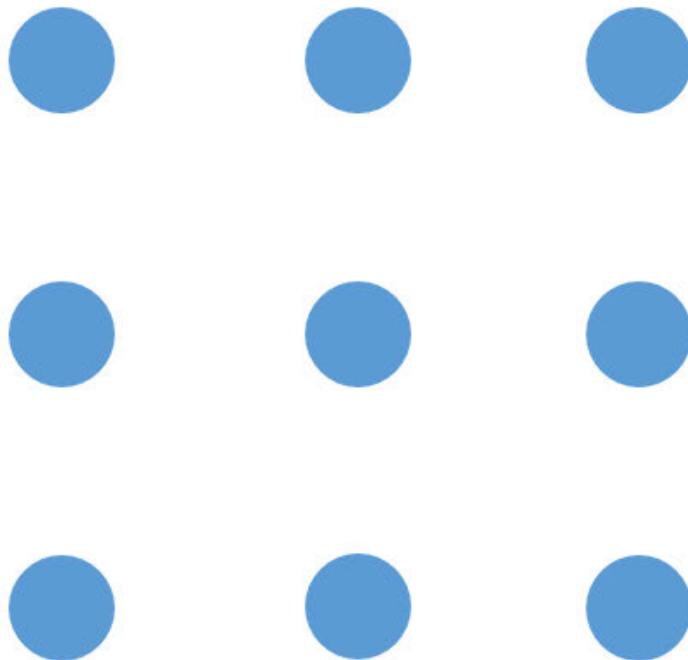


## Activity – 9 dots puzzle

Try to connect all of the dots using four straight lines, without lifting your pen from the page. Think outside the square. Go to [Appendix A](#) for a printable copy of the 9 dots puzzle

### Nine Dots Puzzle

Below are nine dots arranged in a set of three rows. Your challenge is to draw four straight lines which go through all of the dots without taking the pencil off the paper. Start from any position and draw the lines one after the other without taking your pencil off the page. Each line starts where the last line finishes.



*Check your answers at the end of this Learner Guide*

## How creative are you?

We know the importance of creative thinking in the ideation process but what if you are not a creative person? Firstly, there is no such thing. Secondly, everyone is able to be creative, it is a skill that can be developed.

There are some simple tests that experts use to measure a person's creativity. There are many that you can do yourself. Remember, even if you don't score well in these tests, you can continually improve your creativity by gathering knowledge and experience and using creative thinking tools which will be covered in the next section.

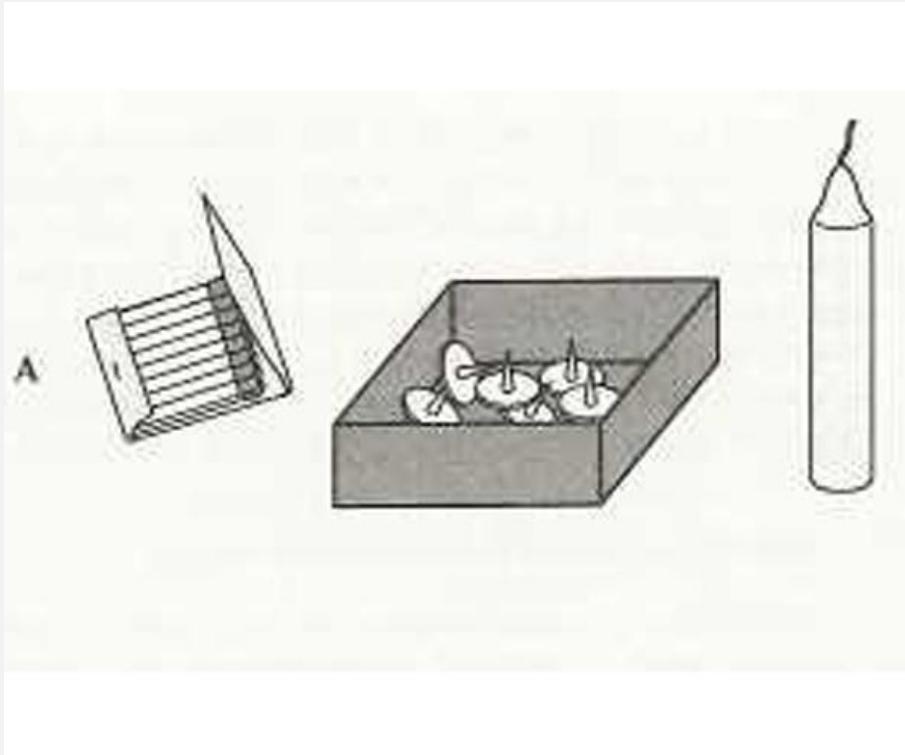
### The Candle Problem

The Candle Problem is a classic test of creative problem solving developed by psychologist Karl Duncker in 1945. Subjects are given a candle, a box of thumbtacks, and a book of matches, and asked to affix the lit candle to the wall so that it will not drip wax onto the table below. The test challenges functional fixedness, a cognitive bias that makes it difficult to use familiar objects in abnormal ways.



#### Activity

Think about how you would approach the candle problem. Would you be able to find the solution?



Karl Duncker, 1945, Candle problem.

This image is in the public domain as the copyright has expired.

Find more activities below that will test your creativity:

### Alternative uses

An individual is shown a random object and asked to think of as many alternative uses for the object as possible. For example, if the object were a paper clip, they may respond with holding papers together, router restarter, cufflinks, earrings, bookmark, keeping headphones from getting tangled up etc.

The test measures divergent thinking across four sub-categories:

- **Fluency** – how many uses you can come up with.
- **Originality** – how uncommon those uses are (e.g. "router restarter" is more uncommon than "holding papers together").
- **Flexibility** – how many areas your answers cover (e.g. cufflinks and earrings are both accessories, aka one area).
- **Elaboration** – level of detail in responses; "keeping headphones from getting tangled up" would be worth more than "bookmark".



1934941724 / Topnmp / shutterstock.com



### Activity

Think of as many uses, **in two minutes**, for an empty toilet paper roll. Review your answers using the four sub-categories: fluency, originality, flexibility and elaboration.

### Incomplete figure

The Torrance Test of Creative Thinking (TTCT) sought to identify a creativity-oriented alternative to IQ testing. One element of the TTCT is the *Incomplete Figure*, a drawing challenge, not unlike Mr. Squiggle. In this test an individual is provided with a page showing various marks and they are to complete the picture by drawing in more detail. Uncommon subject matter, implied stories, humour, and original perspective all earn high marks.



1781345501/ MJgraphics / shutterstock.com.

Modified by TAFE Queensland.



## Activity

Ask a friend to draw some abstract marks on a page for you. Draw in your own details to create pictures.

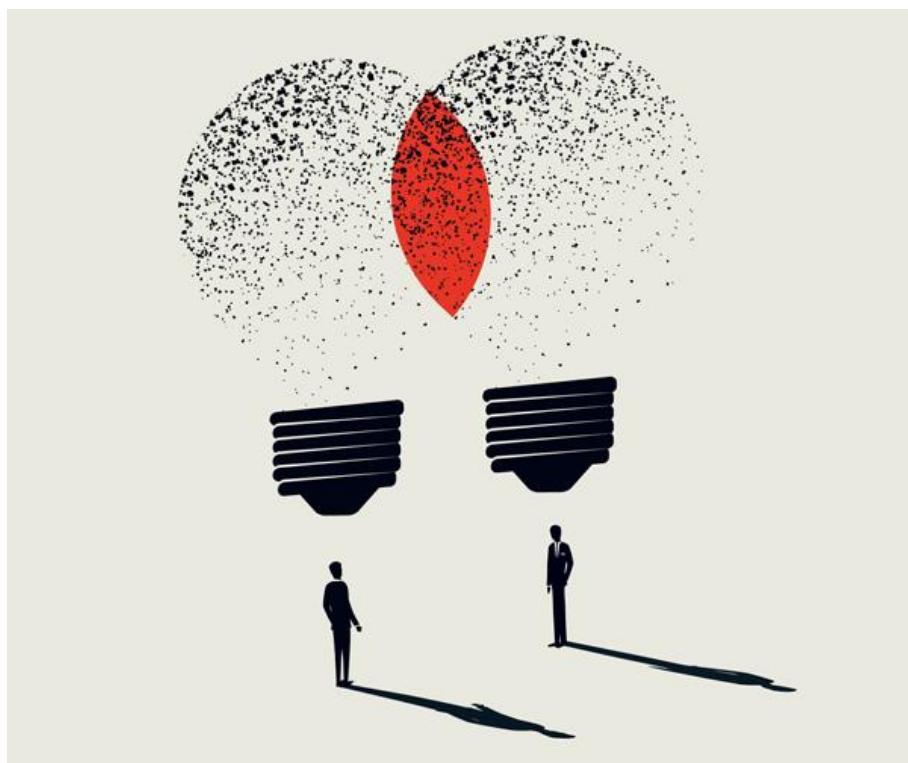
## Remote associates

The Remote Associates Test takes three unrelated words, such as "Falling – Actor – Dust," and asks you to come up with a fourth word that connects all three words. In this case, the answer is "star," as in "falling star," "movie star" and "stardust."



## Activity

Go to the [Remote Associates Test<sup>8</sup>](#) website and try it for yourself.



1886740141 / MJgraphics / shutterstock.com

<sup>8</sup> <https://www.remote-associates-test.com>

## Riddles

Psychologists use riddles to measure creative problem solving potential, or convergent thinking. Unlike the Alternative Uses Test, the goal here is to arrive at a single correct answer (rather than as many answers as possible). Try solving the following riddles:



### Self-check – Solve the riddles

A man has married 20 women in a small town. All of the women are still alive and none of them are divorced. The man has broken no laws. Who is the man? (enter your response).

.....

A rich nobleman decides to hold a competition to see which one of his two sons will inherit his substantial fortune. He tells them to race their horses to a distant city, but the one whose horse arrives last will inherit the fortune. The two sons set out, determined to win the inheritance, and wander the forest for days, each attempting to outlast the other. Finally, they come across a wise man and ask him for advice. After the wise man speaks to the two sons, they immediately jump on the horses and race at full gallop to the target city.

What did the wise man say?

.....

*Check your answers at the end of this Learner Guide*

## Creative thinking technique – brainstorming



### Tip

There are many tools we can use to shift our thinking into creative/lateral mode. You may find that some of these tool's work better for you than others. Try to use each of the techniques, described in the following sections, to solve a few different problems before you select your preferred methods.

Brainstorming is the process of trying to formulate new ideas either individually or in groups.

The problem must be clearly defined and understood before brainstorming begins.

When brainstorming individually you can simply sit and write down all of your ideas as they come to you. At this stage of the process there should be no evaluation or refining of particular ideas. It is about quantity, not quality.

When group brainstorming there are five key rules, as shown in the image below, that should be followed to facilitate a productive session.



1686720106 / Marshot / Shutterstock.com

Modified by TAFE Queensland.

**No judgements!** There is no such thing as a bad idea! Judgement can discourage people from putting ideas forward and stunt the creative process.

**Think freely!** No matter how crazy it is; while brainstorming, ideas are neither silly nor impossible.

**Lots of ideas!** The more ideas the better. Throw as many ideas as possible out on the table and try not to focus or linger on any in particular. The strongest ideas can be refined and developed later. \

**Many heads!** Many heads are better than one (when the rules are followed) – remember where ideas come from. The more collective knowledge and experience in the room, the more ideas will be generated.

**Time limit!** Have a facilitator to guide the session and ensure everyone gets a chance to be heard. The session should not go for longer than 20 minutes.

There is no such thing as a bad idea! Judgement can discourage people from putting ideas forward and stunt the creative process.



### Weblink

To find out more about [brainstorming: generating many radical and creative ideas<sup>9</sup>](#).

Review the article and view the video to learn more.



### Reflect

Try the following brainstorming exercise:

**Problem:** There has been an increase in loneliness and depression in elderly people due to social isolation during the Covid-19 pandemic.

You can brainstorm in a group in class or individually at home. Try to generate as many ideas as possible that could lead to a solution to the problem. Remember, there are no wrong answers and at this stage it is all about quantity over quality.

<sup>9</sup> <https://www.mindtools.com/brainstm.html>

## Creative thinking technique: Mind maps

Mind mapping is the process of writing one key word in the middle of a page and then creating branches of associated words.

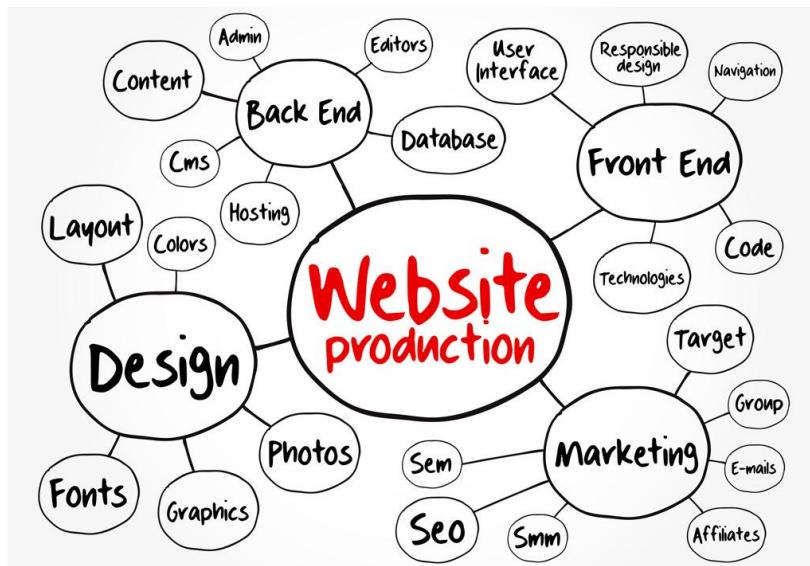
The map continues to branch out with words that associate with the previous branch (not the original word) so the further out the branches extend the less evident the connections are to the original word.

This is a great way to move past typical thinking and to get rid of traditional, stereotypical connections.



### Video

To find out more about the [power of a mind maps](#)<sup>10</sup> from an expert in the field of lateral and creative thinking, please watch Tony Buzan in this TEDx Talks video.



169457329 / dizain / stock.adobe.com

<sup>10</sup> <https://www.youtube.com/embed/nMZCghZ1hB4?rel=0&wmode=opaque>

## Creative thinking techniques: Word and forced associations

### Word association

Word association is similar to mind mapping but is less structured.

The process involves writing one key word then writing down any words you associate with it in list format. The aim is to try to list as many words as possible. You will find that even if it feels like you have exhausted all associations with the one word, if you can think of more, these will probably lead to unique ideas. If a client has given you key words in a brief it may be helpful to do word association with these.



233340553 / Mascha Tace / shutterstock.com. Modified by TAFE Queensland.

### Forced association

Forced association is word association with a twist. It is almost like working backwards, so you start with random words and try to find connections between these words and your central theme. You can ask someone to give you some random words, blindly pick a few from a book/magazine or use an online random word generator.



407092207 / A Φ / stock.adobe.com



### Example

The client is an environmental group wanting you to create an ad to discourage the purchase of products made with palm oil, as it leads to deforestation and loss of wildlife habitat.

**Random words: keyboard, soup, roller coaster, clothes, snake, umbrella, sieve.**

The word sieve led me to the idea of having an animal (snake possibly) in the sieve, turning to dust/flour as it falls through the holes into a big mixing bowl with other ingredients including palm oil. It is a very rough idea and wouldn't necessarily be feasible but it is certainly something that I would not have thought of without having random words push me in an unusual direction



## Reflect

Try forced word association yourself:

Your client owns a local swimming pool and wants you to create an ad to promote the facilities to families during summer.

**Random words:** contrast, uniform, step, interactive, sand, palace

See how many concepts you can come up with by creating associations between these words and the topic at hand.

## Creative thinking techniques: Six thinking hats



### Tip

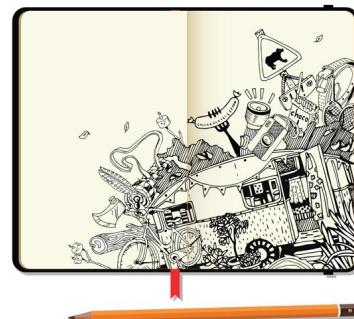
The *Six Thinking Hats* method identifies six modes of thinking. If working alone, you can use each hat in turn. If working in a group, you can allocate each hat to one or more group members. Try to problem solve (come up with ideas to respond to the brief) using the different modes of thinking described below.

- |                   |  |
|-------------------|--|
| <b>White hat</b>  | <ul style="list-style-type: none"> <li>• Facts</li> <li>• Information and data</li> <li>• Neutral and objective</li> <li>• What do I know?</li> <li>• What do I need to find out?</li> <li>• How will I get the information I need?</li> </ul> |
| <b>Red hat</b>    | <ul style="list-style-type: none"> <li>• Emotion</li> <li>• Feelings, intuition, hunches, gut instinct</li> <li>• My feelings right now</li> <li>• Feelings can change</li> <li>• No reasons are given</li> </ul>                              |
| <b>Yellow hat</b> | <ul style="list-style-type: none"> <li>• Benefits</li> <li>• Positives, plus points</li> <li>• Why an idea is useful</li> <li>• Logical reasons are given</li> </ul>   |
| <b>Green hat</b>  | <ul style="list-style-type: none"> <li>• Creativity</li> <li>• Ideas, alternatives, possibilities</li> <li>• Solutions to black hat problems</li> </ul>  |
| <b>Blue hat</b>   | <ul style="list-style-type: none"> <li>• Planning/Process</li> <li>• Thinking about thinking</li> <li>• What thinking is needed?</li> <li>• Organising the thinking</li> <li>• Planning for action</li> </ul>                                  |
| <b>Black hat</b>  | <ul style="list-style-type: none"> <li>• Judgement/ Cautions</li> <li>• Difficulties, weaknesses, dangers</li> <li>• Spotting the risks</li> <li>• Logical reasons are given</li> </ul>  |

## Creative thinking techniques: Doodling, Take a break

### Doodling

The act of doodling is thought to stimulate areas of the brain that may help you analyse information differently. Try not to think about the problem/brief and allow yourself to sketch freely. Your subconscious is a powerful thing and a brilliant idea may be hiding just beneath the surface. Doodling can release subconscious thoughts and ideas.



599060444 / Tom and Kwikki / shutterstock.com

### Take a break

The '3 Bs' is perhaps the easiest of all of the creative thinking techniques as it basically involves doing nothing at all. The '3 Bs' refer to bed, bath and bus (obviously these could also be couch, shower, train etc.). These are places where we generally slip into a relaxed state. By stepping away from a problem, into a different environment and stopping actively trying to solve a problem, sometimes the solution will just pop into your head like a 'lightbulb' moment.

Of course, if you have a very tight deadline this option may not be ideal and doesn't guarantee results.



1354539356 / New Africa / shutterstock.com

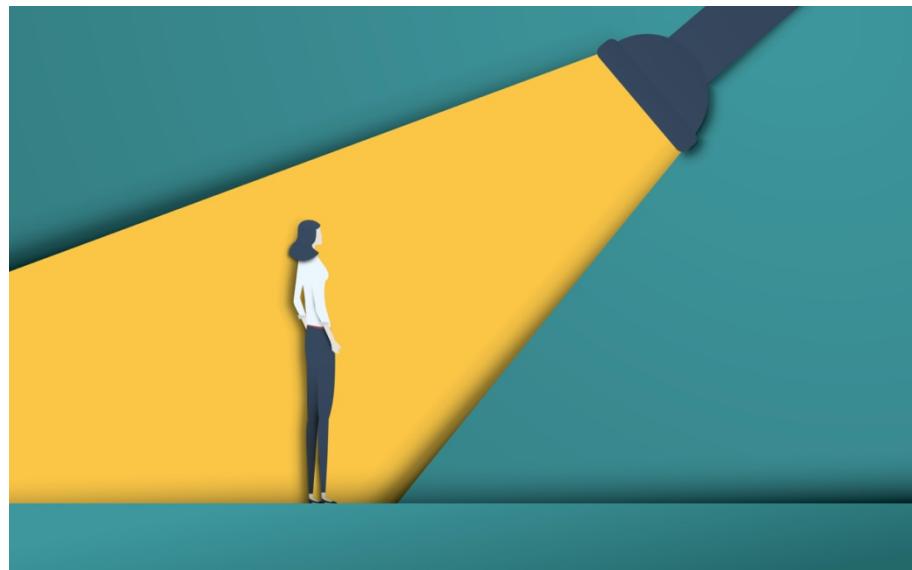
# Evaluate, develop and refine concepts

## Introduction

To determine which of your many ideas are viable it is necessary to conduct an evaluation before the development phase. Once you have done this you will be able to select ideas that you know are feasible and then experiment in order to develop and refine these concepts further. Self-evaluation and feedback should take place throughout the development and refinement stages.

## Objectives

Upon completion of this module you will have an understanding of evaluating preliminary concepts, developing and refining concepts, on screen development, self-evaluation of design work and the feedback process.



232990414 / jozefmicic / stock.adobe.com

## Evaluate ideas



### Tip

Once you have worked through the ideation process it is time to evaluate which of your ideas have potential. You can now look closely at your ideas and consider whether each is feasible i.e. can the concept be developed into a workable solution?

Learn more about factors to consider when evaluating ideas:

<b>Commercial potential</b>	Before you start to develop concepts you must examine whether they have commercial potential. Consider whether it is suitable for the target audience and how it will position in the market against competitors.
<b>Feasibility</b>	You must also determine whether it will be feasible to implement the concepts. Can you realistically develop them from concepts into actual workable solutions? Some considerations here are cost, materials needed, production methods, human resources required, time to implement, distribution etc. Think about all of the practical and operational factors.
<b>Pass/fail evaluation</b>	A good way to evaluate lots of concepts is to use the pass/fail evaluation method. Pick out some key questions based on the brief objectives that you can ask about each concept quickly to filter out ones that aren't appropriate. The criteria could include questions such as:  Does the idea suit the target audience? Can the idea be implemented within the budget? Can the idea be implemented before the deadline?
<b>SWOT</b>	It may be useful to conduct a SWOT (strengths, weaknesses, opportunities, and threats) analysis for each concept. A SWOT analysis will help to evaluate ideas based on the concept's strengths, weaknesses, opportunities and threats.
<b>Market comparison</b>	In order to evaluate the strength of concepts, you may need to compare them with best practice examples of similar designs, products or processes in the market. You do not want to copy what already exists but you can use competitors' successes and failures to your advantage.

Learn more about evaluating the potential of ideas using SWOT:

### **Strengths**

- What are the idea's advantages?
- What makes it unique?
- How is it better than others?
- What can the idea be successful in?
- How might others see the strength of the idea?



### **Weaknesses**

- How can the idea be improved?
- What does the idea lack (resources, team, experience etc.)?
- What could prevent success?
- How might others see weaknesses in the idea?



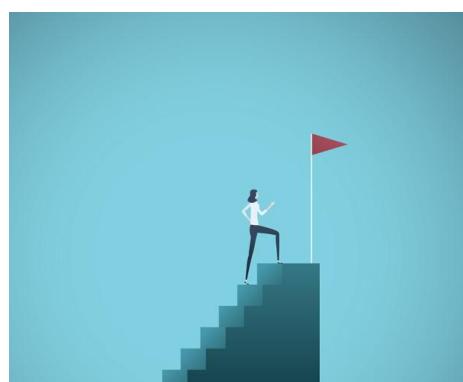
### **Opportunities**

- Is there a need?
- What are the opportunities in the market?
- How can the company help the idea to succeed?



### **Threats**

- What are the current obstacles to the idea?
- Do the idea weaknesses present a threat to its success?
- Are there cost/time barriers?



1954296691/ 1175823112/ 1234346386 / 1120192514 / MJ Graphics / shutterstock.com

## Develop and refine concepts



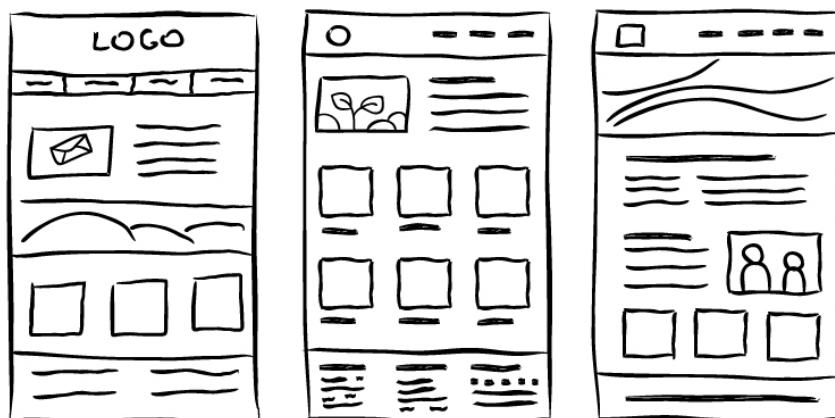
### Tip

In order to then develop the ideas that appear feasible you will need to do some experimentation in the form of thumbnails and possibly comprehensive sketches.

Before you start working on the computer it is important to put pencil (or pen) to paper. Thumbnailing is an essential part of the graphic design process which allows us to quickly sketch ideas.

Thumbnail sketches are small, rough, simple sketches of your ideas.

- Thumbnails should be small, rough (no need for a ruler or eraser!) and only show basic detail.
- The thumbnailing process lets you turn ideas in your head into visuals that can be developed and compared on paper.
- This part of the process is still all about quantity, not quality. Once you have explored lots of ideas through thumbnailing you can then pick out concepts that have merit and refine them further as comprehensives or digitally.
- When thumbnailing page layouts it is a good idea to use boxes to represent where images will sit and lines to show where text will sit. This will give you an overall feel for the balance and hierarchy of the composition without focusing on details.
- It is unlikely that you would show thumbnails to the client as the sheer volume of ideas can be overwhelming and they may find it hard to visualise what the final product will look like from rough sketches.
- It does not matter if thumbnails are messy – they are just for your reference.



394640050 / Martina V / shutterstock.com. Modified by TAFE Queensland.

## Comprehensives

Once you have completed the thumbnailing process and have lots of options to choose from, pick out the strongest concepts to refine further. Comprehensive illustrations should give a clearer visualisation of what the final design will look like. During this stage of the process you can begin to think about more specific details including colour and typefaces. You may wish to show comprehensives to the client for feedback before moving to the digital development stage. In some projects there is no need for hand-rendered comprehensives. You may take concepts from the thumbnailing stage straight to digital development.



1613250211 / REDPIXEL.PL / shutterstock.com

## On-screen development

If you have presented comprehensives to the client and they have chosen a concept, it is then time to create the digital artwork. On the other hand, you may not have produced comprehensives but have chosen the strongest thumbnails to develop further on screen.



365852135 / Rawpixel.com /  
shutterstock.com

## Produce digital artwork

### Creating digital artwork

If you have presented comprehensives to the client and they have chosen a concept, it is then time to create the digital artwork. On the other hand, you may not have produced comprehensives, but have chosen the strongest thumbnails to develop further on screen. You will find out more about creating digital artwork in the Create and Manipulate Graphics module.



### Develop on screen

When creating digital artwork, you will not necessarily create the design exactly as you sketched it. Further development should take place on screen across multiple variations of the artwork. If designing a logo, duplicate each logo variation and tweak it, so you can see your progress and compare the different iterations. It's ok if your Illustrator development space (page/artboard) is messy. It's not what you will be sending to the client. If designing a layout, you may have multiple pages in your InDesign document showing different variations and will choose the strongest to present to the client.



### Maintain files

When producing artwork digitally, remember to save the files in a clear and organised folder structure, following an appropriate file naming convention and with version control.



275738677 / Philip Steury / stock.adobe.com / 154766684 / MJ Graphics / 166366640 / corund /  
shutterstock.com. Modified by TAFE Queensland.

## Evaluate own work



### Tip

When critiquing your own work, throughout the development and refinement stages, there are a few things that you can ask yourself in order to evaluate whether the design is effective. Remember to continually refer back to the original design brief and ask yourself if the design meets all of the key objectives.

The following checklists may be helpful at this stage. Learn more about evaluating your own work:

#### Does the artwork...

- convey the intended message
- embody the brand's personality
- appeal to the target audience
- follow style guide rules
- work with existing branded materials
- work across different mediums/platforms
- measure up against other successful products.



1886740123 / MJ Graphics / shutterstock.com

#### Is the artwork...

- correct size
- correct colour space
- correct file type
- correctly set up for print/web.



1550697392 / MJ Graphics / shutterstock.com

### Has the artwork...

- considered the principles of:
- contrast
- balance
- alignment
- repetition/continuity
- hierarchy
- harmony.



1931805920 / MJ Graphics / shutterstock.com



### Weblink

For some tips on critiquing your own work please review the following articles:

[How to self-critique your work<sup>11</sup>](#)

[Evaluate design quality<sup>12</sup>](#)

<sup>11</sup> <https://www.blackbearcreative.com.au/blog/how-to-self-critique-your-own-work>

<sup>12</sup> <https://99designs.com.au/blog/tips/evaluate-design-quality/>

## Seek feedback



### Tip

It can be difficult to be objective when you are evaluating your own work. Particularly if you have been looking at the design for hours/days. It can be extremely helpful to ask others to look at your work and provide constructive feedback. A fresh pair of eyes may pick up small errors and bring a new perspective.

### Who to ask for feedback?

#### Colleagues/other designers

Other graphic designers will be able to give you constructive feedback using their expert knowledge. They will likely focus on the technical and design theory side of things, considering file set up as well as the design principles etc.

Give the designer a general overview of the brief so they are aware of the objectives you are needing to fulfil.



1058052011 / Jack Frog / shutterstock.com

#### Members of the target audience

Who better to ask than the intended recipients of the message? Members of the target audience reviewing the design may give some valuable insights to questions:

- Would the design catch your eye?
- What is the key message from this design?
- What do you like or dislike about it?

Even if lacking design-specific knowledge or training, target audience members can give you authentic feedback.



1487049521 / Varavin88 / shutterstock.com

## The clients

The client will need to give final design approval, so it is important that they believe the concept and artwork are effective. At certain points throughout the process, seek client feedback to ensure you are on the right track. These feedback checkpoints will depend on the project size and timing and should be agreed before project commencement. If you present the final artwork to the client at the end of a big project without their consultation along the way, they may not be happy with the results. You would then be back to the drawing board with an impending deadline.



1141808657 / sebra / shutterstock.com



### Scenario

#### Feedback process example:

If you were designing a logo for a new business:

- You might agree to present three original black and white concepts to the client in refined digital format within 10 days of starting the project.
- The client would then have 5 days (they must be aware of this timeframe) to provide you with feedback and suggested changes to the concept that they feel is the strongest.
- You would then apply changes and present the updated logo in various colour palettes to the client for further feedback.
- You would continue this process until the design is approved by the client



### Note

- Remember that you should outline the amount of time allocated for changes in your initial contract and, if you are approaching this time, be sure to let the client know. It is likely that the client will become more efficient with their feedback/change requests.
- If you spend extra time on changes, do not tell the client and then send them an invoice with a larger amount than quoted, they will likely be unimpressed.

## Provide constructive feedback

**To be constructive, feedback should be useful as well as positive.**

If you have been asked to critique another designer's work, be sure to provide constructive feedback. This means giving suggestions for improvement.

So, rather than saying: '*Great work, love it!*' you could suggest:

*'I think the colour palette is strong and would appeal to the audience, but this copy is difficult to read. Perhaps you could use a darker shade of that colour for text.'*



1077395216 / Suteren / shutterstock.com

If you are unsure where to start when providing constructive feedback, the following approach can help. Learn more:

<b>Describe the work</b>	What do you see? What forms are used? What colours are used? What does it make you think of?
<b>Analyse the work</b>	How are the colours used? How is typography used? How are the forms used? How is the texture used? How are the materials used?
<b>Interpret the work</b>	What does the work say? How does the work make you feel? Why do you think the creator of the work did what they did? What is the creator of the work trying to say?
<b>Evaluate the work</b>	Is the work engaging? Does the work resonate with you? Does the work make you feel? Does the work mean something to you?



## Video

Watch this video to find out about some different methods of providing constructive feedback. [How to give good feedback - InVision Design Snack #15](#)<sup>13</sup>



## Tip

### Application of feedback

- Others' opinions may be valuable, but this doesn't necessarily mean you need to change the artwork to match their recommendations exactly.
- Consider feedback, think about the reasoning behind it and whether you believe you could use the feedback to improve the artwork.
- A good designer will not be offended by criticism but use it to improve their skills.



## Note

During class you may take part in a critique session, where your instructor and peers evaluate your work and provide constructive criticism. To find out more about critiquing please read the online article [The Purpose of Critique](#)<sup>14</sup>

<sup>13</sup> <https://www.youtube.com/embed/VBz6h3fSZUY?rel=0&wmode=opaque>

<sup>14</sup> <http://howtocrit.com>

# Present and finalise artwork

## Introduction

After all of the hard work you have put into producing a strong solution to the brief, you want to show the final results in their best light. Presenting artwork professionally can help the client to understand the process and reasoning behind your designs and help them to visualise how the designs will work when they are out in the real world.

## Objectives

Upon completion of this module, you will have an understanding of pitching, presenting final artwork to the client and finalising the project.



790590748 / VGstockstudio / shutterstock.com

## Pitching



### Tip

If you are presenting work in person or "pitching" it important to be able sell the work to the client. You should explain your process, reasoning and how your work has fulfilled the brief. If you show excitement when presenting work to a client it is more likely that they will be enthusiastic about it. Take the client on a journey and make the experience memorable.

Remember, you are a creative so use those creative skills to pitch your work!

### A great pitch

#### **Gives the client an insight into:**

- The initial brief objectives (frames your presentation)
- Your research findings
- Your ideation process (how you reached the 'golden' concept)
- How your solution is the perfect solution (relate to brief objectives)
- Why your solution will work in the market (relate to research findings)

#### **Includes great visuals that:**

- Are clear and engaging
- Don't include too much distracting text for viewers to read
- Show designs mocked up in-situ

#### **Allows for conversation:**

- Welcome viewers to ask questions during or at the end
- Is planned to allow you to respond to questions

#### **Is productive:**

- If you are unable to answer a client's question, say you'll follow it up and get back to them asap.
- Try to use active listening and take notes to remember client feedback



## Video

Watch the video to find out more about [how to present your work to clients](#)<sup>15</sup>.



## Weblink

Gruen is an ABC TV show that features a panel of advertising industry experts discussing and debating all things advertising. **The Pitch** is a segment featuring leading advertising agencies pitching their concepts. You can access [Gruen episodes via iView](#)<sup>16</sup>:

---

<sup>15</sup> [https://www.youtube.com/embed/rOGAJwm3n\\_M?rel=0&wmode=opaque](https://www.youtube.com/embed/rOGAJwm3n_M?rel=0&wmode=opaque)

<sup>16</sup> <https://iview.abc.net.au/show/gruen>

## Presenting final artwork



### Tip

When you have reached the stage of presenting final artwork to the client for approval it is best to do so in a clear and professional manner.

### Visual presentation for emailing

If you are emailing the artwork to the client, ensure that it is:

- in a file format that the client can open and view without having Adobe Creative Cloud installed on their device
- laid out in a clear and simple composition - the artwork should be the star here, so do not detract attention from it with a complicated presentation design
- shown in its final form - once the artwork has been approved and signed off you cannot make changes unless you send it through for approval again.

You may wish to add a short, written overview of information that may not be clear to the client. For example, if a piece has folds or perforations you may wish to explain that these are represented by different kinds of strokes in the artwork.



### Example

#### Rationale

If you are sending through multiple concepts, you may even provide a simple rationale (or visual guide) explaining why you made certain design choices and how they fit with the brief objectives. For example, if you have designed three logo concepts you could explain the symbolism of the colours, imagery and typography in each one, as this may not be obvious to the client. If they have a deeper understanding of the artwork it will help with their decision-making process.



### Video

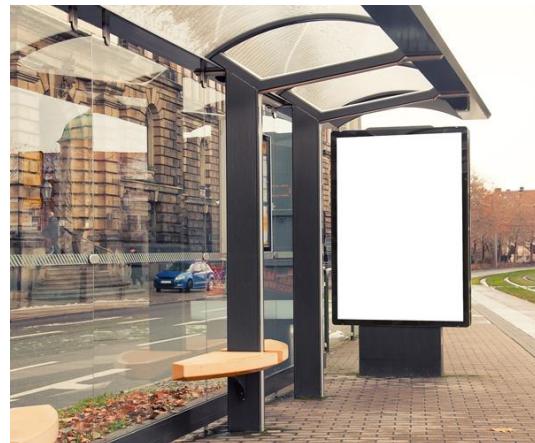
Watch this video to see the ways that [5 different designers presented logos in response to the same brief<sup>17</sup>](#). You will notice that some explain the logo construction, some show mock ups and some give information on type treatment, colours etc.

<sup>17</sup> [https://www.youtube.com/embed/U\\_\\_YrDLoHRw?rel=0&wmode=opaque](https://www.youtube.com/embed/U__YrDLoHRw?rel=0&wmode=opaque)

Using mock-ups can make your design look more professional. For examples of how mock-ups can be used to showcase various designs see below:

### Outdoor advertising

For large scale, outdoor design, you may wish to mock-up the artwork so the client can envision what the design will look like in its 'natural environment'.



### Magazine layout

For a magazine page layout design, rather than sending through the flat artwork, you could mock it up on a professional photograph of an open magazine.



### Apparel logo

If you designed a logo that will be used on apparel tags you might mock it up on a photograph of an apparel tag.



135345131 / Evgeny Atamanenko, 1396103894 / rawpixel.com,  
2051440928 / E. Va / shutterstock.com



## Weblink

There are many websites that offer free or subscription-based mock-up templates:

[graphicburger<sup>18</sup>](https://graphicburger.com/mock-ups/)

[mockupworld<sup>19</sup>](https://www.mockupworld.co)

[Envato<sup>20</sup>](https://elements.envato.com/lp/mockups/)

[smartmockups<sup>21</sup>](https://smartmockups.com)

[creativemarket<sup>22</sup>](https://creativemarket.com/templates/mockups/)

[pixeden<sup>23</sup>](https://www.pixeden.com/psd-mock-up-templates)

[mockups-design.com<sup>24</sup>](https://mockups-design.com/mockups/)

[unblast<sup>25</sup>](https://unblast.com/mockups/)

[mr mockup<sup>26</sup>](https://mrmockup.com/freebies/)

[freedesignresources<sup>27</sup>](https://freedesignresources.net/category/free-mockups/)

---

<sup>18</sup> <https://graphicburger.com/mock-ups/>

<sup>19</sup> <https://www.mockupworld.co>

<sup>20</sup> <https://elements.envato.com/lp/mockups/>

<sup>21</sup> <https://smartmockups.com>

<sup>22</sup> <https://creativemarket.com/templates/mockups/product-mockups>

<sup>23</sup> <https://www.pixeden.com/psd-mock-up-templates>

<sup>24</sup> <https://mockups-design.com>

<sup>25</sup> <https://unblast.com/mockups/>

<sup>26</sup> <https://mrmockup.com/freebies/>

<sup>27</sup> <https://freedesignresources.net/category/free-mockups/>

## Finalising the project



### Tip

The files that you will supply to the client will depend on the nature of the project. For more information on this please see the **File Formats** section of the **Create and Manipulate Graphics** module.

### Supplying artwork

One important thing to remember is that a client will likely not have access to Adobe Creative Cloud so will not be able to view the artwork in native formats such as AI, INDD and PSD. It is a good idea to send the print-ready or web-ready artwork as well as PDF or JPG previews for the client. They may request the native files to keep the original artwork on file for future projects. This should be agreed upon at the beginning of the project. Remember to keep these native files regardless of whether you have supplied them to the client or not.



2097159124 / Anton Vierietin /  
shutterstock.com

### Follow up

- Once you have completed the artwork and it has been printed or gone live your job is not complete.
- Service is an important part of graphic design and in order to build strong relationships with clients it helps to show you care about the work you have done for them.
- A couple of weeks after completing the project get in touch with the client to see how things are going and whether the audience is responding positively to the designs you created.
- This is also a good opportunity to ask if they need any more work done.
- If you did a great job the first time around they are far more likely to come back to you for repeat business.



## Reflect

Every project is an opportunity to learn. Upon completion of a project be sure to reflect on the experience and record new insights that you have gained. Think about what was successful and what could be improved on in future. If you are working for an organisation this could be useful information for professional KPIs to be used in performance reviews. If you are a freelancer, it is an excellent way to review your own professional development and identify where you may need to improve your skills.



1124458811 / Pro-stock studio / shutterstock.com

## Self-check answers



### Self-check – Constraints of the design process

Visit the webpage: [Sustainable packaging design: Colgate's bamboo toothbrush.](https://beardwood.com/updates/sustainable-packaging-design-colgates-bamboo-toothbrush/)<sup>28</sup>

Look at the image of the product and packaging and think about the following:

- What sort of constraints were the product designer/s and the graphic designer/s working with?
- Do you think they produced a good solution considering the constraints?

*Answers could include the following:*

**Product designer:**

- project time/deadline and budget
- sustainable materials
- size, weight, ergonomics
- production method and cost to manufacture
- aesthetics (does it look environmentally friendly?)
- quality, length of product life
- legal requirements (entire product recyclable to have recycle symbol on packaging, safe and healthy for human use, not breaking intellectual property laws – design not the same as competitors)
- follows the Colgate brand style guide for product look and feel.

**Graphic Designer:**

- project time/deadline and budget
- sustainable materials
- size of packaging to fit product
- appropriate design to hang on racks in supermarket
- packaging to provide adequate protection of product
- packaging easy to open
- production method of packaging and cost to manufacture
- text legible
- design follows Colgate brand style guide
- includes barcode.

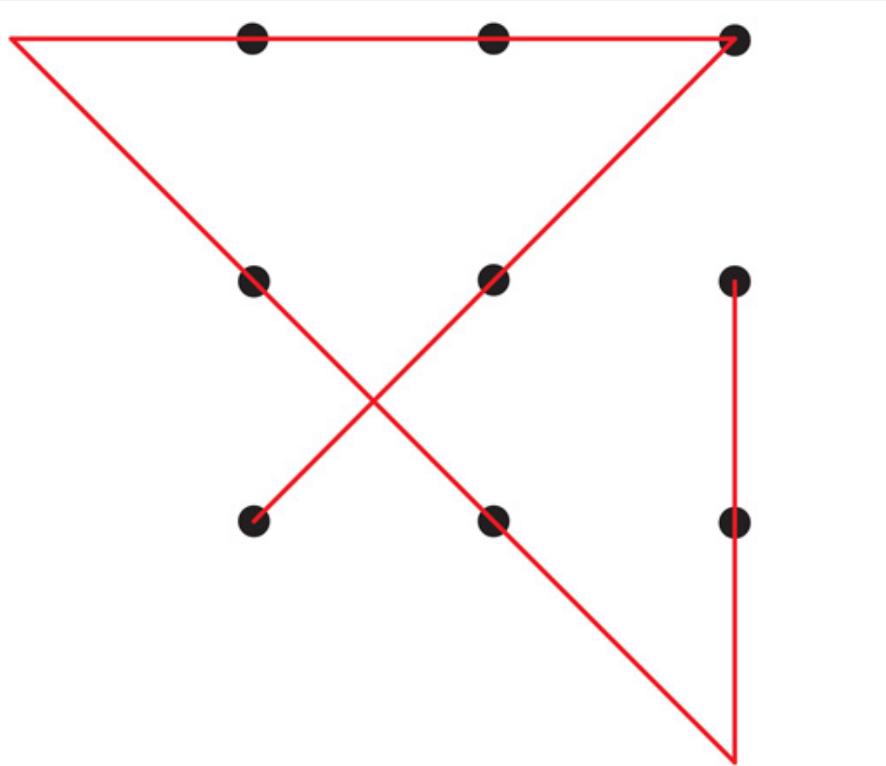
<sup>28</sup> <https://beardwood.com/updates/sustainable-packaging-design-colgates-bamboo-toothbrush/>



### Self-check – 9 dots puzzle

Try to connect all of the dots using four straight lines, without lifting your pen from the page.

**Answer**



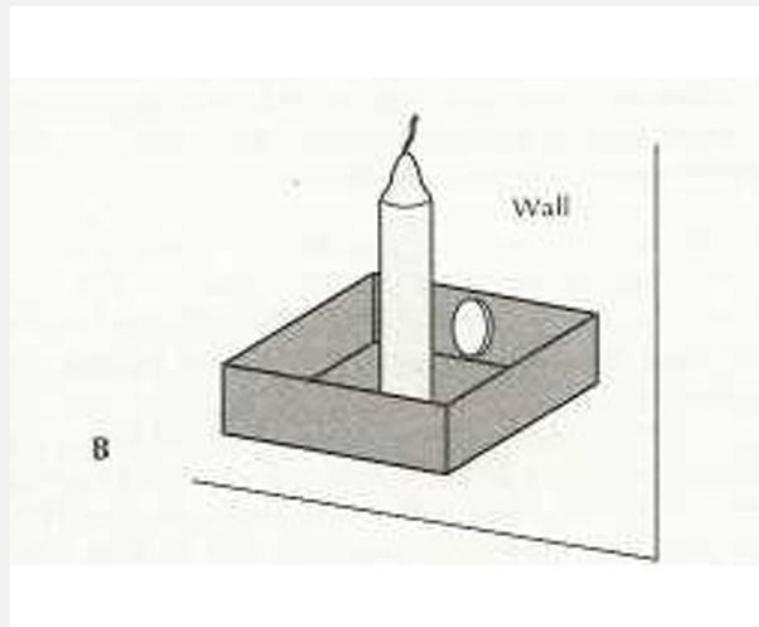
Think outside of the square



### Self-check – The candle problem

Think about how you would approach the candle problem. Would you be able to find the solution?

**Answer**



Karl Duncker, 1945, Candle problem.

This image is in the public domain as the copyright has expired.



### Self-check – Solve the riddles

A man has married 20 women in a small town. All of the women are still alive and none of them are divorced. The man has broken no laws. Who is the man? (enter your response).

**A marriage celebrant**

A rich nobleman decides to hold a competition to see which one of his two sons will inherit his substantial fortune. He tells them to race their horses to a distant city, but the one whose horse arrives last will inherit the fortune. The two sons set out, determined to win the inheritance, and wander the forest for days, each attempting to outlast the other. Finally, they come across a wise man and ask him for advice. After the wise man speaks to the two sons, they immediately jump on the horses and race at full gallop to the target city. **What did the wise man say?**

**Swap horses**

## References

Queensland Government. (n.d.) *Advertising regulations*, accessed December 9, 2021, <https://www.business.qld.gov.au/running-business/marketing-sales/marketing-promotion/advertising/regulations>

## Appendix A – 9 dots puzzle

### Nine Dots Puzzle

Below are nine dots arranged in a set of three rows. Your challenge is to draw four straight lines which go through all of the dots without taking the pencil off the paper. Start from any position and draw the lines one after the other without taking your pencil off the page. Each line starts where the last line finishes.

