Visual Communication Design Units 3 & 4

Chapter 11 — The design process in practice — Discover to Develop

Aboriginal and Torres Strait Islander content has been excluded as accuracy cannot be guaranteed, and it is better to be respectful than cover the entire curriculum inaccurately.

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Theory

Discover is the first phase of the VCD design process. In it, a designer *gathers insights into the problem at hand, using research methods that are often human-centred, to understand the needs and experiences of stakeholders*. The thinking is **divergent**: the designer searches widely for new information, suspends judgement, and keeps an open mind to new perspectives and possibilities. Nothing is designed yet. Discover is about understanding the problem — the brief comes next, in **Define** (11B).

The running project — SHOREBIRD. Throughout this subtopic you will work on an original problem. Bay Shire Council and a volunteer nest-monitoring group are concerned about **SHOREBIRD**: migratory shorebirds nest directly on the open sand of a popular beach from October to March. The nesting zones are roped off, but people keep walking through them and three of five nests failed last season. Council has engaged a designer to *investigate the problem* before any solution is proposed.

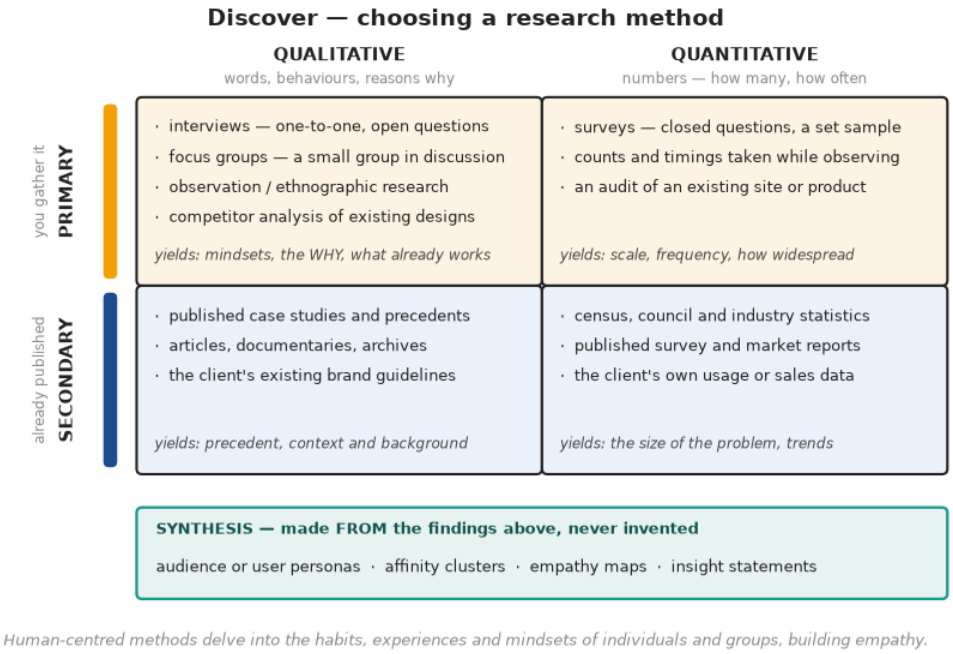
Stakeholders — who you research. Stakeholders are the individuals, groups or organisations involved in a design project who have an interest in the process or the outcome. They include the project's **client** and the **audiences or users**, and may also include **specialist practitioners**, suppliers, project teams and managers, sponsors, subcontractors and employees. For SHOREBIRD the stakeholders include the council land manager (client), beach users such as dog walkers, families, swimmers and anglers (users), volunteer nest monitors, a shorebird ecologist (specialist), the Traditional Owners of the coastal Country, and the sign fabricator (supplier). A common error is to research only the client, or only "the public" in general.

Human-centred research methods. These methods *delve into the habits, experiences and mindsets of individuals and groups, enabling designers to build empathy and deconstruct ambiguous situations and information.* They include, but are not limited to:

- **interviews** — one-to-one, open questions; reveals reasons, feelings and personal experience;
- **surveys** — a set of mostly closed questions put to a sample; reveals how widespread something is;
- **focus groups** — a small group discussing the problem together; ideas build on one another;
- **observation and ethnographic research** — watching what people actually do in the real setting;
- **competitor analysis** — comparing existing designs that address a similar need;
- **audience or user personas** — a profile of a typical user, synthesised from the findings.

Alongside these, the designer also uses **secondary research** — information already gathered and published by someone else (statistics, reports, articles, archives). It supplies background, context and scale quickly and cheaply, but it was collected for someone else's purpose, so it supports the human-centred methods rather than replacing them: it cannot tell you what *your* stakeholders think or do.

Primary and secondary; qualitative and quantitative. Primary research is data you gather yourself; **secondary** research is data already gathered and published by others. **Qualitative** data is in words and behaviours and tells you *why*; **quantitative** data is in numbers and tells you *how many, how often, how much*. Strong Discover research combines both, so that a story from one interview is tested against the scale shown by a survey.



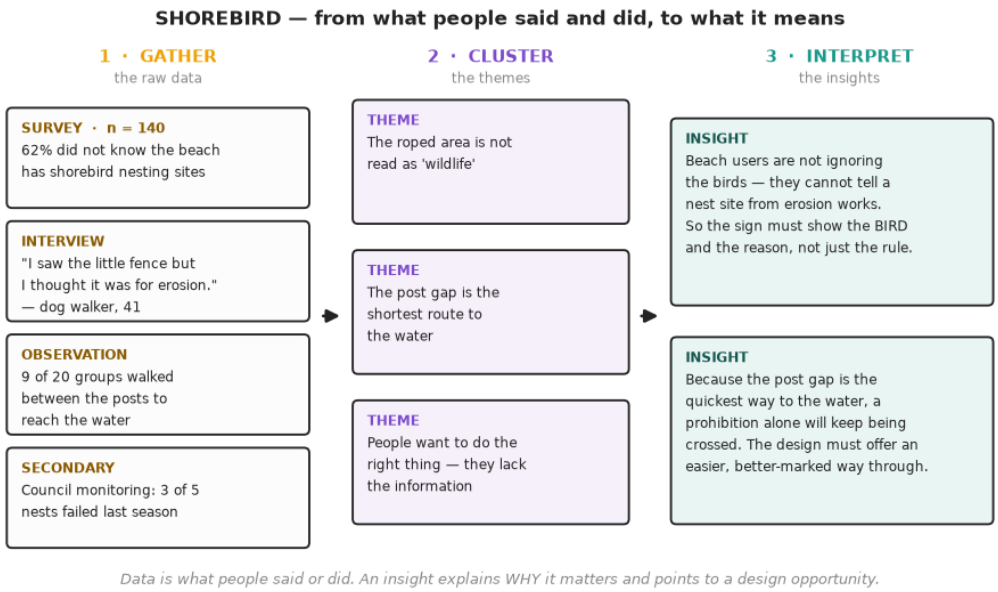
Human-centred methods delve into the habits, experiences and mindsets of individuals and groups, building empathy.

Choosing the method to match the question. The method is chosen for what it can find out, not for convenience. If you need to know *how widespread* a misunderstanding is, survey a sample. If you need to know *why* people behave as they do, interview them. If you need to know what people *actually do* — as opposed to what they say they do — observe them in the setting. For SHOREBIRD, a survey showed that 62% of beach users did not know the beach had nesting sites, but only observation revealed that nine of twenty groups walked *between the fence posts* because that was the shortest route to the water.

Competitor analysis. A competitor analysis compares existing designs that already respond to a similar communication need, so the designer can see what works, what does not, and where the opportunity lies. It is a **human-centred research method in its own right**, not a form of secondary research: although the designs being compared already exist, the comparison itself is data the designer gathers first-hand, which makes it **primary** research. It is analytical, not descriptive: compare against stated points of comparison and finish with what it means for your project.

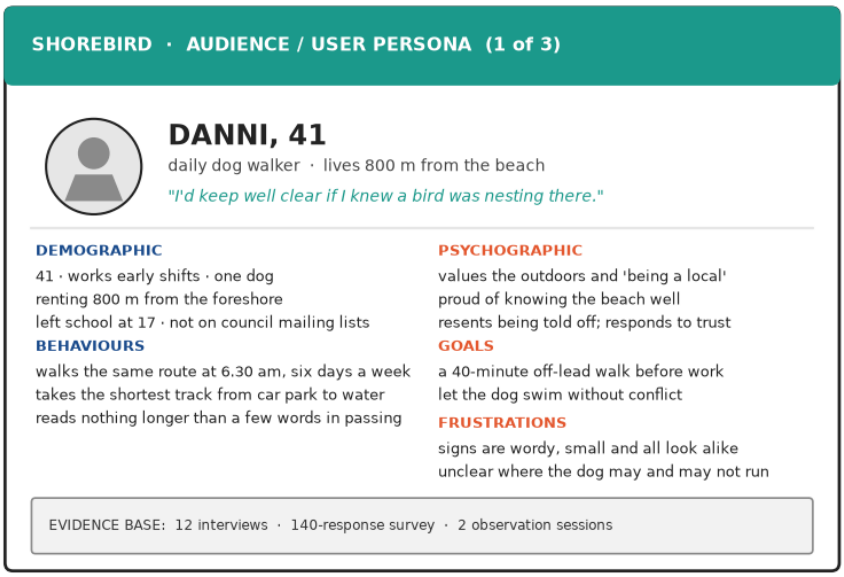
Point of comparison	Sign A — regulatory sign at the next beach	Sign B — wetland interpretive sign
Message	"No entry. Penalties apply."	"This wetland is home to 42 bird species."
Visual language	text only, black on yellow, small type	large photograph, warm palette, short caption
Hierarchy	the penalty is primary; no imagery	the bird image is primary; text is secondary
Tone toward the user	prohibiting	inviting, informative
What this tells the designer	authority alone does not explain *why*; users read it as a rule about them, not about a bird	showing the creature first builds interest and empathy — but the sign is too wordy to read while walking

Gathering is not interpreting. Raw data is only the beginning. *This data is synthesised and interpreted, revealing important insights about the problem at hand.* The move has three steps: **gather** the data, **cluster** what repeats into themes, then **interpret** each theme into an **insight statement** — a sentence that says what is really going on and why it matters for the design.



An **insight** is not a statistic. "62% did not know" is data. "Beach users are not ignoring the birds — they cannot tell a nest site from erosion works, so the sign must show the bird and the reason, not just the rule" is an insight, because it explains the behaviour and points to a design opportunity.

Audience or user personas. A persona is a profile of one typical audience member or user, **built from the research findings**, that keeps the designer designing for a real person rather than for themselves. A useful persona records **demographic** characteristics (measurable facts: age, location, occupation, income, education, household), **psychographic** characteristics (values, attitudes, interests, lifestyle, motivations), **goals**, **frustrations**, **behaviours**, a representative **quote**, and the **evidence base** it was built from.



Ethical research practice. Research is done *with* people, so the designer carries obligations to them:

- **informed consent** — explain who you are, what the research is for, how the information will be used, and get agreement before you begin; a person under 18 needs a parent's or guardian's consent as well;
- **voluntary participation** — people may decline any question and withdraw at any time;
- **privacy and anonymity** — collect only what you need, de-identify responses, store data securely and do not publish a photograph or a name without permission; this is a duty to your participants and, once personal information is collected, a legal obligation under privacy law as well;
- **honesty and lack of bias** — ask neutral questions, take a representative sample, and report findings that do not suit you as well as those that do;

- **inclusion and accessibility** — make sure the people most affected can take part (language, literacy, disability, cost, time of day);
- **acknowledging sources** — record every source of information and inspiration at the point where you use it: for a text, the title and publication date; for a website, the title of the website, the exact URL and the retrieval date; for social media, the username, site name, exact URL and date of post;
- **culturally appropriate practice** — where the project touches Aboriginal and Torres Strait Islander people, communities, knowledge or Country, consult the relevant community, seek free, prior and informed consent, and follow the Indigenous Design Charter and Indigenous Cultural and Intellectual Property (ICIP) protocols.

Writing questions that do not lead. A biased question produces biased data, and a designer who then "discovers" what they already believed has wasted the phase.

Leading or biased question	Why it is a problem	Rewritten so it is neutral
"Don't you agree the current signs are useless?"	tells the person the answer you want; agreement is the easy reply	"What, if anything, do you remember about the signs at this beach?"
"How much do you care about protecting endangered birds?"	assumes the person cares and invites a socially acceptable answer	"What do you notice about the roped-off areas of the beach?"
"Would a bright, friendly new sign make you stay out of the nesting zone?"	proposes the solution inside the question, and Discover has not defined a solution yet	"Walk me through what you did the last time you saw the roped area."

Watch-out — Discover investigates the problem, not the solution. Divergent thinking here means searching widely and *suspending judgement*, not sketching. Responses that jump straight to "I would design a bright sign" have skipped the phase. The solution is proposed after Define.

Watch-out — data is not an insight. A percentage, a quote or a tally is **data**. An **insight** interprets clustered data to explain *why* people behave as they do and points to a design opportunity. Marks for "interpret" go to the explanation, not to the number.

Watch-out — legal is not ethical. Copyright is **automatic** on creation and trademarks, patents and design registrations must be **registered** — those are **legal** obligations, as is privacy law when you collect personal information. Seeking informed consent, acknowledging sources of inspiration, consulting community and following the Indigenous Design Charter and ICIP protocols are **ethical** obligations. Do not present an ethical framework as a law.

Watch-out — characteristics are not needs and are not constraints. A *characteristic* describes the audience (41, walks at 6.30 am, values being a local). A *need* is what the communication must do for them. A *constraint* is a limitation on the project (budget, weather, salt exposure, one-colour printing). Section B loses marks every year for blurring these three.

Watch-out — a persona is evidence, not invention. A persona must be traceable to interviews, survey responses and observation, and must state its evidence base. Inventing a character, or describing the client instead of the user, earns nothing.

Watch-out — check who is missing from your sample. Findings taken only from people who are easy to reach (your own class, a single Saturday morning, one language) will not represent the audience. Say who you sampled, and say who you did not reach.

Worked examples

Example 1 — scaffolded

Select two human-centred research methods the designer could use in the Discover phase of the SHOREBIRD project. Justify each choice with reference to what it would reveal. (4 marks)

Working	Comment
Method 1 — observation (ethnographic research). The designer spends two mornings on the beach recording where people enter the sand, which route they	Name the method using the study design's term. "Watching people" is not enough — the method must be named.

Working	Comment
take to the water, and whether they stop at the roped area.	
This reveals what beach users **actually do**, not what they say they do: it showed that nine of twenty groups walked between the fence posts because that is the shortest route to the water.	Justify by naming what *this method and no other* can find out. Observation catches the gap between reported and real behaviour.
Method 2 — a survey of 140 beach users. Mostly closed questions about awareness of the nesting zones, distributed at the car park and online.	The second method is deliberately **quantitative** so it can measure how widespread the problem is.
This reveals the **scale** of the misunderstanding — 62% did not know the beach had nesting sites — which tells the designer the problem is general, not a few individuals.	Justify again in terms of what it yields. Two methods that answer the same question would not earn the second pair of marks.
Together, the two methods are **complementary**: the survey shows *how many*, the observation shows *why and where*.	State the reason for the combination. Pairing a qualitative with a quantitative method is the mark-earning move.

Example 2 — scaffolded

Write four ethical, unbiased interview questions for a SHOREBIRD beach user, and state two ethical obligations you have addressed. (5 marks)

Working	Comment
Consent statement first: "I'm a design student researching how people use this beach for Bay Shire Council. It will take five minutes, your answers stay anonymous, you can skip any question or stop at any time. May I record notes?"	**Informed consent** is stated *before* the questions: who you are, the purpose, how the data is used, and the right to withdraw.
Q1. "Tell me about a typical visit to this beach — what do you do first?"	An **open** question that starts with behaviour, not opinion. It builds rapport and gathers the habits and experiences the study design asks for.
Q2. "What, if anything, do you notice about the roped-off areas?"	"What, if anything" removes the assumption that the person has noticed anything — this is what keeps the question **unbiased**.
Q3. "Walk me through what you did the last time you needed to get to the water quickly."	Asks about a **specific past event** rather than a hypothetical, so the answer reports real behaviour instead of a guess.
Q4. "What would make it easier to know where you can and cannot walk?"	Invites the participant's own view of the need without proposing a design. Compare "would a bright new sign work?" — that leads the answer and designs too early.
Obligations addressed: (1) **informed consent** — purpose, use and right to withdraw explained before starting; (2) **privacy and anonymity** — responses de-identified and notes stored securely.	Name the obligations using the correct terms. Saying "I was polite" is not an ethical obligation.

Example 3 — unscaffolded

Using the SHOREBIRD research shown, explain the difference between data and an insight, and write one insight statement drawn from the findings. (4 marks)

Data is the raw record of what people said, did or reported: 62% of surveyed users did not know the beach had nesting sites; one dog walker said "I saw the little fence but I thought it was for erosion"; nine of twenty observed groups walked between the fence posts. An **insight** is what the designer produces by clustering that data into themes and *interpreting* it — a statement that explains why the behaviour is happening and points to a design opportunity.

Insight: *Beach users are not deliberately ignoring the birds; they cannot tell a nesting zone from routine erosion works, so the roped area reads as maintenance rather than wildlife. The communication must therefore show the bird and give the reason, not merely state a rule (4 marks: data described, insight defined as interpretation, and one insight statement that explains a behaviour and implies an opportunity).*

Example 4 — unscaffolded

Produce an audience or user persona for the SHOREBIRD project and explain how it will be used in the Define phase. (6 marks)

DANNI, 41 — daily dog walker. *Demographic:* 41, works early shifts, rents 800 m from the foreshore, left school at 17, owns one dog, not on council mailing lists. *Psychographic:* values the outdoors and being known as a local; proud of knowing the beach well; resents being told off but responds to being trusted. *Goals:* a 40-minute off-lead walk before work; let the dog swim without conflict. *Frustrations:* signs are wordy, small and all look alike; it is unclear where the dog may run. *Behaviours:* walks the same route at 6.30 am six days a week; takes the shortest track from the car park to the water; reads nothing longer than a few words in passing. *Quote:* "I'd keep well clear if I knew a bird was nesting there." *Evidence base:* 12 interviews, a 140-response survey and two observation sessions.

The persona will be used in **Define** to write design criteria that describe a real user rather than a general public. Because Danni reads only a few words while moving, the criteria will specify a message legible at walking pace; because Danni resents being told off, the criteria will specify an informative rather than a prohibiting tone; and because Danni takes the shortest route, the criteria will require the design to offer a marked alternative path. The persona keeps every later decision testable against evidence, and it is the audience characteristics — not the needs or the constraints — that it records *(6 marks: a persona containing demographic and psychographic characteristics, goals, frustrations, behaviours and an evidence base, plus a clear explanation of its use in setting design criteria).*

Practice questions

Scaffolded

Q1. The SHOREBIRD designer begins the Discover phase. (a) State the purpose of the Discover phase of the VCD design process. *(1 mark)* (b) Identify two stakeholders the designer should research in this project. *(2 marks)* (c) Explain how divergent thinking shapes the way the designer searches for information at this stage. *(2 marks)*

Q2. Research is described as primary or secondary. (a) Distinguish between primary and secondary research. *(2 marks)* (b) Classify each of the following as primary or secondary: an interview; the council's nest-monitoring records; a survey you conduct; a published report on coastal bird populations. *(4 marks)* (c) State one limitation of relying on secondary research alone. *(1 mark)*

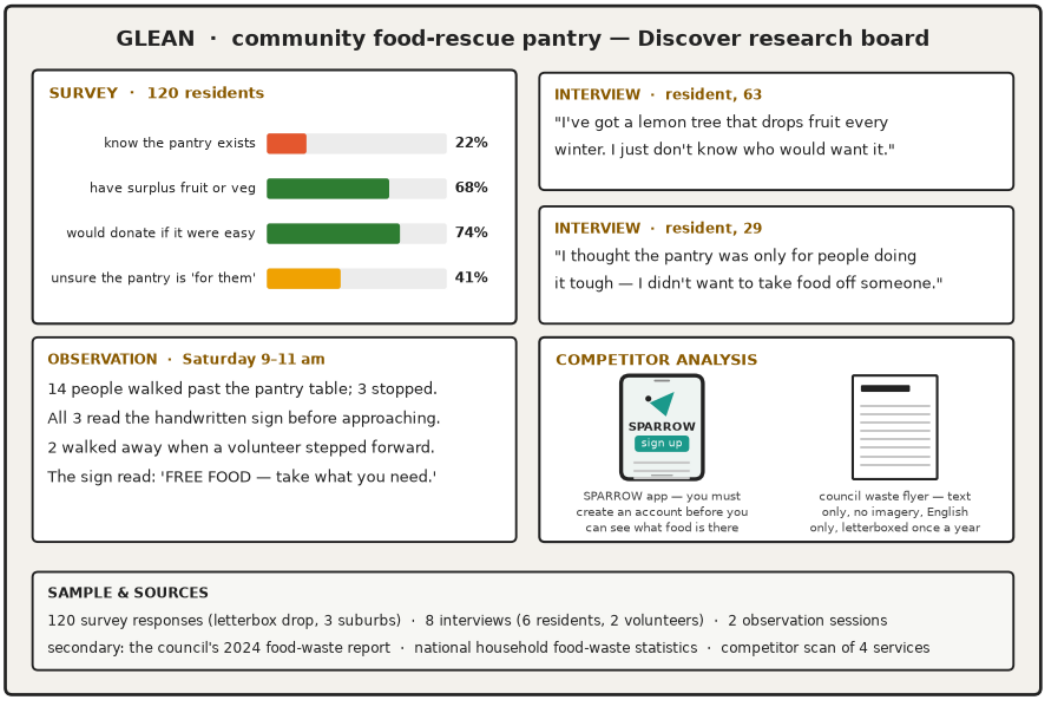
Q3. The designer plans two mornings of observation on the beach. (a) Describe what ethnographic research involves. *(2 marks)* (b) State one thing observation can reveal that a survey cannot. *(1 mark)* (c) Explain one ethical obligation the designer has when observing and photographing people in a public place. *(2 marks)*

Q4. The designer runs a focus group of six regular beach users. (a) Describe what a focus group is. *(1 mark)* (b) Explain one advantage a focus group has over separate individual interviews. *(2 marks)* (c) Explain one risk to the reliability of focus-group findings, and how the designer could reduce it. *(2 marks)*

Q5. Personas are used to keep research findings usable. (a) Identify four things an audience or user persona should contain. *(4 marks)* (b) Distinguish between demographic and psychographic characteristics, giving one example of each from the DANNI persona. *(2 marks)* (c) Explain why a persona must be built from research evidence rather than invented. *(2 marks)*

Q6. The designer completes a competitor analysis of two existing signs. (a) State the purpose of a competitor analysis. *(1 mark)* (b) Identify two points of comparison the designer used. *(2 marks)* (c) Explain how the competitor analysis helped reveal a design opportunity for SHOREBIRD. *(2 marks)*

Unscaffolded



Questions 7–16 refer to the GLEAN research board shown above, unless otherwise stated. GLEAN is a not-for-profit that collects surplus fruit and vegetables from suburban backyards and market stalls and redistributes them through a community pantry. Very little of the surplus is reaching the pantry, and volunteer numbers are falling. The board shows the findings of the Discover phase.

Q7. With reference to the GLEAN board, justify the designer's use of **observation** and of the **survey** as research methods, stating what each revealed about stakeholders. *(4 marks)*

Q8. Explain how the survey data and the interview quotes give the designer **different kinds** of information, and why the designer needs both. *(4 marks)*

Q9. Identify **two** themes in the GLEAN findings and write one insight statement for each. *(6 marks)*

Q10. Analyse what the competitor analysis reveals about the SPARROW app and the council flyer, and identify one design opportunity it exposes for GLEAN. *(4 marks)*

Q11. Produce an audience or user persona for GLEAN using the findings on the board. *(6 marks)*

Q12. Write four ethical, unbiased interview questions the designer could ask a GLEAN volunteer, and state the consent information you would give before beginning. *(5 marks)*

Q13. Distinguish between the designer's **legal** obligations and **ethical** obligations when conducting Discover research. *(4 marks)*

Q14. GLEAN wants to name the pantry using a word from the language of the Traditional Owners of the area and to include a story shared by a community elder. Describe **two** culturally appropriate research practices the designer must follow. *(4 marks)*

Q15. A student researching GLEAN surveys only their own Year 12 class. Explain **two** ways this could bias the findings, and describe how the sample could be improved. *(4 marks)*

Q16. The designer used a published council food-waste report and a photograph found on a social media account as inspiration. Describe how each source should be acknowledged, and explain why acknowledgement matters. *(4 marks)*

Q17. A student begins the Discover phase by sketching three logo ideas. Explain why this is not Discover, referring to divergent thinking and to the purpose of the phase. *(3 marks)*

Q18. Prepare a Discover research plan for the GLEAN project. Your plan should name **three** research methods and what each will gather, explain how the findings will be interpreted, state **one** ethical safeguard, and explain how the findings will be used in the **Define** phase. *(8 marks)*

Answers

Q1. (a) To gather insights into the problem and the needs and experiences of stakeholders. (b) Any two, e.g. the council land manager (client) and beach users (users). (c) See solutions. **Q2.** (a) Primary = you gather it; secondary = already published by others. (b) Interview = primary; council records = secondary; your survey = primary; published report = secondary. (c) It is not specific to your problem, audience or site (accept: it may be out of date). **Q3.** (a) Watching and recording what people actually do in the real setting. (b) Real behaviour rather than reported behaviour. (c) See solutions. **Q4.** (a) A small group discussing the problem together, guided by the designer. (b) Participants build on one another's comments. (c) A dominant voice / groupthink; reduce by facilitating and following up individually. **Q5.** (a) Any four of: name, demographic characteristics, psychographic characteristics, goals, frustrations, behaviours, a quote, the evidence base. (b) Demographic = measurable facts (41, lives 800 m away); psychographic = values/attitudes (values being a local). (c) See solutions. **Q6.** (a) To compare existing designs meeting a similar need and find what works, what does not, and the gap. (b) Any two, e.g. message, visual language, hierarchy, tone. (c) See solutions. **Q7–Q18.** See fully-worked solutions.

Fully-worked solutions

Q1. (a) The Discover phase gathers insights into the problem at hand, using research methods that are often human-centred, in order to understand the needs and experiences of stakeholders. (b) Any two of: the council land manager (the client); beach users such as dog walkers, families, swimmers and anglers (the audience or users); the volunteer nest monitors; the shorebird ecologist (a specialist practitioner); the Traditional Owners of the coastal Country; the sign fabricator (a supplier). (c) Divergent thinking makes the search **wide and open**: the designer looks for information from many different sources and points of view rather than testing one assumption, and **suspends judgement** so that unexpected or inconvenient findings are kept rather than dismissed. This keeps the problem open long enough for the real cause to appear — in SHOREBIRD, that people misread the roped area as erosion works *(2 marks: breadth of search + suspension of judgement).*

Q2. (a) **Primary** research is information the designer gathers first-hand for this project — for example interviews, surveys or observation. **Secondary** research is information already gathered and published by someone else — for example published statistics, government or industry reports, articles or archive material *(2 marks: a congruent two-sided distinction).* (b) Interview = **primary**; the council's nest-monitoring records = **secondary**; a survey you conduct = **primary**; a published report on coastal bird populations = **secondary**. (c) Secondary research was gathered for someone else's purpose, so it is not specific to your problem, site or audience, and it may be out of date; it cannot tell you what *your* stakeholders think or do.

Q3. (a) **Ethnographic research** involves the designer going to the real setting and observing people in their own environment over a period of time — recording what they do, the routes they take, how long they stay and how they interact with what is already there — rather than asking them about it afterwards *(2 marks: real setting + recording actual behaviour).* (b) It reveals what people **actually do** rather than what they say or believe they do — for example that nine of twenty observed groups walked between the fence posts, a behaviour that a survey about awareness of the nesting sites could never have captured. (c) The designer must respect **privacy** and obtain **informed consent**: people should be told that observation is taking place and for what purpose, no identifiable photograph should be taken or published without permission, and notes should be de-identified and stored securely. Children require the consent of a parent or guardian *(2 marks: obligation named + what the designer actually does).*

Q4. (a) A **focus group** is a small group of people, usually from the audience or user group, brought together to discuss the problem with the designer guiding the discussion. (b) Participants **build on one another's comments**: one person's remark reminds another of an experience, so the group surfaces shared attitudes, disagreements and language that would not emerge in separate interviews, and it does so quickly *(2 marks: the mechanism, not just "you get more people").* (c) A risk is that one **dominant participant** sets the direction and the rest agree with them (groupthink), so the findings record one opinion rather than six. The designer reduces this by facilitating actively — inviting quieter participants in, asking each person to write a response before discussing it, and following up with individual interviews to test the group's conclusions *(2 marks: risk named + a workable control).*

Q5. (a) Any four of: a name and a photograph or illustration; **demographic** characteristics; **psychographic** characteristics; goals; frustrations or pain points; behaviours; a representative quote; the evidence base the persona was built from. (b) **Demographic** characteristics are measurable facts about a person — Danni is 41 and lives 800 m from the beach. **Psychographic** characteristics are values, attitudes, interests and motivations — Danni values the

outdoors and being known as a local, and resents being told off. (c) A persona built from evidence represents the **actual** audience: every characteristic can be traced back to interviews, survey responses or observation, so the design criteria that follow are testable. An invented persona simply repeats the designer's own assumptions and taste, which is what human-centred research exists to displace; it also cannot be defended to the client *(2 marks: evidence base + the consequence of inventing one).*

Q6. (a) A **competitor analysis** compares existing designs that already respond to a similar communication need, in order to identify what works, what does not, and where the gap or opportunity lies. (b) Any two of: the message; the visual language used; the hierarchy of information; the tone taken toward the user. (c) Comparing the two signs showed that the regulatory sign states a rule without explaining **why**, so users read it as a rule aimed at them, while the interpretive sign successfully leads with the creature but carries far too much text to be read while walking. The opportunity is therefore a design that **shows the bird first and gives the reason in very few words** — combining the strength of one competitor with the fault of the other removed *(2 marks: what the comparison showed + the opportunity it exposes).*

Q7. Observation is justified because it records what stakeholders **actually do** at the moment of decision, which they cannot report accurately themselves. On a Saturday morning it showed that 14 people walked past the pantry table and only 3 stopped, that all 3 read the handwritten sign before approaching, and that 2 of those 3 walked away when a volunteer stepped forward. This located **two** separate points at which the service loses people, and showed which is the larger: 11 of the 14 never stopped at all, so the table does not draw a passer-by in; and of the few who did stop, most left at the approach, so the encounter with a volunteer deters even those already interested. It also captured how the pantry currently presents itself ("FREE FOOD — take what you need"). **The survey** is justified because it measures how widespread each issue is across the whole audience rather than among the few people the designer met: across 120 residents, only 22% know the pantry exists, 68% have surplus fruit or vegetables at home and 74% would donate if collection were easy. This establishes that willingness already exists at scale and that the failure lies in awareness and access. Together, observation locates *where* the behaviour breaks down and the survey shows *how many* people it affects *(4 marks: each method justified by what it and no other method can reveal about stakeholders).*

Q8. The survey supplies **quantitative** data — numbers from a set sample of 120 residents that show *how many* and *how widespread*: 22% awareness, 68% with surplus produce, 41% unsure the pantry is for them. The interviews supply **qualitative** data — the participants' own words, which show *why* they behave as they do: "I just don't know who would want it" and "I didn't want to take food off someone." The designer needs both because each is incomplete alone. The survey proves the problem is general rather than anecdotal, but it cannot explain the cause; the interviews explain the cause, but two people are not evidence that the belief is common. Read together, the 41% who are unsure the pantry is "for them" is explained by the interview quote, and the designer can act on it with confidence *(4 marks: both data types correctly characterised + a reason the combination is necessary, ideally cross-referencing the two).*

Q9. Theme 1 — people have the surplus but no easy route for it to travel. The survey shows 68% have surplus produce at home and 74% would donate if collection were easy, while a resident says of a fruiting lemon tree, "I just don't know who would want it." **Insight:** *Residents are not withholding food; there is no visible, low-effort path from a backyard tree to the pantry, so the communication must show people exactly how and where surplus is collected rather than urging them to donate.* **Theme 2 — the pantry is read as charity for others, not a service for everyone.** 41% are unsure the pantry is "for them", a resident "didn't want to take food off someone", and two people walked away when a volunteer stepped forward. **Insight:** *People are excluding themselves out of politeness, not disinterest, so the design must reposition the pantry as a shared food-rescue service that anyone may use, and reduce the social cost of approaching it (6 marks: two distinct themes each supported by evidence from the board, and two insight statements that interpret rather than restate).*

Q10. The **SPARROW app** addresses the same need digitally but places a barrier in front of the information: a user must create an account before they can see what food is available, so a person with a lemon tree and a passing interest is filtered out at the first step, and the service has no presence on the street where the surplus actually is. The **council waste flyer** reaches letterboxes but is text only, carries no imagery, is published in English only and arrives once a year, so it neither shows what the service looks like nor reaches residents at the moment they have surplus fruit. Neither competitor therefore meets a resident at the point of need: SPARROW asks for commitment before it gives anything, while the flyer gives its information once a year, in one language, without showing anything. The **design opportunity** is a low-commitment, highly visual presence — one that shows what may be donated and how, without

sign-up, and that is legible on the street and to non-English readers *(4 marks: analysis of both competitors against a common point of comparison + a stated opportunity, not a description).*

Q11. *(Model.)* **RAY, 63 — backyard grower.** *Demographic:* 63; a resident of one of the three suburbs covered by the letterbox-drop survey; has a lemon tree that fruits every winter; reached at home by the council's annual letterboxed waste flyer. *Psychographic:* dislikes seeing fruit go to waste, but has no idea who would want it; is among the 41% unsure the pantry is "for them"; wary of a service that asks to be signed up to before it will show anything. *Goals:* to see the winter lemon crop used rather than dropping and rotting; to hand surplus on without effort — one of the 74% who would donate if collection were easy. *Frustrations:* does not know where surplus goes or who wants it; is in the majority of residents who do not know the pantry exists at all (only 22% do); the one digital alternative, SPARROW, requires an account before it will show what food is there. *Behaviours:* keeps surplus produce at home, as 68% of residents do, and takes it nowhere; walks past the pantry table without stopping, like 11 of the 14 people observed on the Saturday. *Quote:* "I've got a lemon tree that drops fruit every winter. I just don't know who would want it." *Evidence base:* the 120-response survey across three suburbs, 8 interviews (6 residents, 2 volunteers), 2 observation sessions and the competitor scan, all recorded on the board. Nothing here is invented: each characteristic is a survey figure, an interview statement, an observed behaviour or a competitor finding, generalised into one representative person *(6 marks: demographic AND psychographic characteristics, goals, frustrations, behaviours, a quote taken verbatim from the data, and a stated evidence base — every element traceable to a specific finding on the board).*

Q12. *(Model.)* **Consent information given first:** who I am and that I am a design student researching for GLEAN; that the interview will take about ten minutes; that answers will be recorded as anonymous notes and used only to inform the design; that the volunteer may skip any question or stop at any time; and a request for permission before taking any notes or photographs. **Q1.** "Tell me about a typical Saturday shift at the pantry — what happens first?" **Q2.** "What, if anything, do people say to you when they stop at the table?" **Q3.** "Walk me through the last time someone walked away without taking anything — what happened?" **Q4.** "What makes a shift feel worthwhile to you, and what makes one feel hard?" Each question is open, asks about specific past experience rather than a hypothetical, and avoids proposing a solution or suggesting the answer *(5 marks: four genuinely open, non-leading questions + a consent statement covering purpose, use, anonymity and the right to withdraw).*

Q13. Legal obligations are set by law and can be enforced in a court. When researching, the designer must comply with **privacy and data-protection law** if personal information is collected — collecting only what is needed, with the person's knowledge, and storing it securely — and must respect **copyright**, which is **automatic** on creation, when reproducing anyone's images or writing; **trademarks**, **patents** and **design registrations** are legal rights that must be **registered** by their owner. **Ethical obligations** are professional and moral expectations that are not enforceable as law: seeking **informed consent** and allowing withdrawal, reporting findings honestly and without cherry-picking, **acknowledging sources of inspiration**, making the research inclusive, and following culturally appropriate practice such as the **Indigenous Design Charter** and **ICIP** protocols. The distinction matters because a designer can act entirely lawfully and still act unethically — for example, using a photograph the designer is legally entitled to use, but which shows an identifiable person who was never asked, because Australian law gives a person no general right over their own image *(4 marks: both categories defined, correct examples in each, and the distinction made explicit).*

Q14. Practice 1 — consult the community and seek free, prior and informed consent. The designer must approach the Traditional Owners through the appropriate representative body or elders before any use is proposed, explain fully what is intended and where the name and story would appear, and obtain agreement **in advance** and without pressure. Consent to research is not consent to publish, and it may be withdrawn or limited. **Practice 2 — recognise that the language and the story are Indigenous Cultural and Intellectual Property that the community continues to own and control.** The designer follows the **Indigenous Design Charter** and ICIP protocols: the community determines whether the knowledge may be shared at all, how it is represented and attributed, who is credited, and how benefit is shared, and the community remains involved through the project rather than being consulted once. These are **ethical** obligations and cultural protocols, not a copyright transaction *(4 marks: two distinct practices described with what the designer actually does; credit for identifying them as ethical/cultural obligations).*

Q15. Bias 1 — the sample is not representative of the audience. A Year 12 class is one narrow age group who mostly do not own homes, gardens or fruit trees, so it cannot report on backyard surplus, which is the behaviour GLEAN needs to understand; the findings would describe teenagers' views of a service aimed largely at householders. **Bias 2 — the participants know the researcher.** Classmates tend to give the answers they think their friend wants, agreeing with the premise of the question rather than reporting their real behaviour, which inflates apparent support.

Improvement: widen the sample to the people actually affected and stratify it — residents across the three suburbs by age and household type, current pantry users, volunteers, and market stallholders — recruited through more than one channel (letterbox drop, the market, the pantry table) and at more than one time of day, with responses collected anonymously. The designer should also record who could not be reached *(4 marks: two distinct sources of bias explained + a concrete improvement to the sample).*

Q16. The **council food-waste report** is acknowledged by recording the title of the report, the author or issuing body and the publication date; if it was retrieved online, the exact URL and the retrieval date are added. The **social media photograph** is acknowledged by recording the username of the account, the name of the platform, the exact URL of the post and the date of the post. Both acknowledgements are placed **at the point in the folio where the source is used**, not collected at the back. Acknowledgement matters because it is an **ethical** obligation to credit others' work and an **honest** record of where an idea came from; it lets the client and the assessor trace a claim back to its evidence; and it makes visible the line between drawing inspiration from a source and reproducing it. Acknowledgement is **ethical, not legal**, and it confers no legal protection: naming the photographer gives the designer no right to use the photograph. **Copyright** exists automatically from the moment a work is created, so reproducing someone else's image or writing requires the owner's **permission or a licence** as well as a credit *(4 marks: correct acknowledgement details for each source type + placement + a reason that distinguishes the ethical duty to acknowledge from the separate legal requirement to obtain permission).*

Q17. Sketching logos is not Discover because Discover **investigates the problem**, and no problem, communication need or design criteria have yet been established — the brief is written in **Define**, after the research. Divergent thinking in Discover means searching **widely for information** and **suspending judgement**, keeping many perspectives and possibilities open; a student who sketches three logos has already judged what the solution will be and has narrowed the project to their first assumption. The risk is that the design answers a problem that was never tested against stakeholders — in GLEAN, a new logo would not have revealed that 41% of residents are unsure the pantry is "for them" *(3 marks: the purpose of Discover + divergent thinking correctly applied + the consequence of designing too early).*

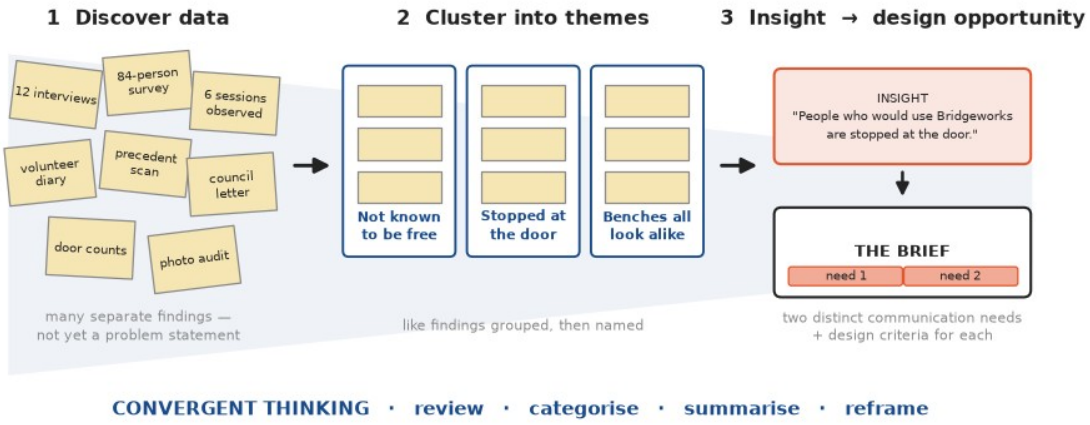
Q18. *(Model research plan.)* **Method 1 — a survey of 150 residents across the three suburbs (primary, quantitative)**, distributed by letterbox drop and at the Saturday market, gathering awareness of the pantry, whether the household has surplus produce, willingness to donate, and what would make donating easy. This measures how widespread each barrier is. **Method 2 — eight to ten interviews (primary, qualitative)** with backyard growers, current pantry users and volunteers, using open questions about specific past experiences, gathering the reasons, feelings and language behind the survey figures. **Method 3 — a competitor analysis (primary, qualitative)** of four existing food-share services, including the SPARROW app and the council flyer, compared on sign-up barrier, street presence, imagery and language, gathering what each already does well and where the gap is. Published material — the council's 2024 food-waste report and national household food-waste statistics — is used as **secondary** background to size the problem the pantry is addressing. **Interpreting the findings:** the responses will be transcribed onto cards and **clustered into themes**; each theme will then be written up as an **insight statement** explaining the behaviour and the design opportunity, and the strongest insights will be synthesised into two audience personas — a backyard grower and a first-time pantry visitor — carrying an evidence base. **Ethical safeguard:** every participant receives a consent statement covering who I am, the purpose, anonymity, secure storage and the right to withdraw at any time; participants under 18 also require the consent of a parent or guardian, and all responses are de-identified. **Using the findings in Define:** the insights and the personas carry straight into **Define**, where **convergent** thinking narrows them to the problem worth solving. The insight that residents hold surplus but have no visible route for it becomes a communication need — to show, at street level, exactly what may be donated and how — while the insight that people exclude themselves out of politeness sets design criteria about tone and about who the pantry is for. Because every criterion traces back to a specific finding, the brief can be defended to the client and the later design can be evaluated against evidence rather than taste *(8 marks: three appropriately varied methods with what each gathers; a described interpretation process from data to themes to insights; a specific ethical safeguard; and a clear link from the insights into Define — no marks for proposing design solutions).*

Theory

Define is the second phase of the VCD design process. Discover ends with a pile of research — interview notes, survey figures, observation sheets, a competitor scan, a letter from the client. None of that is yet a design problem. Define is the work of turning it into one. The Study Design is precise about how: students "employ convergent thinking strategies as they progress to the Define stage of the VCD design process, analysing and synthesising findings in order to clearly articulate design opportunities."

The phase has one deliverable: **the brief**. In Unit 3 Outcome 3 it is a **single design brief for a real or fictional client**, and it must define **two communication needs that are distinct from one another in purpose and presentation format**. **Design criteria** are then specified for each communication need, with consideration given to the **audience or user**, the **purposes** of designed outcomes, possible **contexts** and **design constraints**.

Convergent thinking does the work. Discover is divergent — search widely, suspend judgement, collect. Define reverses that. Convergent thinking is analytical, critical, reflective and comparative: it reviews, categorises and summarises information in order to clarify or reframe the problem. In practice this is three moves.

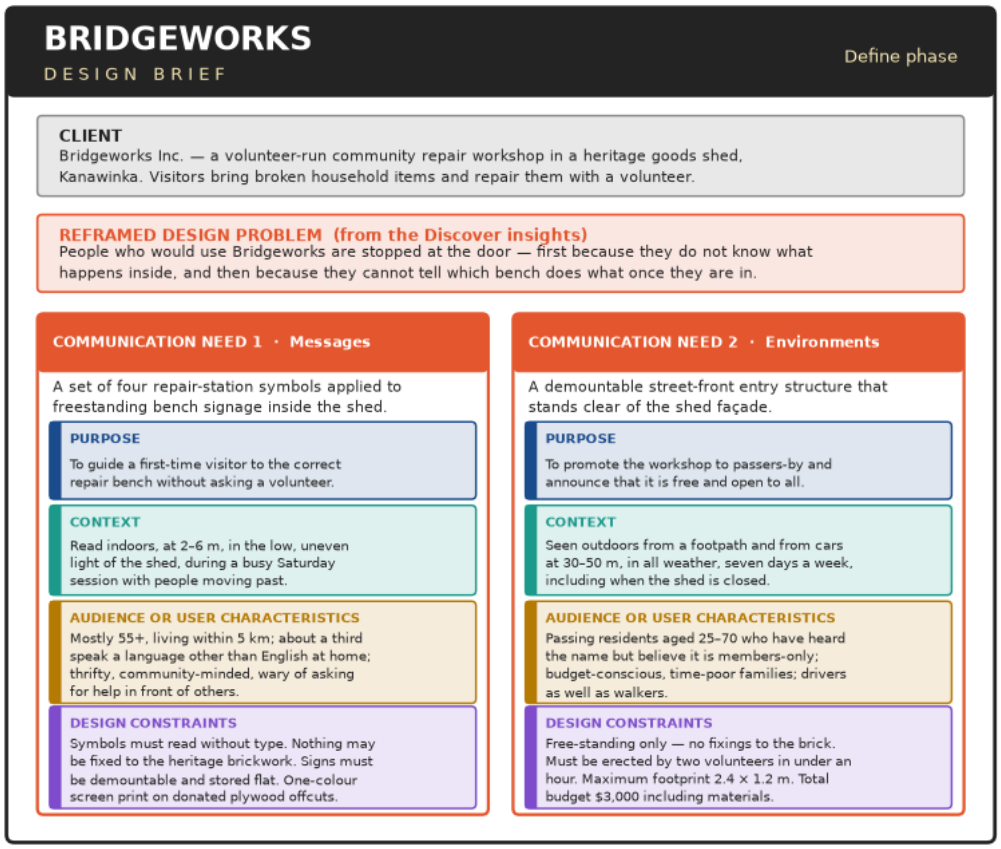


1. **Cluster.** Put like findings together and give each group a name. Eight separate findings become three themes.
2. **Write the insight.** An insight is one sentence that says what is really going on, in the words of the people you researched — not a list of what you found. "68% of visitors could not name a bench" is a finding. "People who would use Bridgeworks are stopped at the door" is an insight.
3. **Reframe the problem as an opportunity.** The insight points to something a design could change. That is the design opportunity, and it is what the brief is written about.

What a brief contains. A brief reframes an ill-defined problem into a set of requirements a designer can work to, and against which the finished work can later be judged.

Section	What it does	Written as
Client	Names the person, group or organisation commissioning the work and says briefly what they do. May be real or fictional.	One or two sentences of fact.
Design problem (reframed)	States the problem the design must address, in the form the Discover insights revealed it.	The insight, turned outward — what is going wrong and for whom.
Communication need 1	The first thing that must be communicated, and what will be produced to communicate it.	"A [presentation format] that [communicates X] to [whom]."
Communication need 2	The second — distinct in **purpose**	Same structure, different field,

Section	What it does	Written as
	and in **presentation format**.	different job.
Design criteria (for each need)	**Purpose**, **context**, **audience or user characteristics** and **design constraints**.	Testable statements the designer can be held to.

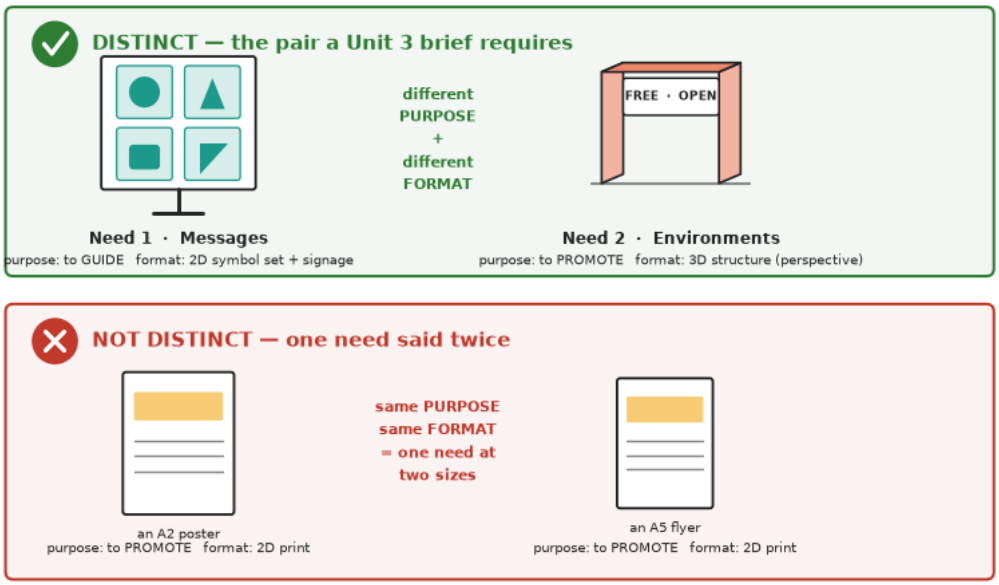


The brief above is for **BRIDGEWORKS**, a fictional volunteer-run community repair workshop housed in a heritage goods shed. Read it as the model for what follows: the client is named, the problem is the insight turned outward, and the two needs sit side by side, each with its own four criteria.

Two distinct communication needs. This is the requirement students most often fail. The needs must differ in **two** ways at once:

- **Purpose** — what the designed outcome is *for*: to identify, promote, inform, instruct, guide, warn, entertain, persuade. Two needs that both promote are one need.
- **Presentation format** — *what is produced*: a symbol set, a poster, a piece of packaging, a garment, an item of furniture, a structure, an exhibition space, a set of app screens, an animated sequence. Two printed sheets at two sizes are one format.

Choosing the two needs from **two different fields of design practice** (Messages, Objects, Environments, Interactive experiences) reliably settles the second difference, because each field produces a different kind of outcome. It does not settle the first: an Environments entry structure and a Messages poster can both be built to **promote**, and a pair like that is still one need. Whichever fields you choose, write the two purposes side by side and check that they name different jobs. (In Section B of the examination you are given one design problem with a communication need in each field and you select **one** field to work in; the two-need requirement belongs to the brief you prepare for Unit 3 Outcome 3.)



Writing a communication need. Keep it to one sentence built on the same frame every time:

> A **[presentation format]** that **[does what — the purpose]** for **[whom]** **[where or when]**.

"A set of four repair-station symbols applied to freestanding bench signage that guides a first-time visitor to the correct bench inside the shed." That sentence names the format, the purpose, the user and the context. It does not say what the symbols look like — a brief sets the problem; it does not design the solution.

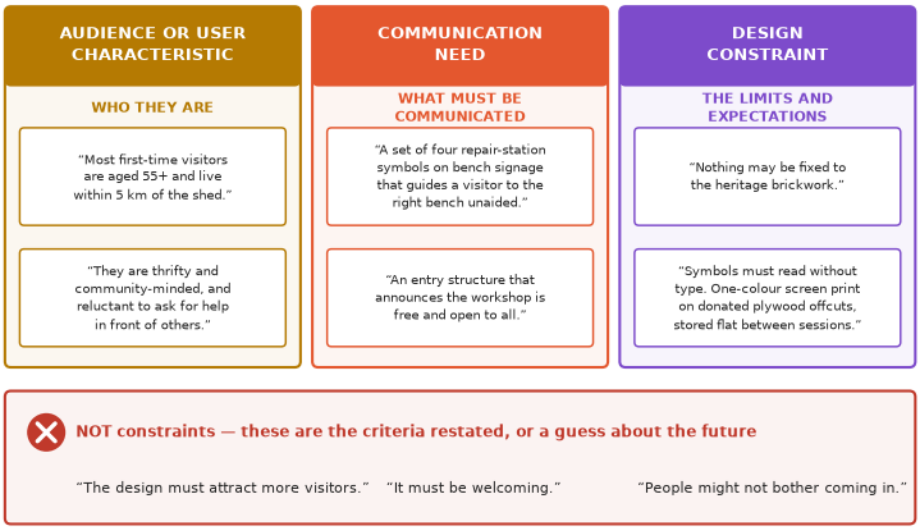
The four design criteria. Each communication need carries its own set. They are not interchangeable, and assessors report that students routinely write one under another's heading.

Criterion	The question it answers	Write it as	Do NOT write
Purpose	What must the designed outcome *do*?	An action the design performs: to identify, promote, inform, instruct, guide, warn. "To guide a first-time visitor to the correct repair bench without asking a volunteer."	The project's ambition ("to make the town more sustainable") or the client's business goal ("to get more members").
Context	Where, when and in what circumstances is it created, used or viewed?	The setting and the conditions: indoors or outdoors, viewing distance, lighting, weather, how long the viewer has, what else is competing for attention, whether it is read once or returned to.	The presentation format ("an A3 poster", "two app screens"). Context is not what it is; it is where and when it is met.
Audience or user characteristics	Who are they?	**Demographic** descriptors — age, location, income, occupation, education, household, language spoken at home — plus **psychographic** descriptors — values, interests, motivations, behaviours, lifestyle, confidence.	What the audience *wants from the design*. That is a need, not a characteristic. Also avoid "everyone", "all ages", "any background" — an audience described that way has not been described.

Criterion	The question it answers	Write it as	Do NOT write
Design constraints	What limits and expectations must the designer work within?	Real limitations or expectations: materials, projected cost, dimensions, production method, timeline, site conditions, aesthetic expectations, functional features, legal or regulatory requirements, technological restrictions.	The design criteria repeated back ("must attract 18- to 30-year-olds"), or a guess about what might go wrong ("people might not use it").

Categories of design constraint. When a question asks you to discuss constraints, run down this list and pick the ones your field of design practice actually imposes.

- **Material** — what it may be made or printed on, what is available or donated, what will survive.
- **Economic** — the budget, the run length, the unit cost, what the client can afford to maintain.
- **Dimensional** — size, footprint, weight, viewing distance, how it must pack down or be stored.
- **Production and technological** — the printer, the machine, the software, the screen sizes, whether it must work offline, whether volunteers rather than tradespeople will build it.
- **Site and environmental** — weather, light, salt, a heritage fabric that may not be touched, a floor plan that is reconfigured each term.
- **Legal and regulatory** — accessibility requirements, Australian Standards, signage regulations, copyright and trademark, cultural protocols the client has agreed to observe.
- **Time** — the launch date, the season, the length of an event, how long installation may take.
- **Aesthetic and functional expectations** — an existing palette or logo that must be carried through, a requirement that symbols read without type, a requirement that a structure be demountable.



Criteria must be testable. The Study Design says design criteria "are used to evaluate the success of design ideas" — in the Develop phase, where annotations evaluate ideas in light of the brief, and again in the Deliver phase, where the criteria are used together with feedback to select and refine the concepts with the most potential and then to evaluate the resolved solution. A criterion you cannot hold a drawing up against is not doing its job. "Must be attractive" cannot be tested. "Symbols must be identifiable at 6 m by a viewer wearing reading glasses" can be.

Client and audience are different stakeholders. Stakeholders are all the individuals, groups or organisations with an interest in a design project. The **client** commissions the work and approves it; the **audience or users** receive it. They are rarely the same people and they rarely want the same things — the library board wants the seed drawer to fit its floor plan; the borrower wants to find it. A brief names both, and the criteria serve the audience while respecting the client.

Matching marks to the command term.

- **State / Identify the communication need or the purpose (1 mark)** — one sentence, the format and the job it does. Only the first answer is marked.
- **Describe the context (2–3 marks)** — the setting plus at least two conditions of use or viewing.
- **Discuss the constraints relevant to your design problem (3 marks)** — name the field, give two or three genuine limitations, and say what each means for the designer.
- **Discuss the audience or user characteristics (3 marks)** — demographic and psychographic descriptors, each linked back to the design problem rather than merely listed.
- **Write a design brief incorporating the stated design criteria (7 marks)** — client, reframed problem, the need with its field and presentation format, then purpose, context, audience or user characteristics and constraints, with every one of the given criteria visibly incorporated.
- **Evaluate a draft brief (4–6 marks)** — strengths and limitations against the requirements of the Define phase, then an overall judgement.

Watch-out — characteristics are not needs and not constraints. This is the single most reported error in the Define and Discover questions. "Visitors are aged 55+ and reluctant to ask for help" is a **characteristic** (who they are). "Visitors must be able to find the right bench unaided" is a **need** (what must be communicated). "Nothing may be fixed to the heritage brickwork" is a **constraint** (a limit on the designer). Before you write a statement, ask which of the three questions it answers.

Watch-out — do not restate the criteria as constraints. Assessors single out responses that answer a constraints question by copying the design criteria back ("must reflect sustainable practices", "must attract 18- to 30-year-olds"). Those are requirements, not constraints. A constraint **extends** a criterion into a real limitation: "the structure must be erected by two volunteers in under an hour and must stand clear of the heritage brickwork."

Watch-out — a speculative threat is not a constraint. "People might not want to swap second-hand clothes" is a guess about the future. A constraint is something true now that limits the designer: a budget, a material, a dimension, a regulation, a machine.

Watch-out — context is not the presentation format. Writing "context: an A3 poster" under the context heading throws away the mark. **Context** is the setting and circumstances in which the design is created, used or viewed — outdoors, at 30 m, from a moving car, in winter, for a viewer who has four seconds. The format belongs in the statement of the communication need.

Watch-out — two needs, not one need twice. A poster and a flyer, a logo and a business card, an app screen and a website page: each pair shares a purpose or a format, so each is a single need. Test your pair by writing the purpose and the presentation format of both side by side. If either column repeats, change one need.

Watch-out — a brief sets the problem; it does not design the solution. "The packet will be green with an illustrated seed head" is a design decision made before any ideas have been generated, and it shuts down the Develop phase before it starts. Write what the design must **achieve**, not what it must look like.

Watch-out — describe the audience specifically. "All genders, any cultural background, people who live anywhere in Australia" describes nobody. Use the numbers your research gave you and pair every demographic descriptor with a psychographic one.

Worked examples

Example 1 — scaffolded

Write the two communication needs for the BRIDGEWORKS brief and justify that they are distinct from one another. (4 marks)

Working	Comment
Need 1 (Messages). A set of four repair-station symbols applied to freestanding bench signage that guides a first-time visitor to the correct bench inside the shed without asking a volunteer.	Use the frame: presentation format + purpose + audience + where. Name the field of design practice so the marker can see which conventions will apply later.

Working	Comment
Need 2 (Environments). A demountable street-front entry structure, standing clear of the shed façade, that promotes the workshop to passers-by and announces that it is free and open to all.	A second field forces a different presentation format. Note that this need answers a different part of the same insight — people stopped *outside* the door, not inside it.
Distinct in purpose. Need 1 is to **guide** someone who is already inside; Need 2 is to **promote** to someone who has not come in. Neither could do the other's job.	The first half of the distinctness test. Say which purpose each has, using a verb, and show they are different jobs.
Distinct in presentation format. Need 1 is a two-dimensional symbol set on printed signage panels; Need 2 is a three-dimensional structure, presented as a perspective drawing.	The second half of the test. "Both are signs" would fail — these differ in dimension, drawing method, material and where they are made.

Example 2 — scaffolded

A student has drafted the design criteria below for BRIDGEWORKS communication need 1. Identify three faults, then rewrite the criteria so that they would gain full marks. (6 marks)

Purpose: To make Bridgeworks a more successful organisation.

Context: Four screen-printed signs, 300 mm square.

Audience: Everyone in the local community, all ages and backgrounds.

Constraints: The signs must help visitors find the right bench and must look welcoming.

Working	Comment
Fault 1 — purpose. "To make Bridgeworks more successful" is the client's business goal, not what the designed outcome does. A purpose is an action the design performs for a viewer.	Test every purpose statement with "the design itself does this". A design cannot perform "success"; it can guide, warn, promote or identify.
Fault 2 — context written as presentation format. "Four screen-printed signs, 300 mm square" describes what is produced. Context is where, when and under what conditions it is met.	The most commonly reported confusion in this criterion. The format belongs in the communication need; the size belongs in the constraints.
Fault 3 — audience not characterised, and constraints restated as criteria. "Everyone, all ages and backgrounds" gives no demographic or psychographic descriptor; and "must help visitors find the right bench" simply repeats the communication need under the constraints heading.	Where a question asks for three faults, choose the three that cost the most marks. Naming a fourth briefly is fine but do not pad.
Rewrite — purpose. To guide a first-time visitor to the correct repair bench without having to ask a volunteer.	An action, performed by the design, on a named user.
Rewrite — context. Read indoors in the goods shed at 2 –6 m, in low and uneven light, during a busy Saturday session while other people move past; a visitor will look for about three seconds before asking someone.	Setting plus conditions plus how long the viewer has. Three checkable statements.
Rewrite — audience or user characteristics. Mostly aged 55 and over and living within 5 km of the shed; about one third speak a language other than English at home. They are thrifty and community-minded, value repairing over replacing, and are reluctant to ask for help in front of other people.	Demographic descriptors first, psychographic second, each drawn from the Discover research rather than assumed. The reluctance to ask for help is the characteristic that makes the need urgent.
Rewrite — design constraints. Symbols must be identifiable without any accompanying type. Nothing may be fixed to the heritage brickwork, so signage must be freestanding or bench-mounted. Signs must be	Genuine limitations — legal or heritage, material, production and dimensional. Every one of them extends a criterion instead of repeating it, and every one could be

Working	Comment
demountable and stored flat between sessions. Printing is one colour, screen-printed by volunteers onto donated plywood offcuts of varying size.	checked against a finished drawing.

Example 3 — unscaffolded

KEEL is a volunteer coastal water-safety program that runs free "know this beach" sessions for newly arrived families at unpatrolled bays along the Victorian coast. Its Discover research found that families new to Australia judge a beach by how calm the water looks, that a rip is invisible to an untrained eye, and that the existing hazard signs are text-heavy, English-only and read only after people have already chosen where to swim.

Select one field of design practice and write a design brief for KEEL that includes the three design criteria stated below. (7 marks)

Your design must: be understood without relying on written English; be usable by families with young children; work in a remote coastal location with no mains power and limited mobile coverage.

Client. Keel, a volunteer coastal water-safety program operating at unpatrolled bays on the Victorian surf coast, running free beach-orientation sessions for recently arrived families.

Reframed design problem. Families new to Australian beaches choose where to swim before they reach any warning, and they choose by how calm the water looks — which is exactly where a rip runs. The existing signs speak only to people who already read English and who have already stopped.

Field of design practice. Messages.

Communication need. A wordless four-part hazard symbol sequence applied to the beach-access gate panel, warning a family at the moment they step onto the sand that calm water can indicate a rip and showing what to do if they are caught in one.

Purpose. To warn beach users of an invisible hazard, and to instruct them in one recoverable action, at the last point before they enter the water.

Context. Seen outdoors on a timber access gate at the head of a dune track, at 2–4 m, in full coastal glare or early-morning flat light, in wind and salt spray, all year. It is met while people are walking, carrying gear and supervising children, so it has perhaps five seconds of attention, and it is the only piece of safety information at the bay.

Audience or user characteristics. Adults aged 25–45 arriving with children under 10; recently arrived, many from communities where sea swimming is not a common activity; a majority speak a language other than English at home and read English with less confidence than they speak it. They are safety-conscious and attentive to their children, but have no prior vocabulary for surf conditions and no way to recognise a rip.

Design constraints. The sequence must be understood with no written English at all, so meaning must be carried by symbol, sequence and colour alone, and it must not depend on a legend. Symbols must be readable by an adult standing 4 m back and by a child at 1.2 m eye height. The panel must be weatherproof and vandal-resistant, powder-coated aluminium on the existing gate frame, with no electrical supply and no reliance on a mobile connection or a scanned code. It must fit the gate's existing 900 × 600 mm panel aperture, be installed by volunteers with hand tools, and be produced within the program's $2,000 signage budget for the season.

Example 4 — unscaffolded

A student has submitted the draft brief below for the KEEL project. Evaluate the draft against the requirements of the Define phase of the VCD design process. (6 marks)

> **Client:** Keel.
>
> **Communication needs:** A poster and a flyer to make people more aware of beach safety.
>
> **Purpose:** To make the beach safer.
>
> **Context:** An A3 poster, printed in colour.

Audience: Everyone who goes to the beach, all ages and all backgrounds.

Constraints: The design must be understood without written English and must be usable by families with young children.

The draft has two genuine strengths. It names the client, and it uses the four criteria headings the Study Design requires, so the structure of a brief is present and the student has understood that criteria must be specified rather than assumed. It also correctly carries one of the given design criteria — communicating without written English — into the document rather than ignoring it.

Against the requirements of the Define phase, however, the draft fails on four counts. First, the two communication needs are not distinct: a poster and a flyer share the same purpose (to promote awareness) and the same presentation format (a printed two-dimensional sheet), so this is one need produced at two sizes rather than the two distinct needs the brief must define. Second, the purpose is the project's ambition, not what a designed outcome does — a design cannot "make the beach safer"; it can warn, or instruct, or guide. Third, the context states a presentation format, which is the confusion the assessors most often report; nothing is said about where the design is met, at what distance, in what light or with how much of the viewer's attention. Fourth, the audience is not characterised at all: "everyone, all ages and all backgrounds" contains no demographic or psychographic descriptor and cannot inform a single design decision. The constraints compound this by simply restating the given design criteria instead of extending them into real limitations of material, cost, dimension, site or regulation.

Overall the draft is unsatisfactory as a Define-phase document. It has the shape of a brief but not its function: because the needs are not distinct, the purpose is not an action, the context is a format and the audience is undefined, none of these criteria could be used later to evaluate a design solution — which is what design criteria exist to do.

Practice questions

Scaffolded

Q1. About the Define phase of the VCD design process: (a) Name the mode of thinking used in this phase. *(1 mark)* (b) State the document produced at the end of the phase, and state who it is prepared for. *(2 marks)* (c) List the four kinds of design criteria that must be specified for each communication need. *(2 marks)*

Q2. Using the BRIDGEWORKS brief, answer the following about **communication need 2**, the street-front entry structure: (a) Identify one design constraint that applies to this need but not to communication need 1. *(1 mark)* (b) State one audience characteristic recorded for this need that does not apply to the users of need 1. *(1 mark)* (c) Describe the context in which the entry structure will be seen, and explain why writing "a demountable entry structure" under the context heading would not answer the question. *(3 marks)*

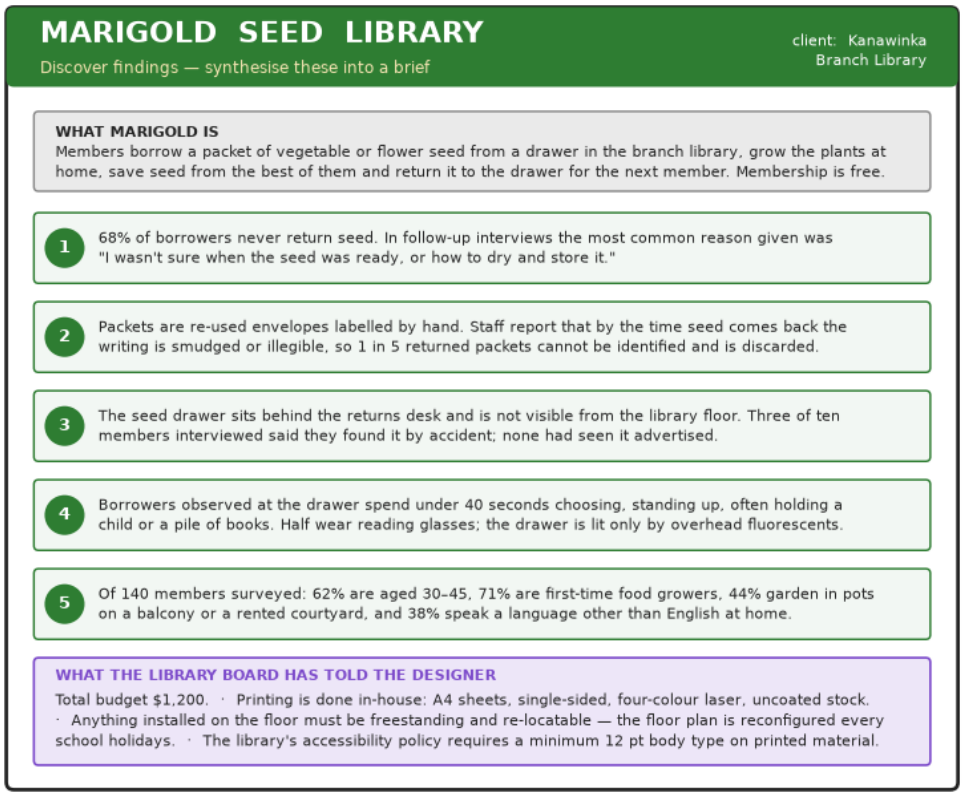
Q3. About communication needs: (a) In what two ways must the two communication needs in a Unit 3 brief be distinct from one another? *(2 marks)* (b) A student writes communication need 1 as: "A set of four bench symbols in black on yellow, drawn in a bold geometric style." Explain what is wrong with this as a statement of a communication need. *(2 marks)* (c) A student argues that because their two needs come from two different fields of design practice, the pair must be distinct. Explain why this does not follow. *(2 marks)*

Q4. Classify each of the following BRIDGEWORKS statements as an **audience or user characteristic**, a **communication need**, a **design constraint**, or **none of these three**. Where a statement belongs to none of the three, state what it is instead. *(4 marks)* (a) "Just over half of Saturday visitors arrive with a child under 12, and most stay for less than an hour." (b) "A visitor standing in the doorway must be able to tell, before coming in, whether the item they are carrying can be repaired at the shed." (c) "The path to the fire exit must be kept clear of freestanding signage at all times." (d) "Bridgeworks wants to double its Saturday attendance within a year."

Q5. About design constraints: (a) Identify two categories of design constraint. *(2 marks)* (b) Write one constraint on the BRIDGEWORKS entry structure from each of the two categories you named. *(2 marks)* (c) Explain why "the signage must encourage more people to volunteer" is not a design constraint. *(2 marks)*

Q6. About audience or user characteristics: (a) State what a **demographic** descriptor describes. *(1 mark)* (b) State what a **psychographic** descriptor describes. *(1 mark)* (c) A student writes "the users want signage they can understand without asking anyone" under the heading *audience or user characteristics* in the BRIDGEWORKS brief. Explain why it does not belong there, and identify what kind of statement it is. *(2 marks)*

Unscaffolded



Questions 7–16 refer to the MARIGOLD Seed Library findings board shown above, unless otherwise stated.

Q7. Using convergent thinking, synthesise the findings into a single insight statement that reframes the Marigold design problem. *(3 marks)*

Q8. Marigold's librarian has proposed two communication needs: "a poster about the seed library" and "a flyer about the seed library". Explain why this pair does not meet the requirements of the Define phase, then write a pair of communication needs that does. *(4 marks)*

Q9. Select one field of design practice and write a design brief for Marigold that defines your selected communication need and presents its design criteria. *(7 marks)*

Q10. For a Marigold seed packet, write the **purpose** and the **context** as two separate criteria, and explain how the two differ. *(4 marks)*

Q11. Identify your selected field of design practice and discuss the design constraints relevant to the Marigold design problem. *(3 marks)*

Q12. Discuss the characteristics of Marigold's audience or users that are relevant to the design problem. *(3 marks)*

Q13. Explain the role of the brief in defining communication needs. *(3 marks)*

Q14. Explain how convergent thinking is used in the Define phase of the VCD design process, referring to at least two of the Marigold findings. *(4 marks)*

Q15. Marigold's board has written the criterion "The design must be sustainable." Explain why this is a weak design criterion, and rewrite it so that it could be used to evaluate a design solution. *(3 marks)*

Q16. A student designing a Marigold seed-drawer unit has drafted these three statements as design constraints: (i) "Members might not notice the drawer even after it is moved." (ii) "The unit must look modern." (iii) "Anything installed on the library floor must be freestanding and re-locatable, because the floor plan is reconfigured every school holidays." State which one is a genuine design constraint and name the category it belongs to, then explain why each of the other two is not. *(4 marks)*

Q17. Distinguish between the **client** and the **audience or users** of a design brief, referring to both the BRIDGEWORKS and the MARIGOLD projects. *(4 marks)*

Answers

Q1. (a) Convergent thinking. (b) The brief; prepared for a client (real or fictional). (c) Purpose(s); context(s); audience or user characteristics; design constraints. **Q2.** (a) Any one of: maximum footprint 2.4 × 1.2 m; erected by two volunteers in under an hour; total budget $3,000 including materials. (b) Any one of: aged 25–70; believes the workshop is members-only; time-poor families; drivers as well as walkers. (c) See solutions. **Q3.** (a) In purpose and in presentation format. (b) It states what the design will look like instead of what must be communicated, to whom and where — a brief sets the problem, it does not design the solution. (c) Two fields give two presentation formats but do not settle purpose; both needs could still promote. **Q4.** (a) Audience or user characteristic. (b) Communication need. (c) Design constraint. (d) None of the three — the client's goal for the project. **Q5.** (a) Any two of: material; economic; dimensional; production/technological; site/environmental; legal/regulatory; time; aesthetic/functional expectation. (b) and (c) See solutions. **Q6.** (a) Measurable facts about who the audience is — age, location, income, occupation, education, household, language spoken at home. (b) What the audience values, believes, is motivated by and does — values, interests, motivations, behaviours, lifestyle, confidence. (c) It states what the audience wants from the design, which is the communication need, not a characteristic. **Q7.** Marigold's seed loop breaks at both ends — members cannot find the drawer, and first-time growers do not know when or how to save seed, so it never comes back identifiable. See solutions. **Q8.** Same purpose (promote) and same presentation format (a printed 2D sheet), so it is one need twice. Replacement pair: see solutions. **Q9.** Client, reframed problem, one need with its field and format, then purpose / context / audience or user characteristics / constraints. See solutions. **Q10.** Purpose = the job the design performs (a verb, on a user); context = the setting and circumstances in which it is met. **Q11.** Field named + two or three real limitations extended (in-house A4 four-colour laser and a glue-free fold; 12 pt minimum type; $1,200 budget). **Q12.** Demographic: 62% aged 30–45; 38% speak a language other than English at home; half wear reading glasses; 44% grow in pots. Psychographic: 71% first-time growers, willing but low in confidence. See solutions. **Q13.** Reframes the researched problem; names the communication needs; sets the design criteria used to evaluate later work. **Q14.** Convergent thinking categorises, summarises and reframes findings into an insight and a design opportunity. See solutions. **Q15.** Untestable, so it cannot be used to evaluate a design idea; rewrite as a checkable material/construction/end-of-life statement. **Q16.** (iii) is the genuine constraint — a site and environmental one. (i) is a speculative threat about the future; (ii) names nothing that could be checked against a drawing. See solutions. **Q17.** Both are stakeholders: the client commissions, constrains and approves; the audience or users receive the design and must act on it.

Fully-worked solutions

Q1. (a) **Convergent** thinking — analytical, critical, reflective and comparative thinking that reviews, categorises and summarises research findings in order to clarify or reframe the problem. (b) The **brief**, prepared for a **client**, who may be real or fictional. (c) For each communication need: the **purpose**, the **context**, the **audience or user characteristics**, and the **design constraints** *(2 marks: all four named).*

Q2. (a) Any one of the constraints the brief records for need 2 alone: a **maximum footprint of 2.4 × 1.2 m**, **erection by two volunteers in under an hour**, or the **$3,000 total budget including materials**. (The "no fixings to the brick" limitation is not accepted, because it constrains both needs.) (b) Any one of: the users of need 2 are **passing residents aged 25–70**; they **have heard the name but believe the workshop is members-only**; they include **budget-conscious, time-poor families**; and they include **drivers as well as walkers**. The users of need 1 are people already inside the shed, mostly aged 55 and over. (c) The entry structure is seen **outdoors from the footpath and from passing cars at 30–50 m, in all weather, seven days a week — including when the shed is closed and no volunteer is there to explain it**. "A demountable entry structure" is the **presentation format**: it names what is produced, not where, when or under what conditions the design is met. The context is what tells the designer the viewing distance that fixes letter size, the year-round weather that fixes material and finish, and the fact that the structure must still work unattended out of hours; the format tells them none of that, which is why naming it under the context heading throws the mark away *(3 marks: the setting plus at least two conditions of viewing, and the distinction drawn).*

Q3. (a) They must be distinct in **purpose** — what the designed outcome is for — and in **presentation format** — what is actually produced. (b) The statement is a **design decision, not a communication need**. It fixes the colours and the drawing style before a single idea has been generated, which shuts down the Develop phase before it starts, and it never says what the symbols must communicate, to whom, or where they will be met. A communication need names the presentation format, the purpose, the audience and the context — "a set of four repair-station symbols applied to

freestanding bench signage that guides a first-time visitor to the correct bench inside the shed." A brief sets the problem; it does not design the solution *(2 marks: identified as designing the solution, plus what the statement should have contained).* (c) Working in two fields does settle one half of the test: each field produces a different kind of outcome, so the **presentation formats** will differ. It settles nothing about **purpose**. An Environments entry structure that **promotes** the workshop and a Messages poster that **promotes** the workshop are in two fields but do the same job, so they remain one need in two formats. The pair has to be tested on both columns — write the purpose and the presentation format of each need side by side, and change one need if either column repeats *(2 marks: format differentiated but purpose not, shown with an example or by the side-by-side test).*

Q4. (a) **Audience or user characteristic** — it says who the visitors are and how they behave, using a demographic descriptor (arriving with a child under 12) and a behavioural one (a visit of under an hour). (b) **Communication need** — it states what must be communicated and to whom: a visitor at the door has to be told what the shed can repair. It is the job a designed outcome has to do, not a description of the people and not a limit on the designer. (c) **Design constraint** — a legal and site limitation the designer must work within. It rules out any freestanding unit in the egress path and pushes the signage onto the benches themselves, or onto freestanding panels sited well clear of the exit route — it cannot be answered by fixing panels to the walls, because the heritage brickwork may not be drilled. (d) **None of the three.** Doubling Saturday attendance is the **client's goal for the project** — an outcome Bridgeworks hopes the design will help bring about. It describes nobody, communicates nothing and limits nothing, and no drawing can be held up against it. To be usable it would have to be turned into a purpose (what a designed outcome does for a viewer) or extended into a real constraint *(4 marks: one per correct classification, with (d) identified as falling outside the three categories and named as the client's goal).*

Q5. (a) Any two categories, for example **dimensional** constraints and **economic** constraints. (Also accepted: material, production and technological, site and environmental, legal and regulatory, time, aesthetic and functional expectations.) (b) **Dimensional** — the entry structure must stand within a maximum footprint of 2.4 × 1.2 m on the street frontage. **Economic** — the whole structure, including its materials, must be built within the $3,000 the workshop has for it. (c) "The signage must encourage more people to volunteer" is the **client's goal for the project**, not a limitation or expectation the designer must work within. It is also untestable: no drawing can be held up against it, because whether it worked could only be known months later. Assessors report that restating the design criteria or the client's goals in this way is one of the most common ways marks are lost on a constraints question. A genuine constraint would **extend** that goal into something real — for example, "the structure must be legible from a car travelling at 50 km/h on the opposite side of the street" *(2 marks: identified as a restated goal, plus the reason it cannot function as a constraint).*

Q6. (a) A **demographic** descriptor states a measurable fact about who the audience is: age, location, income, occupation, education, household composition or the language spoken at home. (b) A **psychographic** descriptor states what the audience values, believes, is motivated by or habitually does: values, interests, motivations, behaviours, lifestyle and confidence. (c) The statement describes **what the audience wants from the design**, not who the audience is — and the theory's test for the heading is exactly that. Wanting signage that can be understood without asking anyone is the **communication need**: it is the job the design has to do, and it belongs in the statement of the need, from which the purpose is then written ("to guide a first-time visitor to the correct repair bench without having to ask a volunteer"). Placed under *audience or user characteristics* it tells the designer nothing about the people themselves — no age, no location, no language, no attitude — and so cannot inform a single decision about symbol size, contrast or wording. The characteristic that sits behind it is that these visitors are reluctant to ask for help in front of other people; that is what belongs under the heading *(2 marks: identified as what the audience wants rather than who they are, and correctly reassigned to the communication need).*

Q7. Insight. "Marigold's seed never comes home. Members cannot find the drawer to begin with, and once they have grown the plants nobody has told them when the seed is ready or how to keep it — so the borrowers who most want to take part are the ones least able to close the loop." This synthesises finding 3 (the drawer is invisible from the library floor) with findings 1 and 5 (68% never return seed, and 71% are first-time growers who lack the vocabulary), and reframes a return-rate statistic as a human problem the design can act on *(3 marks: a single statement, drawn from more than one finding, expressed as what is happening to people rather than as a list of results).*

Q8. The pair does not meet the requirements because the two needs are not **distinct in purpose and presentation format**. Both a poster and a flyer have the purpose of **promoting** the seed library, and both use the same presentation

format — a printed two-dimensional sheet from the library's in-house A4 laser printer. They differ only in size and distribution, so this is one communication need produced twice. A pair that does meet the requirement:

- **Need 1 (Messages).** A printed seed packet carrying a wordless sow–grow–harvest–dry–return sequence, which **instructs** a first-time grower on when and how to save seed and gives them a panel to label it. Presentation format: a folded two-dimensional printed packet.
- **Need 2 (Objects).** A freestanding, re-locatable seed-drawer unit that **identifies** Marigold from anywhere on the library floor and makes borrowing possible without approaching the returns desk. Presentation format: a three-dimensional object, presented as a paraline drawing.

These differ in purpose (instruct versus identify), in presentation format (a printed packet versus a built object) and in field of design practice *(4 marks: the fault correctly attributed to both purpose and format, plus a replacement pair whose distinctness is demonstrated rather than asserted).*

Q9. *(Model, using the field of Messages. Objects, Environments and Interactive experiences are equally acceptable.)*

Client. Kanawinka Branch Library, which operates the Marigold Seed Library — a free scheme in which members borrow a packet of vegetable or flower seed, grow the plants at home, save seed from the best of them and return it to the drawer for the next member.

Reframed design problem. The seed loop breaks after borrowing. Sixty-eight per cent of borrowers never return seed, and the reason they give is that they did not know when the seed was ready or how to dry and store it; of the seed that does come back, one packet in five is discarded because a handwritten label has smudged beyond reading. The people who most want to take part are first-time growers with no seed-saving vocabulary, and nothing they are given tells them what to do.

Field of design practice. Messages.

Communication need. A printed seed packet carrying a wordless sow–grow–harvest–dry–return sequence that instructs a first-time grower on when and how to save seed, and that carries a durable panel on which the variety and date can be recorded so the returned packet can be identified.

Purpose. To instruct a first-time grower, at the moment of harvest months after borrowing, in when and how to save seed — and to identify the seed inside once it is returned.

Context. Chosen in under 40 seconds while standing at a drawer inside the library, under overhead fluorescent light, often one-handed while holding a child or a pile of books. It is then carried home and kept in a kitchen drawer or a pocket for three to six months, taken outdoors, handled with wet or soil-covered hands, and read again at harvest — so it must survive storage and be re-readable long after the borrower has forgotten the session.

Audience or user characteristics. Sixty-two per cent are aged 30–45; 71% are first-time food growers with no prior seed-saving vocabulary; 44% grow in pots on a balcony or in a rented courtyard, so they harvest a handful of plants rather than a bed; 38% speak a language other than English at home; and about half wear reading glasses. They are motivated, community-minded and willing to return seed, but have low confidence in their own judgement about when a plant is "ready".

Design constraints. Instructions must be understood without relying on written English, so meaning must be carried by a numbered image sequence. Body type must be no smaller than 12 pt to meet the library's accessibility policy, which rules out a dense text panel. The packet must be printed single-sided, four-colour laser on uncoated A4 stock in-house, and must fold to packet size and hold loose seed without glue or machinery. It must carry a matt, uncoated panel that takes a pencil and survives handling. The total run must be produced within the $1,200 project budget.

(7 marks: client and reframed problem; one communication need with its field and presentation format; purpose, context, audience or user characteristics and constraints, each testable and each traceable to a stated finding.)

Q10. Purpose. To instruct a first-time grower in when and how to harvest, dry and store seed, and to identify what is inside the packet when it is returned.

Context. Met first at the drawer in the library — under overhead fluorescent light, standing, often one-handed, with less than 40 seconds to choose — and then again at home three to six months later, outdoors, with soil on the reader's hands, by someone who no longer remembers the session.

The two differ in what they describe. **Purpose** is the job the design performs: an action, expressed as a verb, directed at a user. **Context** is the setting and circumstances in which the design is created, used or viewed: where it is, when it is, what the light and the weather are doing, how much attention the viewer has and what else is competing for it. Purpose tells the designer what to communicate; context tells them the conditions under which it has to survive being read *(4 marks: two criteria written separately and correctly, plus a clear statement of the distinction).*

Q11. Field of design practice: Messages. The most binding constraint is that the packet must be produced entirely on the library's in-house equipment: single-sided, four-colour laser printing on uncoated A4 stock, which means the designer cannot specify a bled edge, a special finish, a die-cut or a second pass, and must design a fold that turns one A4 sheet into a seed-tight packet without glue or machinery. A second constraint is the library's accessibility policy, which sets a minimum 12 pt body type; on a packet-sized panel this leaves very little room for words and forces the instructions to be carried by a numbered image sequence instead. A third is the $1,200 total budget, which fixes the run length and rules out any bought-in envelope, sticker or label — so the writing panel has to be part of the printed sheet and has to be left uncoated enough to take a pencil *(3 marks: field named; two to three genuine limitations, each extended into what it means for the designer rather than restated from the board).*

Q12. Marigold's users are a narrow and well-documented group. **Demographically**, 62% are aged 30–45 and 38% speak a language other than English at home, which means instructions cannot rest on English text; about half wear reading glasses, so the reading distance and type size at the drawer matter; and 44% garden in pots on a balcony or in a rented courtyard, so they are working with a handful of plants in a small, often shaded space rather than a garden bed. **Psychographically**, 71% are first-time food growers — willing and community-minded, but without the vocabulary to know what "ready to harvest for seed" looks like, and low in confidence about their own judgement. These characteristics are directly relevant to the design problem: they explain why 68% of seed never returns. It is not indifference but inexperience, compounded by instructions that are absent and by a container that cannot be labelled durably. A design that assumes a confident, English-reading gardener with a garden bed would miss this audience entirely *(3 marks: demographic and psychographic descriptors, each linked to the design problem; broad statements such as "anyone who likes gardening" are not creditable).*

Q13. The **brief** is the document produced at the end of the **Define** phase, and its role is to turn an ill-defined problem into a set of requirements a designer can work to. It does this in three ways. First, it **reframes** the research: the synthesised insight is stated as a design problem, so what began as a pile of separate findings becomes one thing that can be acted on. Second, it **names the communication needs** — in Unit 3, two needs distinct in purpose and presentation format — so the designer knows exactly what must be communicated, to whom, and in what form, before any ideas are generated. Third, it **sets the design criteria** for each need, so that the needs are defined measurably rather than as intentions, and can later be used to evaluate design ideas, concepts and the resolved solution *(3 marks: the brief located in Define; the reframing and need-defining role; the criteria as the basis of later evaluation).*

Q14. Convergent thinking is analytical, critical, reflective and comparative: it reviews, categorises and summarises information in order to clarify or reframe a problem. In the Marigold project it does three things to the raw findings. It **categorises** them — finding 1 (68% never return seed, because borrowers did not know when or how) and finding 5 (71% are first-time growers) belong to the same theme, namely that inexperience, not indifference, is breaking the loop; finding 2 (handwritten labels smudge, so one returned packet in five is discarded) and finding 3 (the drawer is invisible from the library floor) belong to two further themes. It then **summarises** each theme in a single statement, discarding the detail that does not bear on the problem. Finally it **reframes**: the themes are combined into one insight — that Marigold's seed never comes home because nobody guides the borrower at either end of the loop — which articulates a design opportunity the brief can then be written about. Without this convergence the designer would still be holding five unrelated statistics and no problem *(4 marks: the definition in the Study Design's terms; at least two findings shown being clustered and summarised; the reframing into a design opportunity).*

Q15. "The design must be sustainable" is a weak criterion because it is not **testable**. Design criteria exist to be used to evaluate the success of design ideas, concepts and the resolved solution, and no drawing can be held up against a word as broad as "sustainable" — two designers could disagree about whether it had been met and neither could be shown to be wrong. It also gives the designer no guidance about what to actually do: it names a value, not a limitation or an expectation. A rewritten version: "The packet must be printed on a single sheet of uncoated, unlaminated stock and

fold without glue, so that it can be composted or placed in kerbside paper recycling by the member after the seed is sown." That version states a material, a construction method and an end-of-life outcome, all of which can be checked against a finished design *(3 marks: untestable, and therefore useless for evaluation; plus a rewrite that specifies something checkable).*

Q16. Statement **(iii)** is the only genuine design constraint, and it is a **site and environmental** one: the library floor plan is reconfigured every school holidays, so anything standing on that floor must be freestanding and re-locatable. It is true now, it comes from the client, and it can be checked against a finished drawing — a unit bolted down or built into the wall fails it — and it pushes the designer towards a liftable or castored base, a weight two staff can move and a footprint that will pass through the library's doors.

Statement **(i)** is a **speculative threat**, not a constraint. "Members might not notice the drawer" is a guess about what may happen in the future; it limits nothing the designer does, and no drawing can be held up against it. The evidence behind it is real — finding 3 records that the drawer sits behind the returns desk and is not visible from the library floor — but that is a **research finding**, which the brief turns into the reframed design problem and into a purpose ("to identify Marigold from anywhere on the library floor"), not into a constraint.

Statement **(ii)** names nothing that could be checked. Aesthetic expectations *can* be genuine constraints when they are specific — an existing palette or wordmark that must be carried through, a requirement that the unit match the library's existing timber. "Modern" is not specific: it states a taste, two designers could disagree about whether it had been met, and neither could be shown to be wrong, so it gives the designer nothing to work within and nothing to be held to *(4 marks: (iii) identified and categorised; (i) diagnosed as a speculative threat; (ii) diagnosed as an untestable aesthetic wish).*

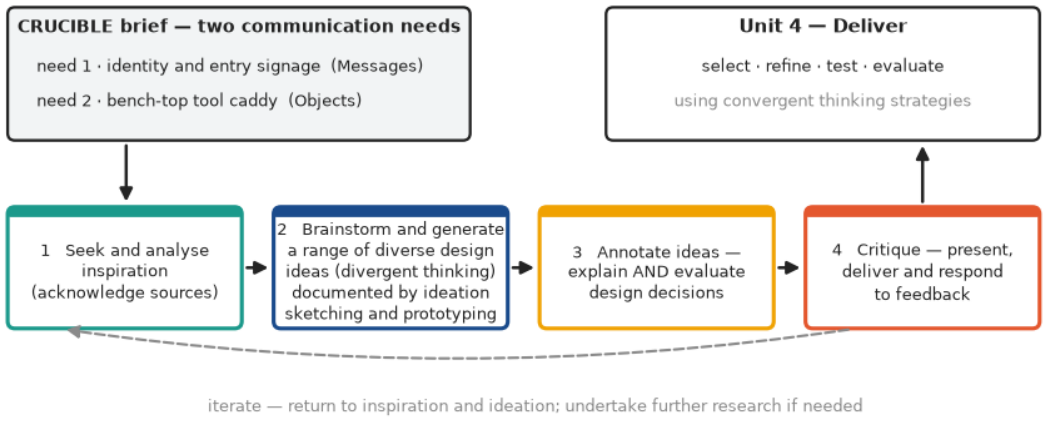
Q17. The **client** and the **audience or users** are both **stakeholders** — individuals, groups or organisations with an interest in the process or the outcome of a design project — but they hold different positions in it. The **client** commissions the work, sets many of the constraints and approves the result; the **audience or users** are the people the design is made for, who receive it and have to be able to act on it. In BRIDGEWORKS the client is Bridgeworks Inc., the organisation that runs the repair workshop and that imposes the heritage, budget and volunteer-labour constraints; the users are the visitors aged 55 and over who have to find the right bench and who are reluctant to ask for help. In MARIGOLD the client is the Kanawinka Branch Library, whose board sets the $1,200 budget, the in-house A4 printing and the freestanding-furniture rule; the users are the 30–45-year-old first-time growers, 44% of them growing in pots, who need to know when seed is ready. The two often want different things — the library board is protecting a floor plan that is reconfigured each term, while the borrower simply needs to be able to see the drawer — which is why a brief must name both: the design criteria are written to serve the audience while working inside the client's constraints *(4 marks: a congruent two-sided distinction, both terms located as stakeholders, and both projects used as evidence).*

Chapter 11 Discover, Define, Develop — 11C Develop - generating ideas & the design critique

Theory

The **Develop** phase of the VCD design process follows the formation of the brief. In Unit 3 Outcome 3 the Study Design is precise about what happens here: the designer "once again using divergent thinking" employs "an iterative process of seeking and analysing inspiration, brainstorming and generating design ideas". Methods such as **ideation sketching** and **prototyping** are used to document potential concepts, further research is undertaken if necessary, and **ideas-in-progress are shared with peers for critique**. The feedback gathered is then carried into Unit 4, where concepts are selected, refined, tested and evaluated.

One requirement is easily missed: **this phase is undertaken twice**, because the brief you wrote in the Define phase defines **two communication needs** that are distinct in purpose and presentation format. You develop ideas for each need separately.



The Develop phase is undertaken TWICE — once for each communication need in the brief.

Throughout this subtopic the worked material uses one original brief — **CRUCIBLE Community Makerspace**, a not-for-profit shared workshop opening in a converted foundry on a regional main street. Its brief defines two communication needs and design criteria for each.

	Communication need 1 — Messages	Communication need 2 — Objects
Outcome	A visual identity and entry signage	A bench-top tool caddy
Purpose	To identify the makerspace and attract new members	To organise and carry hand tools between benches
Context	A brick foundry facade on a main street; read from a moving car and lit at night	A shared workshop; knocked, stacked and stored on open shelving
Audience / users	Makers aged 15–30, plus families at weekend open days	Members of mixed experience, including first-time users
Constraints	Must reproduce in one colour as cut vinyl; legible at 20 m; under $1,200	Formed from a single folded steel sheet on the space's own brake press; must nest for storage; under 3 kg empty

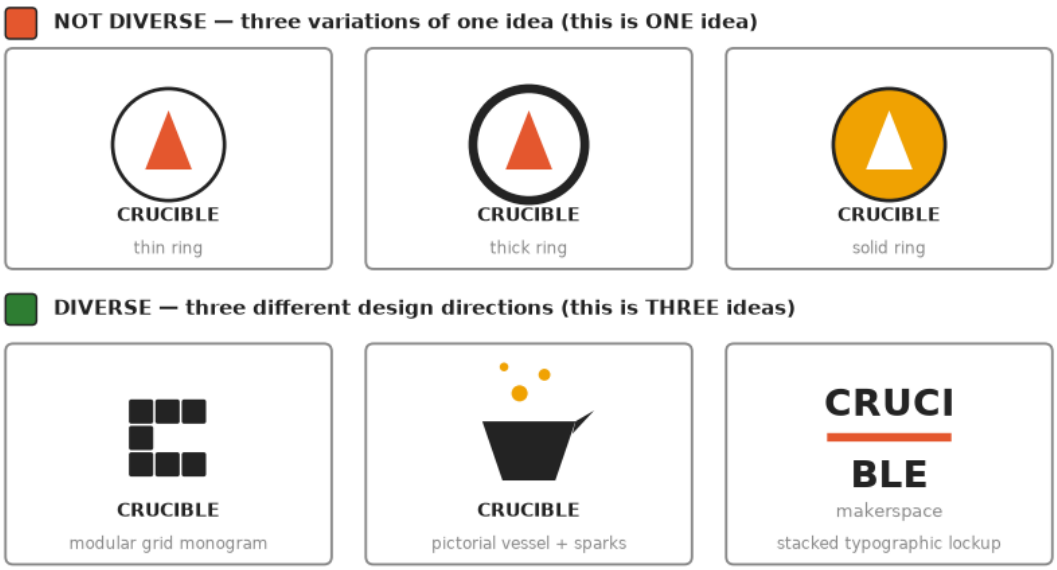
Seeking and analysing inspiration. Note the Study Design's verb: designers do not merely *collect* inspiration, they **analyse** it. Pinning up a mood board is only the first half of the move. The second half is to ask *why* a reference works — which **design elements** and **design principles** are doing the work, which **aesthetic** they build, and which part of that reasoning is transferable to your own communication need. Analysis is what turns a reference into a design decision. Inspiration must also be **acknowledged**: record the creator, the title, the exact URL and the date you

retrieved it, at the point in your folio where you used it. Taking inspiration is legitimate practice; reproducing another designer's work is not, because copyright protects an original work **automatically from the moment it is created** (see 10A).

Generating a range of design ideas. Idea generation in the Develop phase is **divergent**: you are after quantity and variety, and judgement is suspended. The generator is the **design criteria documented in the brief** — the purpose, the context, the audience or user characteristics and the constraints. Each criterion opens a different line of attack. For CRUCIBLE, "legible at 20 m" pushes toward bold, simple shapes; "one-colour cut vinyl" rules out gradients and pushes toward flat silhouette and type; "makers aged 15–30" invites a workshop-derived idea rather than a corporate one. Ideas that cannot be traced back to a criterion are decoration, not design.

Ideas are generated **by drawing them**. The method the Study Design names is **ideation sketching**, and what the examination asks for is **development drawings**. Annotation sits beside a drawing to explain it; it cannot take its place.

The critical quality of the set is **diversity**. Assessors report that many students produce three drawings that are "effectively minor variations of the same concept rather than distinct ideas". A ring with a thin outline, a ring with a thick outline and a filled ring are **one idea drawn three times**.



Ideas generated for CRUCIBLE communication need 1 — identity and entry signage.

The lower row shows three genuinely different **directions**: a modular grid monogram, a pictorial vessel with rising sparks, and a stacked typographic lockup. Each uses different design elements and principles, and each would lead somewhere different if developed.

> **Watch-out — diverse ideas are different directions, not variations.** Changing a weight, a colour or the position of one component does not create a second idea. If you can describe two drawings with the same sentence, they are one idea.
>
> **Watch-out — the drawing generates the idea; writing does not.** Assessors record that lower-scoring responses "relied heavily on annotations rather than drawing", and that a small number of students "included brainstorms or mind maps in place of drawings" — brainstorming is a useful thinking strategy, but it "does not meet the requirement for developmental drawings" and limits the marks that can be awarded. Assessors also note drawings that were "simplistic or lacked enough detail to show the deliberate application of design elements and principles". Draw the idea properly first, then annotate it.

Annotating design ideas. The Study Design's key skill is to "annotate design ideas using design terminology to **explain and evaluate** design decisions" — two jobs, not one. A complete annotation:

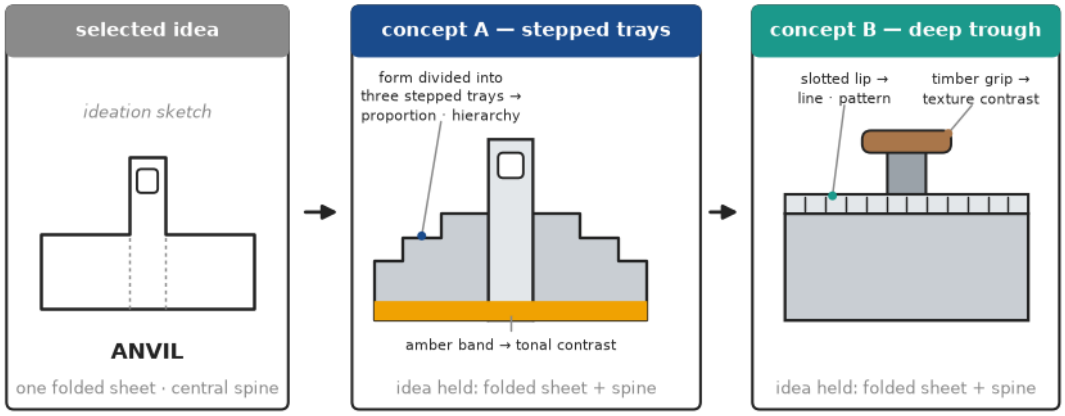
1. **names** the design element or design principle applied;
2. **states** the decision made with it;
3. **explains** the effect on the audience or user, or on the communication need;

4. **evaluates** it — a strength, and where honest, a limitation.

Annotation as written	Why an assessor gives it nothing	A version that earns marks
"This is the tool caddy."	Restates the brief.	"The tapered **form** narrows toward the base so the caddy nests inside another for shelf storage — meets the storage constraint, though it reduces the depth available for long chisels."
"Orange band."	Describes what is visible; names no decision, effect or evaluation.	"A saturated amber band at the base gives tonal **contrast** against grey steel, so a member locates their caddy quickly on a crowded shelf."
"The eye groups the three trays because they sit close together."	This is **Gestalt** (proximity) vocabulary, not a design element or principle.	"Three trays of decreasing width create a **proportion** sequence that ranks tools by size, building a clear **hierarchy** of storage."
"Meets the criterion that the caddy must weigh under 3 kg."	Repeats a design criterion instead of annotating a design decision.	"Perforating the trough walls with a repeated **line** pattern removes mass and adds a **texture** that reads as workshop-made."

> **Watch-out — annotate elements and principles, not Gestalt, criteria or the brief.** Assessors record that annotations "relating to Gestalt principles", restatements of the brief and repetitions of the design criteria "did not address the requirements of the question". Keep the three vocabularies separate: **elements** (point, line, shape, form, tone, texture, colour, type), **principles** (figure–ground, balance, contrast, cropping, hierarchy, scale, proportion, pattern) and **Gestalt** (proximity, continuity, similarity, closure, common fate, figure–ground, focal point).

Developing one idea into two distinct concepts. Once the divergent set exists, you **select a single idea** and develop **that one idea into two concepts**. This is the move most often failed in the examination: assessors note that "many students took two different ideas … and presented them as concepts and therefore did not address the question". The test is simple — both concepts must still be recognisably **the same idea**, and the difference between them must be a **substantive design decision**, not a cosmetic one. Assessors specifically criticise "minimal adjustments … such as small changes like colour swaps or repositioning of components".



One idea → two distinct concepts: the folded sheet and central spine are kept; the elements and principles are applied differently.

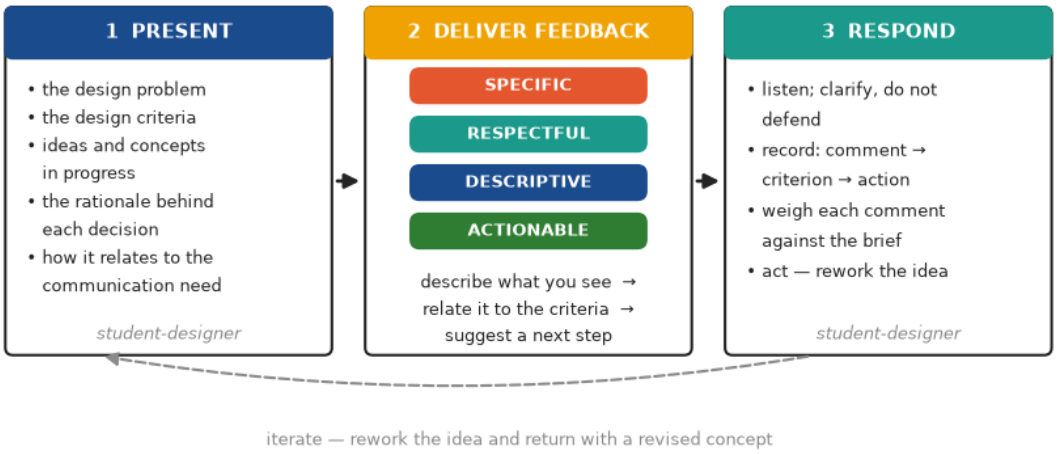
The selected CRUCIBLE idea, **ANVIL**, is "a caddy folded from a single steel sheet around a central carrying spine". Both concepts keep that idea. Concept A applies **proportion** and **hierarchy** — stepped trays of three depths rank tools by size — with an amber **colour** band for **contrast** at the base. Concept B applies **line** and **pattern** — a slotted lip

along a single deep trough holds hand tools upright — with a timber grip whose **texture** contrasts with the folded steel. Same idea; different elements and principles; genuinely different outcomes.

> **Watch-out — one idea, two concepts.** Not two ideas relabelled as concepts, and not one concept plus a colour swap. State explicitly what is held constant and what is varied.

The design critique. The Study Design defines the critique as "a key component of design studio culture and professional practice, offering an opportunity for students to engage in critical discussion about **work-in-progress**, and both give and receive feedback alongside teachers and peers". Three things follow from that definition.

- It happens on **work-in-progress**, not on finished work. The point is to change the design while changing it is still cheap.
- What is presented is not just the drawings: "design ideas and concepts, together with the project's **problem** and **design criteria** are presented for review in a **group setting**".
- The student-designer's job is to describe "the **rationale** behind decisions made and their relationship to the **communication need**" — the reasoning, not a sales pitch.



The recorded feedback is carried into Unit 4 and applied using convergent thinking strategies (PMI, SWOT).

Delivering constructive feedback. The student-critics and teachers "respond with constructive feedback that is **specific, respectful, descriptive and actionable**". Learn those four words; they are the marking criteria for this skill.

- **Specific** — names the part of the design being discussed, not the design as a whole.
- **Respectful** — addresses the work, never the designer, and assumes the decision had a reason.
- **Descriptive** — describes what you observe and its effect, rather than pronouncing a verdict or substituting your own taste.
- **Actionable** — leaves the designer with something they can actually do next.

A reliable structure is: **describe what you see → relate it to the design criteria → suggest a next step.**

Comment as made	What is missing	A constructive version
"I don't really like the orange. It looks cheap."	Specific, descriptive, actionable — it is a personal verdict.	"The amber band sits at the base, below the eye line when the caddy is on a high shelf. The criteria ask members to identify their caddy quickly — could you test the band wrapped around the spine instead?"
"It's good."	Specific, descriptive, actionable.	"The stepped trays make the tool sizes readable at a glance, which meets the criterion about first-time users."

Comment as made	What is missing	A constructive version
"You should just make it round."	Descriptive — it redesigns the work instead of describing an issue.	"The square corners collect swarf, which may work against the workshop context. Have you explored a radius on the internal corners?"

Responding to feedback. Receiving feedback is an examinable skill in its own right. The move is:

1. **Listen** without defending. Explaining why a critic is wrong ends the discussion and wastes it.
2. **Clarify** — ask a question if a comment is vague ("which part of the lip is catching?").
3. **Record** it, in the folio, at the point it applies: *comment → the criterion it affects → the action you will take.* Undocumented feedback cannot be assessed and is usually forgotten.
4. **Weigh** each comment against the brief and its design criteria. Feedback is evidence, not instruction; a comment that pulls against a stated criterion is legitimately set aside — but say so, and say why.
5. **Act** — rework the idea and, in an iterative process, bring the revised concept back.

In Unit 4 this recorded feedback becomes the raw material for **convergent thinking strategies** such as PMI and SWOT, which are used to select and refine the concept (see 12A).

> **Watch-out — respond, do not defend.** Marks are for how you use feedback, not for how well you argue against it. Record it, weigh it against the criteria, and show the action taken.
>
> **Watch-out — the Develop phase runs twice.** A folio that develops ideas for only one of the two communication needs in the brief has not met the outcome, however good those ideas are.
>
> **Watch-out — a critique is not a pitch.** At a critique you present work-in-progress and the reasoning behind it to peers, in order to change it. A **pitch** presents and justifies refined concepts to a client, in order to have them accepted. Do not confuse the two.

Worked examples

Example 1 — scaffolded

Using the design criteria for CRUCIBLE communication need 1, generate three diverse design ideas and explain how each responds to the criteria. (6 marks)

Working	Comment
Read the criteria first. Purpose: identify and attract. Context: a brick facade, read from a moving car, lit at night. Audience: makers 15–30. Constraints: one-colour cut vinyl, legible at 20 m, under $1,200.	The criteria are the *generator*. Starting from "what looks good" produces ideas you cannot justify.
Idea 1 — modular grid monogram. A "C" cut from a 3 × 3 grid of squares.	The grid derives from the workshop's own modular bench system, so it speaks to a maker audience; flat squares reproduce perfectly in **one-colour cut vinyl** and hold their **shape** at 20 m.
Idea 2 — pictorial vessel with sparks. A crucible silhouette with three amber sparks rising.	A different *direction*, not a variation — pictorial rather than typographic. The bold silhouette gives strong **figure–ground** against the brick, meeting the legibility criterion.
Idea 3 — stacked typographic lockup. "CRUCI / BLE" stacked, split by a heavy rule.	A third direction again: type-led. Large **scale** and heavy weight read from a car; a stacked lockup fits the tall bay of the facade (**context**).
Check the set for diversity. Grid-modular / pictorial / typographic — the three cannot be described in one sentence.	This is the check assessors apply. Three drawings you could describe identically count as **one** idea. *(6 marks: three genuinely distinct ideas, each tied to a stated criterion.)*

Example 2 — scaffolded

A classmate presents ANVIL Concept B at a design critique. Deliver constructive feedback on this concept. (4 marks)

Working	Comment
Describe what you see, specifically. "The slotted lip runs the full length of the trough at an even spacing, and the timber grip sits above a low steel spine."	**Specific** and **descriptive**: name the part and what it does. "The top bit looks weird" fails both.
Relate it to the design criteria. "The criteria say the caddies must nest for shelf storage. The grip is the highest point of the concept and it stands clear above the lip, so I think the grip of the lower caddy would foul inside the trough of the one stacked on it before the walls nest."	Tie the observation to a criterion in the brief. This is what raises feedback above opinion.
Suggest a next step. "Could you test a hand-hole cut through the spine so that nothing stands above the lip line, or a grip that folds down flat for storage?"	**Actionable** — it leaves the designer with something to do, without redesigning it for them.
Keep it about the work. "The repeated slots give a strong **pattern** and a clear place for every tool — that part is working."	**Respectful**: address the design, acknowledge what succeeds, and offer the problem as a question. *(4 marks: specific + descriptive + tied to a criterion + actionable.)*

Example 3 — unscaffolded

Select one idea from your CRUCIBLE tool-caddy ideation and develop it into two distinct concepts, annotating the design elements and principles applied in each. (6 marks)

The idea selected is **ANVIL** — a caddy folded from a single steel sheet around a central carrying spine. Both concepts hold that idea constant; what varies is the application of the design elements and principles.

Concept A — stepped trays. Trays of three decreasing depths step down each side of the spine. This uses **proportion** to rank tools by size and builds a **hierarchy** of storage, so a first-time user can see where a tool belongs. An amber **colour** band across the base gives tonal **contrast** against grey steel, letting a member identify their caddy on a crowded shelf. A limitation is that the stepped walls reduce the depth available for long tools.

Concept B — deep trough. The same folded sheet becomes one deep volume with a slotted lip: the repeated **line** of the slots forms a **pattern** that holds screwdrivers and chisels upright. A timber grip introduces a **texture** contrast against the folded steel, warming the object for a mixed-experience membership. A limitation is that a single trough offers no ordering of tool sizes.

The pair is genuinely distinct because the volume is divided differently and different elements and principles carry the design, while the folded sheet and central spine — the idea itself — remain in both *(6 marks: one idea named and held constant; two substantively different concepts; annotations naming elements and principles with reasoning and evaluation).*

Example 4 — unscaffolded

Explain how you would present your ideas at a design critique and how you would respond to the feedback you receive. (6 marks)

At a design critique I would present **work-in-progress** to the group rather than finished work, because the purpose of the critique is to change the design while it is still cheap to change. I would begin by restating the **design problem** and the **design criteria** from the brief, so that critics have the standard against which to judge the work. I would then show the ideas and the two concepts and describe the **rationale** behind each decision — which design elements and principles I applied, why, and how each relates to the **communication need** — rather than promoting the work.

In responding, I would listen without defending, and ask **clarifying** questions where a comment is vague. I would **record** each comment in my folio as *comment → the criterion it affects → the action I will take*, so that the feedback is documented at the point it applies. I would then **weigh** each comment against the brief: feedback is evidence, not instruction, so a suggestion that works against a stated criterion may be set aside, with my reasoning noted. Finally I

would **act** — rework the affected concept and return it to the group in the next iteration. The recorded feedback is then applied in Unit 4 using convergent thinking strategies to select and refine the concept *(6 marks: presents work-in-progress with problem, criteria and rationale; listens, clarifies, records, weighs against criteria, acts).*

Practice questions

Scaffolded

Q1. Using the Develop-phase diagram: (a) Name the mode of thinking a designer uses when generating design ideas in this phase. *(1 mark)* (b) State how many times the Develop phase is undertaken in Unit 3 Outcome 3. *(1 mark)* (c) Name two methods used to document potential design concepts. *(2 marks)*

Q2. Using the CRUCIBLE ideation set: (a) State which row shows a set of diverse design ideas. *(1 mark)* (b) Explain why the other row would not satisfy a requirement to generate three diverse ideas. *(2 marks)* (c) Name the design direction taken by each of the three diverse ideas. *(3 marks)*

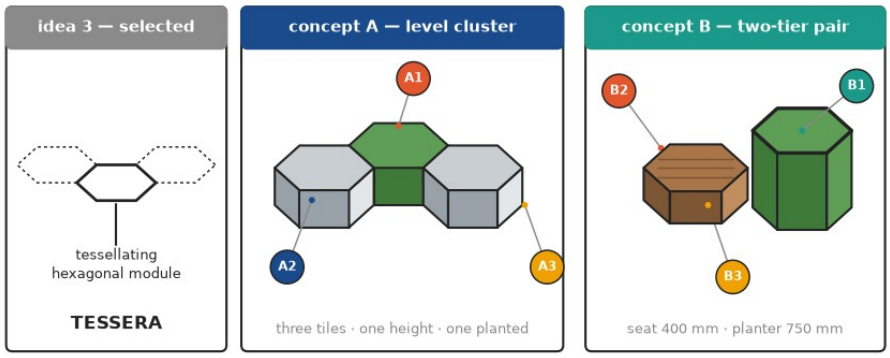
Q3. Using the ANVIL concepts: (a) State the single design idea that both concepts develop. *(1 mark)* (b) Identify one design element and one design principle applied differently across the two concepts. *(2 marks)* (c) Explain why changing only the colour of Concept A would not produce a second concept. *(2 marks)*

Q4. A student annotates a concept: "The eye groups the three trays because they sit close together." (a) Name the vocabulary this annotation actually uses. *(1 mark)* (b) Explain why it would earn no marks in a question asking for the design elements and principles applied. *(2 marks)* (c) Rewrite it so that it names a design element or principle, explains the decision and evaluates it. *(3 marks)*

Q5. The design critique: (a) Define a design critique. *(2 marks)* (b) List three things the student-designer presents for review. *(3 marks)* (c) State the four qualities of constructive feedback. *(4 marks)*

Q6. At a critique a student-critic says: "I don't really like the orange. It looks cheap." (a) Identify two qualities of constructive feedback that this comment lacks. *(2 marks)* (b) Explain why a comment of this kind is of little use to the designer. *(2 marks)* (c) Rewrite the comment so that it is specific, descriptive and actionable. *(3 marks)*

Unscaffolded



TESSERA — a modular seat-and-planter tile for a secondary-school courtyard, presented at a design critique. Annotation text A1–A3 and B1–B3 is listed below.

Questions 7–11 and 14 refer to the TESSERA courtyard tile above, unless otherwise stated. TESSERA is a modular seat-and-planter tile designed for a secondary-school courtyard. The design criteria require the tile to: seat students in groups of three or more; hold a planting bed; be rearranged by staff without machinery; withstand weather and heavy use. The student presented the concepts at a design critique with these annotations:

- **A1** — "The hexagonal **form** repeats across the cluster; the **pattern** of shared edges lets staff group the tiles into a circle for discussion or split them for quiet reading."
- **A2** — "Seat for the courtyard."
- **A3** — "Grey."

- **B1** — "The planter is 750 mm high and the seat 400 mm; the **proportion** between them lets a seated student rest an arm on the planter rim, and the tonal **contrast** between timber and planting marks the edge. A limitation is that the tall planter blocks sightlines across the courtyard."
- **B2** — "The eye reads the seat and the planter as one unit because they sit close together (**proximity**)."
- **B3** — "Meets the criterion that the tile must withstand weather and heavy use."

Q7. Discuss whether the student has developed one idea into two distinct concepts. *(4 marks)*

Q8. Identify **two** of the annotations that would not earn marks in a question asking students to annotate the design elements and principles applied, and explain the fault in each. *(4 marks)*

Q9. Annotation **B3** restates a design criterion. Rewrite it as an annotation that explains the design decision made in order to satisfy that criterion, naming the design element or principle applied. *(3 marks)*

Q10. As a student-critic at the critique, deliver constructive feedback on TESSERA Concept A. Your feedback must be specific, respectful, descriptive and actionable. *(4 marks)*

Q11. At the critique one classmate advises the designer to raise the planter so it screens the bins, while another advises lowering it so students can see across the courtyard. Explain how the designer should decide what to act on. *(4 marks)*

Q12. The CRUCIBLE brief defines two communication needs. Explain what the designer must do in the Develop phase to address both, and describe one risk of treating the two needs as a single design task. *(4 marks)*

Q13. Explain how a designer seeks and analyses inspiration during the Develop phase, and state one legal and one ethical obligation that applies when doing so. *(4 marks)*

Q14. Describe how low-fidelity prototyping could be used in the Develop phase of the TESSERA project. *(3 marks)*

Q15. The CRUCIBLE brief states that the caddy must be formed from a single folded steel sheet. Explain how a constraint of this kind can assist, rather than limit, the generation of design ideas. *(3 marks)*

Q16. Distinguish between **delivering** constructive feedback and **responding** to feedback at a design critique. *(4 marks)*

Q17. Explain how the feedback recorded at a Develop-phase critique is used in Unit 4. *(3 marks)*

Q18. As a student-critic at the CRUCIBLE critique, evaluate the stacked typographic lockup idea against the design criteria for communication need 1, and give a judgement on whether it should be developed further. *(6 marks)*

Q19. Explain why designers take ideas-in-progress, rather than finished work, to a design critique. *(3 marks)*

Q20. Using the design criteria for CRUCIBLE communication need 2, generate **three** diverse design ideas for the tool caddy as development drawings. Annotate each drawing with the design element or principle applied and the design criterion it answers. *(6 marks)*

Q21. Select the **pictorial vessel** idea from the CRUCIBLE ideation set for communication need 1 and develop it into **two distinct concepts**. Annotate the design elements and principles applied in each, and state what is held constant across the pair. *(6 marks)*

Answers

Q1. (a) Divergent thinking. (b) Twice — once for each communication need. (c) Ideation sketching; prototyping. **Q2.** (a) The lower row. (b) They are variations of one idea. (c) Modular grid monogram; pictorial vessel and sparks; stacked typographic lockup. **Q3.** (a) A caddy folded from a single steel sheet around a central carrying spine. (b) e.g. element = form — divided into three stepped trays in A, kept as one deep trough in B; principle = contrast — tonal (amber against grey steel) in A, textural (timber against steel) in B. (c) See solutions. **Q4.** (a) Gestalt (proximity). (b) Gestalt is a separate vocabulary from the design elements and principles. (c) See solutions. **Q5.** (a) Critical group discussion of work-in-progress with peers and teachers. (b) The design problem; the design criteria; the ideas/concepts and the rationale for decisions. (c) Specific, respectful, descriptive, actionable. **Q6.** (a) Specific and actionable (also descriptive). (b) It gives the designer nothing to act on. (c) See solutions. **Q7.** Yes — one hexagonal module idea, two substantively different concepts (level cluster vs two-tier pair). See solutions. **Q8.** Any two of A2 (restates the brief), A3 (description only), B2 (Gestalt vocabulary), B3 (restates a criterion). **Q9–Q19.** See fully-worked solutions. **Q20.** Three drawn ideas in genuinely different structural directions — e.g. a spine tray, a folded open-ended tube, a zig-zag slotted rack — each annotated to one element or principle and to one criterion. See solutions. **Q21.** Idea held constant = the crucible vessel with three rising sparks. Concept A = a contained one-colour badge (cropping, figure–ground); Concept B = an open, upright ascent of diminishing sparks (scale, hierarchy). See solutions.

Fully-worked solutions

Q1. (a) **Divergent thinking** — the designer seeks quantity and variety and suspends judgement. (b) **Twice** — the Develop phase is undertaken once for each of the two communication needs defined in the brief. (c) **Ideation sketching** and **prototyping** (accept low-fidelity prototypes/mock-ups).

Q2. (a) The **lower** row. (b) The upper row shows the same idea — a ring enclosing a triangular flame — drawn three times with only the ring weight and fill changed. A change of weight, colour or fill is a **variation**, not a different design direction, so the set represents **one** idea and would not satisfy a requirement for three diverse ideas *(2 marks: identifies that they are variations + explains why that does not count as diversity).* (c) A **modular grid monogram** (type built from a square module grid); a **pictorial** mark (a crucible vessel with rising sparks); a **stacked typographic lockup**.

Q3. (a) A caddy **folded from a single steel sheet around a central carrying spine**. (b) The question asks for **one** element and **one** principle that appear in *both* concepts but are applied differently, so name a single term each time. Element — **form**: in Concept A the folded volume is divided into three stepped trays of decreasing depth, while in Concept B the same volume is kept whole as one deep trough. Principle — **contrast**: Concept A builds it tonally, an amber band against grey steel, while Concept B builds it texturally, a timber grip against folded steel *(2 marks: one element and one principle named, each shown working in both concepts).* (c) A colour change alters the surface only: the volume, the division of space and the application of the design elements and principles would be identical, so the two drawings would still be **one concept**. Developing a second concept requires a substantive design decision — a different way of dividing or organising the form — which is why assessors treat colour swaps and repositioned components as insufficient development *(2 marks).*

Q4. (a) It uses **Gestalt** vocabulary — the principle of **proximity**. (b) Gestalt principles describe how the mind organises what it sees; they are a **separate vocabulary** from the **design elements** (point, line, shape, form, tone, texture, colour, type) and the **design principles** (figure–ground, balance, contrast, cropping, hierarchy, scale, proportion, pattern). A question asking for elements and principles is not answered by naming a Gestalt principle, however accurate the observation *(2 marks).* (c) *(Model)* "Three trays of decreasing width create a **proportion** sequence that ranks tools by size, giving a clear **hierarchy** of storage so a first-time user can see where a tool belongs. This works well for shared use, though the narrowest tray limits how many long tools can be carried." *(3 marks: element/principle named + decision and its effect explained + evaluated.)*

Q5. (a) A **design critique** is a key component of design studio culture and professional practice in which **work-in-progress** is presented in a **group setting** for critical discussion, so that the designer both **gives and receives feedback** alongside peers and teachers *(2 marks).* (b) Any three of: the **design problem**; the **design criteria**; the **design ideas and concepts** in progress; the **rationale** behind the decisions made; how the work relates to the **communication need**. (c) **Specific**, **respectful**, **descriptive** and **actionable** *(4 marks: 1 mark for each quality named).*

Q6. (a) It is not **specific** (it names no part of the design) and not **actionable** (it leaves the designer with nothing to do); it is also not **descriptive** — it is a personal verdict. (b) The comment reports the critic's taste rather than an observation of the work, so all the designer learns is that one viewer dislikes something. Because no part of the design is named and no effect on the audience or user is described, the designer cannot tell which decision is at fault — the hue chosen, the area it covers or where the band sits — and is left with no next step to test. Nothing in the design can therefore be changed on the strength of it, which is the whole purpose of a critique *(2 marks: what the comment fails to supply + the consequence for the designer's next decision).* (c) *(Model)* "The amber band sits at the base of the caddy, below the eye line when it is stored on a high shelf. The criteria ask members to identify their own caddy quickly, so the band may not be doing that job from above. Could you test the band wrapped around the top of the spine and compare the two on the shelf?" *(3 marks: names the specific part and describes its effect + relates it to a design criterion + offers an action the designer can take.)*

Q7. The student **has** developed one idea into two concepts. The single idea held constant across both is the **tessellating hexagonal module** — the same hexagonal tile, sized to interlock along shared edges. Concept A applies that idea as a **level cluster** of three tiles at one height, with one tile planted; Concept B applies it as a **two-tier pair**, a low 400 mm timber-topped seat beside a 750 mm planter. The difference is **substantive**, not cosmetic: the number of tiles, the heights, the arrangement and the surface materials all change, which changes how a group uses the tiles. Had the student only changed the tile colour or moved a tile, the pair would have failed the requirement — but as drawn, the concepts are genuinely distinct developments of a single idea *(4 marks: the shared idea named + the substantive difference identified + a judgement + reference to the distinctness requirement).*

Q8. *(Any two, each explained.)* **A2** — "Seat for the courtyard" simply **restates the brief**; it names no design element or principle and explains no decision. **A3** — "Grey" **describes what is visible** rather than annotating a decision; it does not say why grey was chosen or what it achieves. **B2** — this uses **Gestalt** vocabulary (proximity), which is a different vocabulary from the design elements and principles the question asks for. **B3** — this **repeats a design criterion** instead of explaining a design decision; assessors note that restating criteria does not address the question *(4 marks: two identified + the fault correctly named in each).*

Q9. The fault in B3 is that it states *what the brief requires* rather than *what the designer did*. A correct annotation names the decision that answers the criterion. *(Model.)* "The seat tile is chamfered to a continuous rounded edge and finished in a mid **tone** that hides scuffing, so the **form** has no sharp arris to chip when the tiles are dragged into a new arrangement or knocked by a ball. The chamfer also sheds rain rather than pooling it on the seat, which suits an exposed courtyard — although the rounded edge slightly reduces the flat seating width." *(3 marks: an element or principle named + the design decision explained rather than the criterion restated + its effect, with an evaluation.)*

Q10. *(Model.)* "The three tiles all sit at one height and share full edges, so the cluster reads as a single continuous bench — that supports the criterion about seating groups of three or more. The planted tile sits in the middle of the run, though; the criteria say staff must be able to rearrange the tiles without machinery, and a planted tile filled with soil is likely to be the heaviest unit and the hardest one to move. Could you test placing the planter at the end of the run, or splitting the planting bed across two shallower tiles, and note the weight of each?" *(4 marks: **specific** — names the part; **descriptive** — describes what it does rather than judging it; relates it to a stated **design criterion**; **actionable** — proposes a next step; **respectful** — acknowledges what works and offers the issue as a question.)*

Q11. The designer should treat both comments as **evidence, not instruction**, and resolve them against the **brief and its design criteria** rather than by counting votes or by deferring to whoever spoke last. At the critique they should first **clarify** what each critic is protecting — screening the bins, and supervision across the courtyard — and **record** both in the folio as *comment → criterion affected → action*. They should then **weigh** each against the four stated criteria. Raising the planter adds height, mass and soil volume, which works directly against the criterion that staff must rearrange the tiles **without machinery**; lowering it does not conflict with any criterion and addresses the sightline limitation the designer had already identified in their own annotation B1. On that reasoning the designer should **act** on the second comment and record why the first was set aside. Note also that "screen the bins" is not a criterion at all but a **new requirement**: if the client agrees it matters, it belongs back in the brief, which is a legitimate iteration to the Define phase rather than a change made at the critique *(4 marks: weighed against the criteria rather than counted; clarify and record; a decision made with explicit reasoning; recognises that feedback implying a new requirement returns to the brief).*

Q12. The designer must undertake the **Develop phase twice** — running a separate cycle of seeking and analysing inspiration, brainstorming, generating a diverse set of ideas, annotating them and taking them to critique for **each** of

the two communication needs. Each cycle is driven by the design criteria written for *that* need, and each ends with one idea developed into two concepts. The risk of treating the two needs as a single task is that the two outcomes stop being **distinct in purpose and presentation format**: ideas generated for the identity would simply be applied to the caddy, so the second need would receive no genuine ideation, no diverse set and no critique of its own, and the outcome would not be met *(4 marks: the phase is run twice, criteria-driven, each producing ideas → concepts → critique + a risk tied to the distinctness of the two needs).*

Q13. Seeking inspiration means gathering references widely — designers' work, other fields, historical and cultural sources, materials and the site itself — usually collected as a mood or inspiration board. **Analysing** inspiration is the second and more important half: the designer interrogates *why* a reference works, naming the **design elements** and **principles** at work in it and the **aesthetic** they build, and identifies which part of that reasoning transfers to their own communication need. Only analysed inspiration becomes a design decision; unanalysed inspiration is decoration or, at worst, copying. **Legal obligation:** copyright subsists **automatically** in an original work from the moment it is created, so the designer must not reproduce or adapt another designer's work without permission. **Ethical obligation:** the designer must **acknowledge all sources of inspiration** at the point they are used — creator, title, exact URL and date retrieved — and, where Aboriginal and Torres Strait Islander knowledge or imagery is involved, follow cultural protocols such as the Australian Indigenous Design Charter *(4 marks: seek + analyse distinguished with the reason + one legal and one ethical obligation, kept distinct).*

Q14. A **low-fidelity prototype** is a rough, quickly made stand-in used to **test** a concept rather than to present it. For TESSERA the designer could cut hexagonal tiles from stiff card or foam board at a reduced scale and arrange them on a plan of the courtyard to test how many configurations the module allows and whether three tiles genuinely seat a group. A full-size mock-up of the seat in scrap timber would test the 400 mm seat height against real students and whether an arm rests comfortably on the 750 mm planter rim. The value is that the concept is tested and can be taken to critique while it is still cheap to change *(3 marks: what a low-fidelity prototype is + a specific application to TESSERA + its testing purpose).*

Q15. A constraint **narrows the design space**, which makes divergent thinking more productive rather than less. "Formed from a single folded steel sheet" removes whole categories of answer — welded assemblies, moulded plastics, multi-part joinery — so the designer stops searching an unbounded field and starts asking a sharper question: *what can one folded sheet become?* That question is itself generative, prompting ideas about folds, tabs, slots, spines and nesting that would not have surfaced otherwise. The constraint also guarantees that every idea generated is **viable** against the brief, so no time is spent developing ideas that must later be discarded *(3 marks: constraint narrows and sharpens the search + generates specific lines of enquiry + keeps ideas viable against the brief).*

Q16. Delivering feedback is the **critic's** role. The critic observes the work-in-progress and responds with feedback that is **specific, respectful, descriptive and actionable** — describing what they see, relating it to the **design criteria**, and suggesting a next step, without redesigning the work or substituting personal taste. **Responding** to feedback is the **designer's** role. The designer listens without defending, asks **clarifying** questions, **records** each comment against the criterion it affects and the action it prompts, **weighs** it against the brief (feedback is evidence, not instruction) and then **acts** by reworking the concept. Both are collaborative skills exercised in the same group setting, and both are assessed — but delivering feedback is judged on the *quality of the observation*, while responding is judged on the *use made of it (4 marks: a congruent two-sided treatment — the role, the move and the standard for each — plus what they share).*

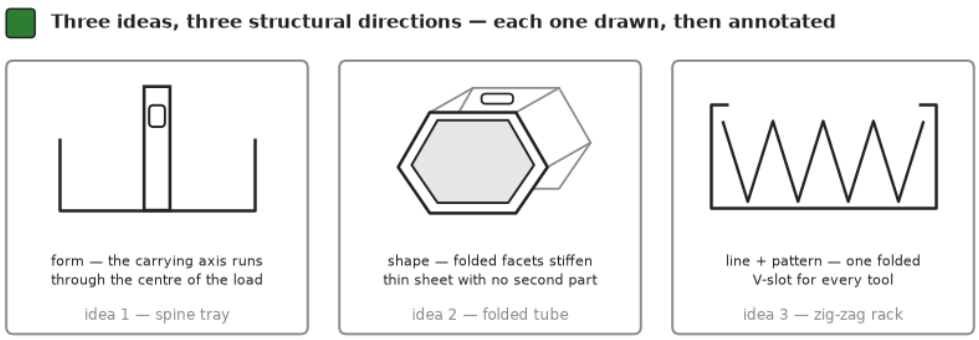
Q17. The feedback recorded at the Develop-phase critique is carried into **Unit 4**, where it becomes the evidence used in the **Deliver** phase. The designer applies **convergent thinking strategies** such as PMI or SWOT to that recorded feedback together with the design criteria, in order to **select** which concept has the greatest potential, then **refine, test and evaluate** it into a resolved design solution. Because the strategy is applied point-by-point against the **design criteria**, feedback that is specific and recorded against a criterion is far more usable at this stage than a general impression *(3 marks: carried into Unit 4/Deliver + used with convergent thinking strategies to select and refine + tied to the design criteria).*

Q18. The stacked typographic lockup responds well to several criteria. Its **strength** is legibility: the heavy weight and large **scale** of the type, split by a rule, create strong **figure–ground** against a brick facade, so it is readable at 20 m and from a moving car as the **context** requires. Being type-only and flat, it reproduces exactly in **one-colour cut vinyl** and would sit comfortably within the $1,200 constraint — the cheapest of the three ideas to produce. Its **limitation** is that it does least to identify *what* CRUCIBLE is: with no pictorial or modular cue, it does not signal a makerspace to the 15 –30 maker audience, so it serves the "identify" purpose better than the "attract new members" purpose. A second

limitation is that splitting the word across two lines risks it being misread at speed. **On balance**, the idea should be **developed further**, because it is the strongest performer against the hardest constraints (one-colour reproduction and 20 m legibility) and the audience cue can be added during development — for example by pairing the lockup with a workshop-derived rule or module. If it were selected, the misreading risk should be tested first at full size on the facade *(6 marks: strengths and limitations both tied to named criteria + a clear judgement + reasoning for the judgement).*

Q19. A critique exists to **change** the design, and a design can only be changed cheaply while it is still unresolved. Ideas-in-progress invite genuine critical discussion, because the designer has not yet committed time, materials or emotional investment to one answer and can still redirect the work. Finished work invites praise or a verdict instead of feedback: critics read it as a decision already made, the designer is more likely to defend it than to use the comments, and any change is expensive. Presenting work-in-progress also keeps the **iterative** character of the Develop phase, where the designer returns to inspiration and ideation after each critique *(3 marks: the purpose of the critique is change + change is cheap while unresolved + finished work produces verdicts and defensiveness rather than usable feedback).*

Q20. *(Model.)* The generator is the design criteria written for communication need 2: the caddy must be **formed from a single folded steel sheet** on the space's own brake press, must **nest for storage**, must weigh **under 3 kg empty**, must **organise and carry hand tools between benches**, and will be **knocked, stacked and stored on open shelving** by **members of mixed experience**. Each idea is *drawn*, and each takes a different structural direction rather than restyling the same one.

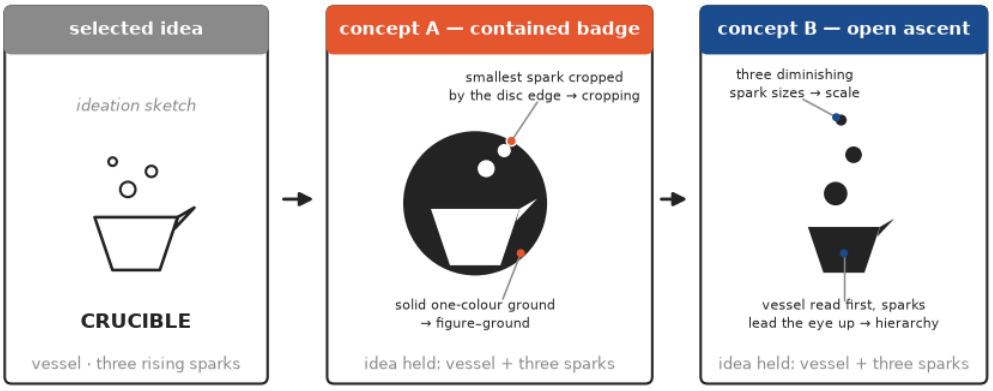


Ideas generated for CRUCIBLE communication need 2 — a bench-top tool caddy, each formed from a single folded steel sheet.

Idea 1 — spine tray. The sheet folds up on both sides of a tall central spine with a hand-hole cut through it. The **form** puts the carrying axis through the centre of the load, so a loaded caddy hangs level in one hand while the maker carries it between benches — the stated purpose. **Idea 2 — folded tube.** The same sheet is folded into an open-ended prism and carried by a hand-hole in the top face. The faceted **shape** stiffens thin sheet without adding a second part, so the caddy resists being knocked and stacked on open shelving — the stated context — and the open ends let long chisels pass right through. **Idea 3 — zig-zag rack.** One repeated fold makes a row of V-slots along the length: the repeated **line** of the folds builds a **pattern** that gives every tool its own place, so a first-time user can see at a glance what is missing — the audience criterion.

The set is diverse because the three cannot be described in one sentence: one is an open tray, one is a closed tube and one is a slotted rack, and each would be developed differently. Note that all three obey the single-folded-sheet constraint — the constraint narrows the search without narrowing the variety *(6 marks: three drawn ideas in genuinely different directions + a design element or principle named in each + each tied to a stated design criterion).*

Q21. *(Model.)* The idea selected from the ideation set is the **pictorial crucible vessel with three rising sparks**. That idea is what is **held constant** across the pair — the vessel silhouette and the three sparks appear in both concepts. What varies is how the design elements and principles are applied to it.



One idea → two distinct concepts: the vessel and its three sparks are kept; the elements and principles are applied differently.

Concept A — contained badge. The vessel is enlarged to fill a solid disc and reversed out of it, and the smallest spark is **cropped** by the disc edge so that the rising trail reads as continuing beyond the frame. The solid ground gives the strongest available **figure–ground** separation against a variegated brick facade, and because the whole mark is one flat colour it cuts cleanly in vinyl and holds its shape at 20 m. A limitation is that the badge is close to square, so it suits the tall bay of the foundry facade less well than an upright mark would.

Concept B — open ascent. The same vessel is reduced and dropped to the foot of the mark, and the three sparks are released above it at three diminishing **scales**, rising to more than twice the height of the vessel. Nothing contains them, so the mark becomes tall and open rather than broad and enclosed. The **hierarchy** is explicit: the solid vessel is read first as the largest single shape and says *what* CRUCIBLE is, then the eye is led upward by the diminishing sparks. The upright proportion suits the tall bay of the foundry facade, and with no ground behind it the mark can be cut straight onto the brick. A limitation is that without a solid ground the smallest spark is the first element lost against a variegated brick surface at 20 m.

The pair is substantively distinct: one mark is contained and broad, the other open and upright; one holds the sparks inside a ground, the other makes them the whole gesture; and different principles carry each — cropping and figure–ground against scale and hierarchy. It is not a colour swap or a repositioning of the same components *(6 marks: the single idea named and held constant + two substantively different concepts + annotations naming design elements and principles with reasoning and an evaluation in each).*