

# Design subject report

2023 cohort

February 2024



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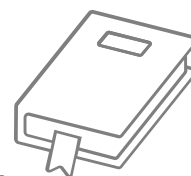
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# Introduction

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Throughout 2023, schools and the Queensland Curriculum and Assessment Authority (QCAA) continued to improve outcomes for students in the Queensland Certificate of Education (QCE) system. These efforts were consolidated by the cumulative experience in teaching, learning and assessment of the current General and General (Extension) senior syllabuses, and school engagement in QCAA endorsement and confirmation processes and external assessment marking. The current evaluation of the QCE system will further enhance understanding of the summative assessment cycle and will inform future QCAA subject reports.

The annual subject reports seek to identify strengths and opportunities for improvement of internal and external assessment processes for all Queensland schools. The 2023 subject report is the culmination of the partnership between schools and the QCAA. It addresses school-based assessment design and judgments, and student responses to external assessment for this subject. In acknowledging effective practices and areas for refinement, it offers schools timely and evidence-based guidance to further develop student learning and assessment experiences for 2024.

The report also includes information about:

- how schools have applied syllabus objectives in the design and marking of internal assessments
- how syllabus objectives have been applied in the marking of external assessments
- patterns of student achievement.

The report promotes continuous improvement by:

- identifying effective practices in the design and marking of valid, accessible and reliable assessments
- recommending where and how to enhance the design and marking of valid, accessible and reliable assessment instruments
- providing examples that demonstrate best practice.

Schools are encouraged to reflect on the effective practices identified for each assessment, consider the recommendations to strengthen assessment design and explore the authentic student work samples provided.

## Audience and use

This report should be read by school leaders, subject leaders and teachers to:

- inform teaching and learning and assessment preparation
- assist in assessment design practice
- assist in making assessment decisions
- help prepare students for internal and external assessment.

The report is publicly available to promote transparency and accountability. Students, parents, community members and other education stakeholders can use it to learn about the assessment practices and outcomes for senior subjects.

## Report preparation

The report includes analyses of data and other information from endorsement, confirmation and external assessment processes. It also includes advice from the chief confirmer, chief endorser and chief marker, developed in consultation with and support from QCAA subject matter experts.

## Subject highlights

**231**

schools offered  
Design



**80.6%**

of students  
completed  
4 units

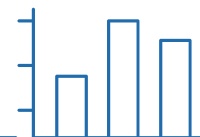


**92.09%**

of students  
received a C  
or higher



# Subject data summary



## Subject completion

The following data includes students who completed the General subject or Alternative Sequence (AS).

**Note:** All data is correct as at January 2024. Where percentages are provided, these are rounded to two decimal places and, therefore, may not add up to 100%.

Number of schools that offered Design: 231.

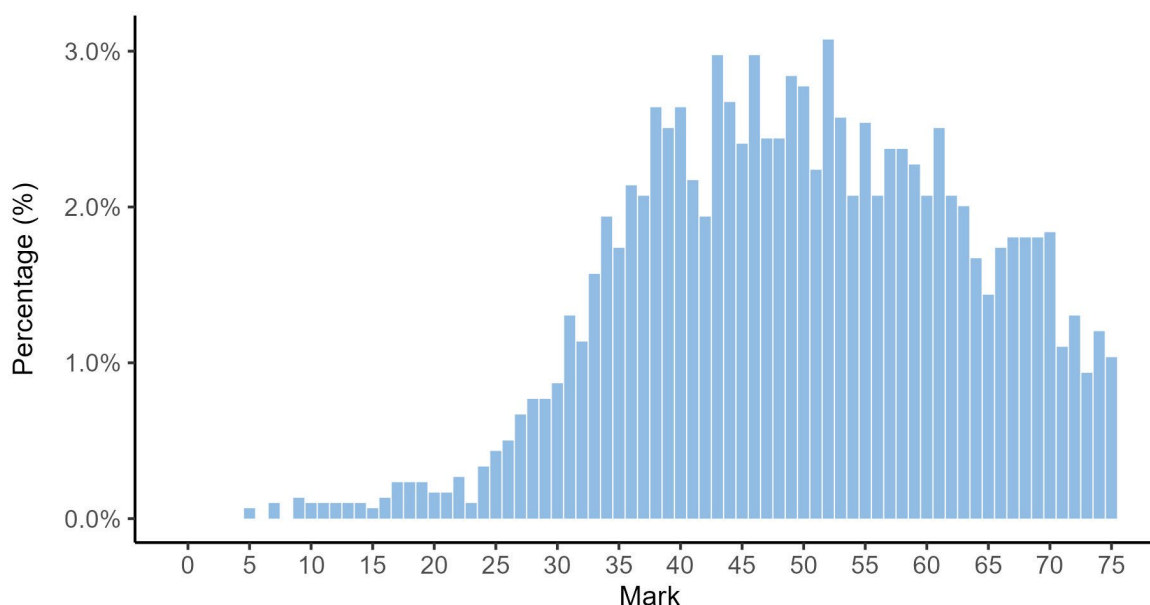
Completion of units	Unit 1	Unit 2	Units 3 and 4
Number of students completed	3,686	3,492	2,971

## Units 1 and 2 results

Number of students	Satisfactory	Unsatisfactory
Unit 1	3,265	421
Unit 2	3,159	333

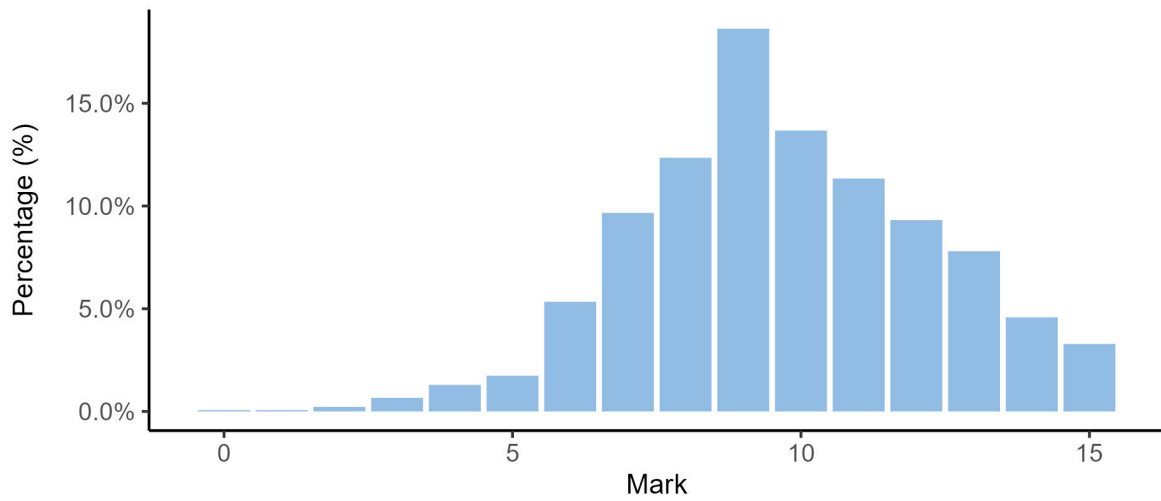
## Units 3 and 4 internal assessment (IA) results

### Total marks for IA

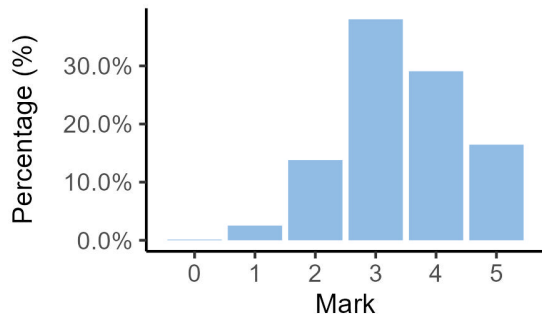


## IA1 marks

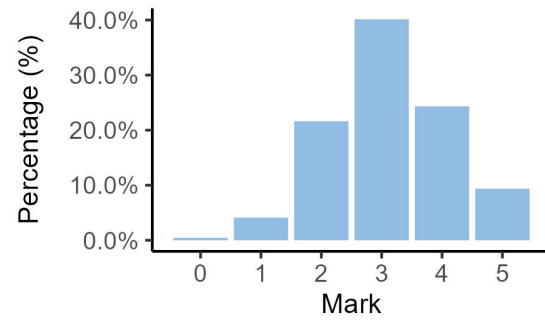
### IA1 total



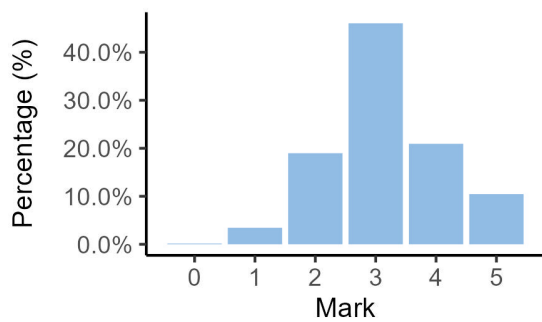
### IA1 Criterion: Devising



### IA1 Criterion: Synthesising and evaluating

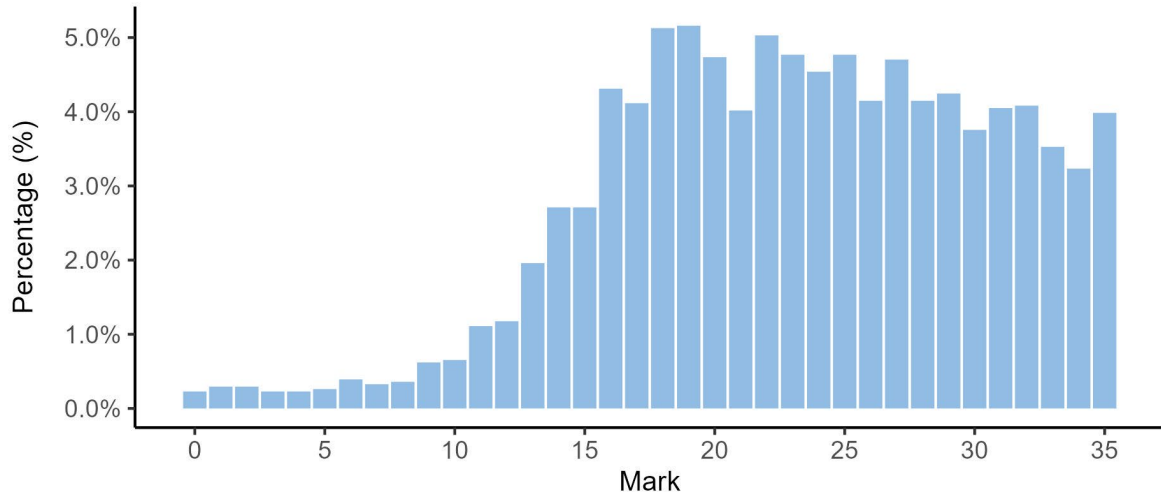


### IA1 Criterion: Representing and communicating

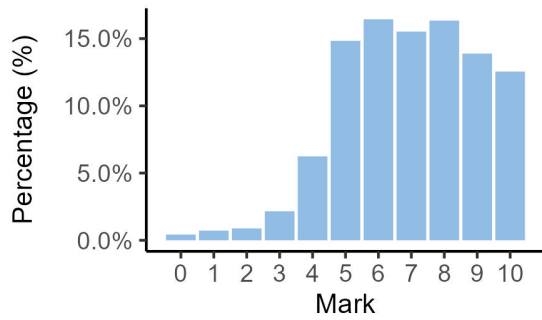


## IA2 marks

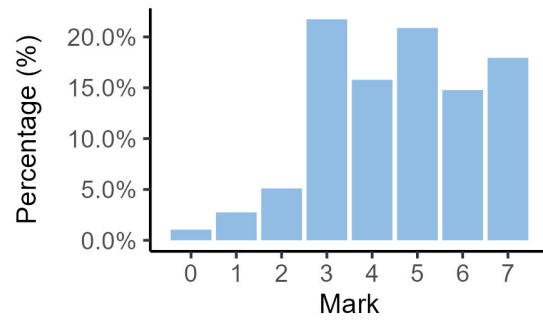
### IA2 total



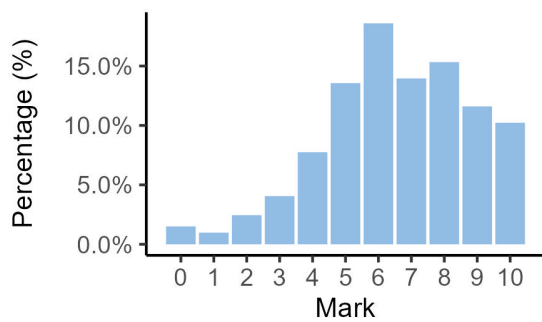
### IA2 Criterion: Exploring



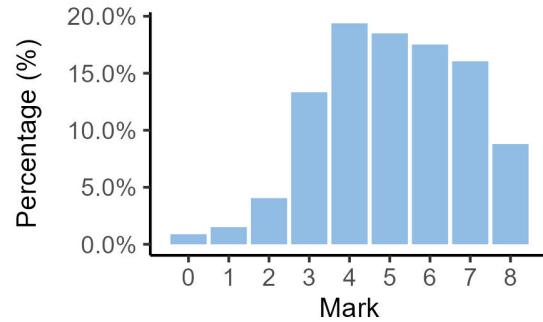
### IA2 Criterion: Devising



### IA2 Criterion: Synthesising and evaluating



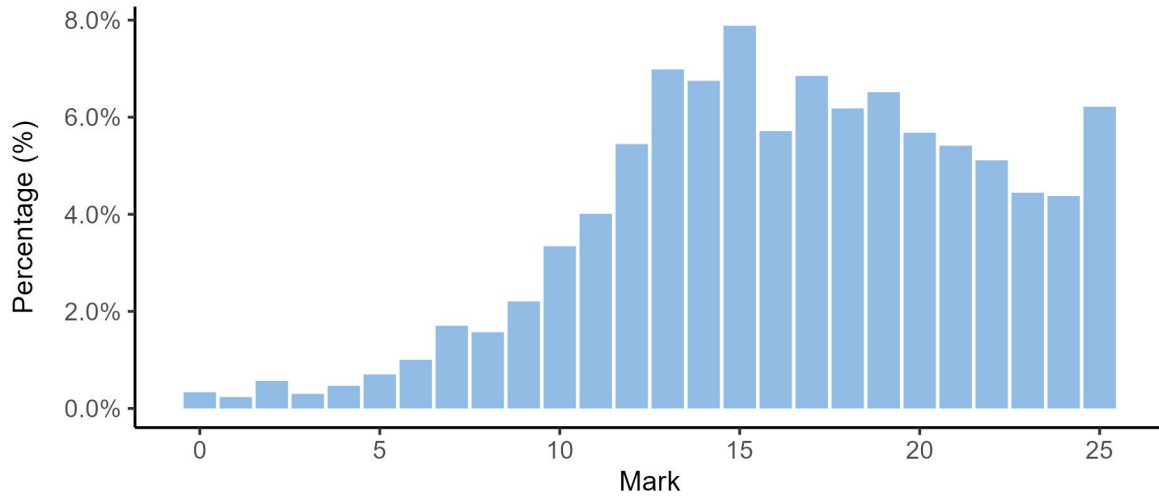
### IA2 Criterion: Representing and communicating



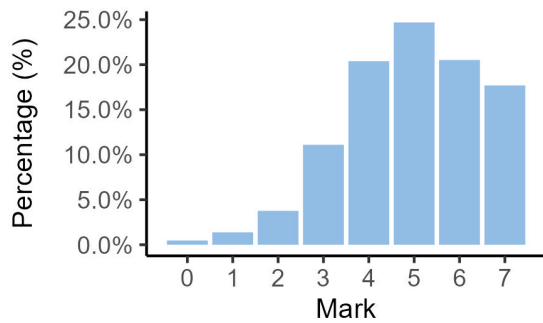


## IA3 marks

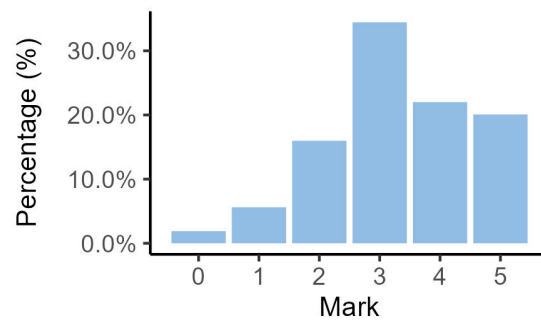
### IA3 total



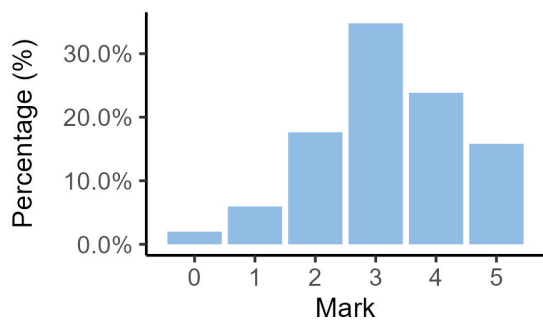
### IA3 Criterion: Exploring



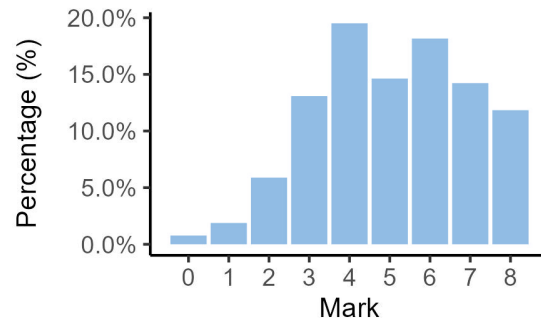
### IA3 Criterion: Devising



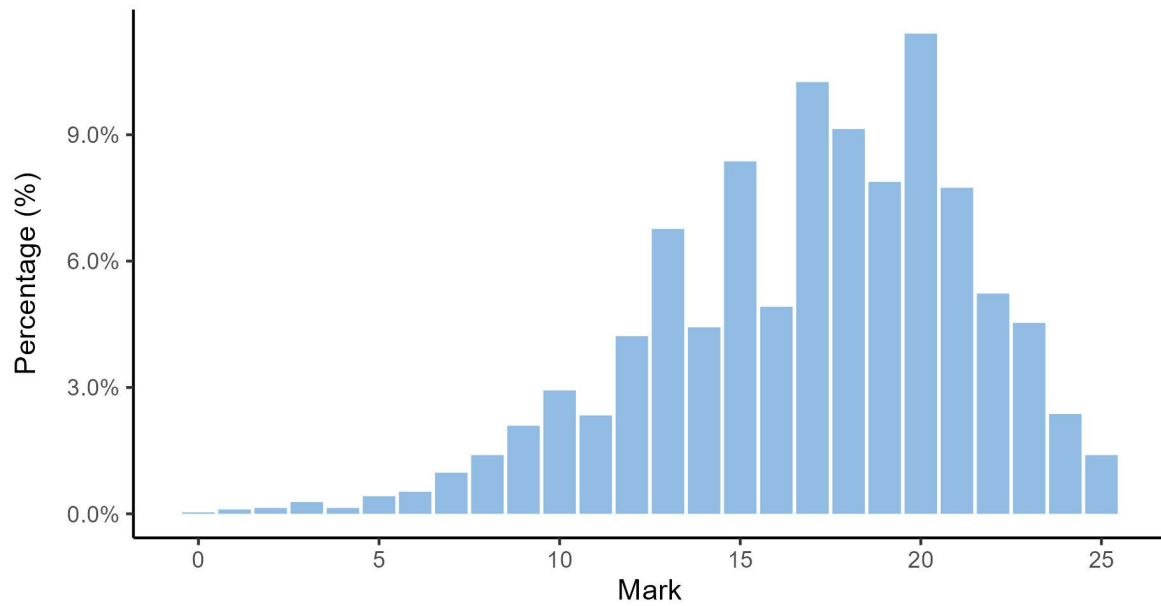
### IA3 Criterion: Synthesising and evaluating



### IA3 Criterion: Representing and communicating

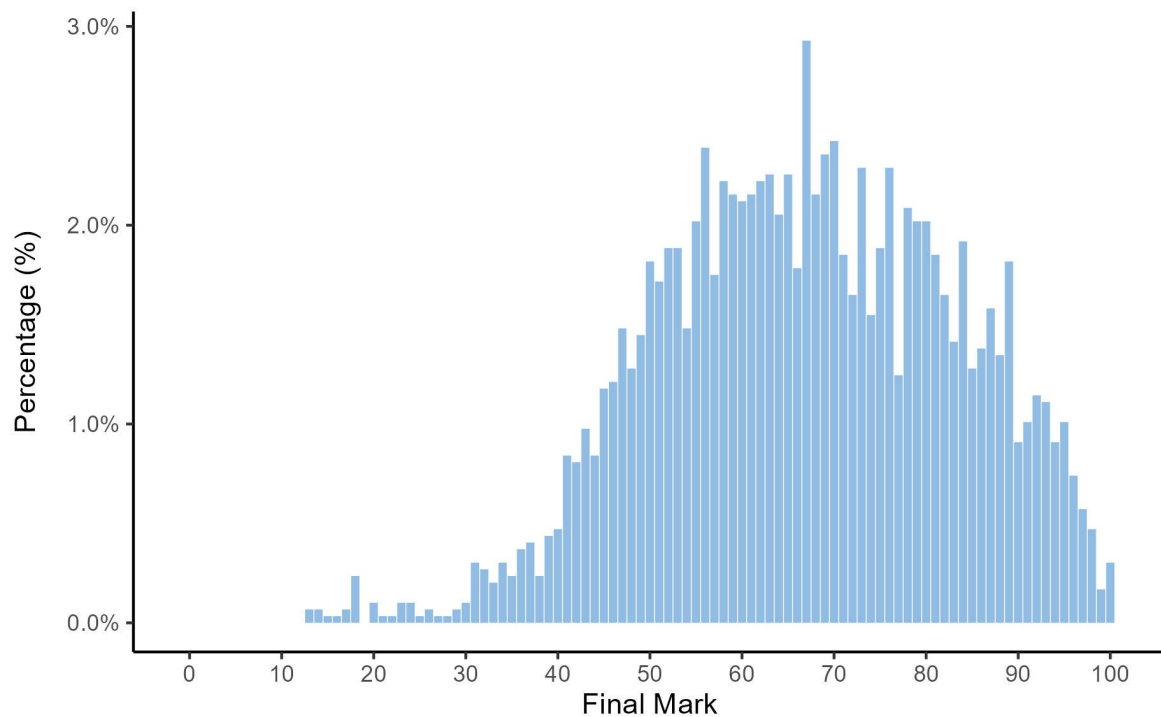


## External assessment (EA) marks



## Final subject results

### Final marks for IA and EA



## Grade boundaries

The grade boundaries are determined using a process to compare results on a numeric scale to the reporting standards.

Standard	A	B	C	D	E
Marks achieved	100–84	83–66	65–45	44–18	17–0

## Distribution of standards

The number of students who achieved each standard across the state is as follows.

Standard	A	B	C	D	E
Number of students	525	1,053	1,158	227	8

# Internal assessment



The following information and advice relate to the assessment design and assessment decisions for each IA in Units 3 and 4. These instruments have undergone quality assurance processes informed by the attributes of quality assessment (validity, accessibility and reliability).

## Endorsement

Endorsement is the quality assurance process based on the attributes of validity and accessibility. These attributes are categorised further as priorities for assessment, and each priority can be further broken down into assessment practices.

Data presented in the Assessment design section identifies the reasons why IA instruments were not endorsed at Application 1, by the priority for assessments. An IA may have been identified more than once for a priority for assessment, e.g. it may have demonstrated a misalignment to both the subject matter and the assessment objective/s.

Refer to *QCE and QCIA policy and procedures handbook v5.0*, Section 9.6.

### Percentage of instruments endorsed in Application 1

Number of instruments submitted	IA1	IA2	IA3
Total number of instruments	231	231	229
Percentage endorsed in Application 1	39%	50%	64%

## Confirmation

Confirmation is the quality assurance process based on the attribute of reliability. The QCAA uses provisional criterion marks determined by teachers to identify the samples of student responses that schools are required to submit for confirmation.

Confirmation samples are representative of the school's decisions about the quality of student work in relation to the instrument-specific marking guide (ISMG), and are used to make decisions about the cohort's results.

Refer to *QCE and QCIA policy and procedures handbook v5.0*, Section 9.7.

The following table includes the percentage agreement between the provisional marks and confirmed marks by assessment instrument. The Assessment decisions section of this report for each assessment instrument identifies the agreement trends between provisional and confirmed marks by criterion.

### Number of samples reviewed and percentage agreement

IA	Number of schools	Number of samples requested	Number of additional samples requested	Percentage agreement with provisional marks
1	229	1,492	50	73.36%
2	228	1,496	37	67.11%
3	228	1,469	0	83.33%

# Internal assessment 1 (IA1)



## Examination — design challenge (15%)

The assessment is a supervised test that assesses the application of a range of cognitions to a provided design problem.

Student responses must be completed individually, under supervised conditions, and in a set timeframe. Stimulus is seen prior to the examination.

## Assessment design

### Validity

Validity in assessment design considers the extent to which an assessment item accurately measures what it is intended to measure and that the evidence of student learning collected from an assessment can be legitimately used for the purpose specified in the syllabus.

### Reasons for non-endorsement by priority of assessment

Validity priority	Number of times priority was identified in decisions*
Alignment	56
Authentication	0
Authenticity	4
Item construction	29
Scope and scale	93

\*Each priority might contain up to four assessment practices.

Total number of submissions: 231.

### Effective practices

Validity priorities were effectively demonstrated in assessment instruments that:

- included seen stimulus information that allowed the student to explore an understanding of the stakeholder for whom they were designing 24 hours before the examination
- included the attitudes, expectations, motivations and experiences of an identifiable person in the stakeholder information
- included design criteria that allowed students to evaluate and refine their devised ideas, modelled on a similar approach to past external assessment tasks
- were developed for the Alternative Sequence (AS) and included suitable design styles information without revealing the design brief.

### Practices to strengthen

It is recommended that assessment instruments:

- include a focused design brief that allows the students to develop a design concept for the stakeholder within the one-hour time limit
- include a range of stakeholder information beyond a basic empathy map

- provide, on the seen stimulus, information about the stakeholder that does not focus on a solution to the design problem. Students should not be able to predict what they will be designing for the stakeholder from the information on the seen stimulus
- state explicitly, in the unseen design brief, what is to be designed for the stakeholder
- focus on subject matter from Unit 3, Topic 1: Designing with empathy that allows students to
  - demonstrate empathy by designing for a stakeholder from a different demographic group to their own
  - come to the examination with an understanding of who they are designing for, based on the seen stimulus
  - know exactly what they are designing for the stakeholder when they read the unseen design brief during planning time.

## Accessibility

Accessibility in assessment design ensures that no student or group of students is disadvantaged in their capacity to access an assessment.

### Reasons for non-endorsement by priority of assessment

Accessibility priority	Number of times priority was identified in decisions*
Bias avoidance	1
Language	3
Layout	2
Transparency	1

\*Each priority might contain up to four assessment practices.

Total number of submissions: 231.

### Effective practices

Accessibility priorities were effectively demonstrated in assessment instruments that:

- used the elements and principles of visual communication to ensure the layout of the stimulus was clear and legible
- featured high-resolution images in the seen stimulus that were respectful to the stakeholder being represented.

### Practices to strengthen

There were no significant issues identified for improvement.

### Additional advice

- Ensure that permission is obtained to use and share photographs of people in the seen stimulus, particularly if they feature students at the school.
- Task instructions should use the term develop rather than design. This task only requires students to use the develop phase of the design process.
- Teachers should create an expected response to the examination to ensure the task is of an appropriate scope and scale.

- A clean copy of the seen stimulus should be provided on the day of the examination. Work must be completed individually in the supervised time. The seen stimulus that was provided 24 hours in advance cannot be brought into the examination, as it may contain work such as notes or sketches generated prior to the supervised time.

## Assessment decisions

### Reliability

Reliability is a judgment about the measurements of assessment. It refers to the extent to which the results of assessments are consistent, replicable and free from error.

### Agreement trends between provisional and confirmed marks

Criterion number	Criterion name	Percentage agreement with provisional	Percentage less than provisional	Percentage greater than provisional	Percentage both less and greater than provisional
1	Devising	90.83%	8.3%	0.87%	0%
2	Synthesising and evaluating	84.72%	14.85%	0.44%	0%
3	Representing and communicating	81.22%	18.34%	0.44%	0%

### Effective practices

Accuracy and consistency of the application of the ISMG for this IA was most effective when:

- for the Devising criterion, responses demonstrated
  - ideas perceptively thought out and sketched, e.g. details in sketches demonstrated insight and understanding of the stimulus information and the stakeholder's needs and wants
  - divergent thinking, e.g. a range of ideas showed different ways of responding to the problem where ideas were not all variations of one central thought.

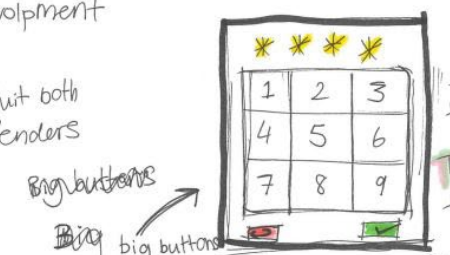
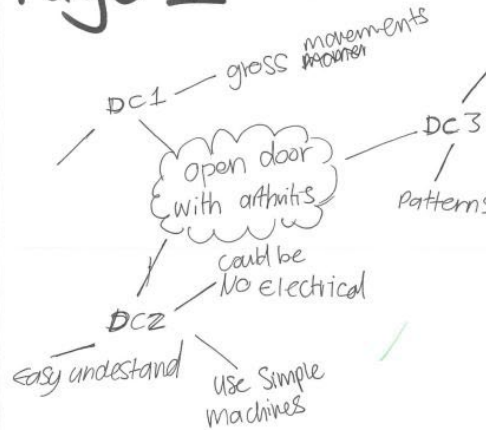
### Samples of effective practices

The following excerpt has been included to demonstrate perceptively devised ideas in response to a human-centred design (HCD) problem, which required students to develop a product to assist a person with arthritis to operate their front door. The excerpt shows the first of two pages of devising in the response. It demonstrates ideas devised with insight and understanding of the stimulus information about the stakeholder and Unit 3 designing with empathy subject matter. For instance, the key lever and necklace ideas respond to the physical needs of the stakeholder while also applying an understanding of the four-pleasure framework.

**Note:** The characteristic/s identified may not be the only time the characteristic/s has occurred throughout a response.

# Page 1

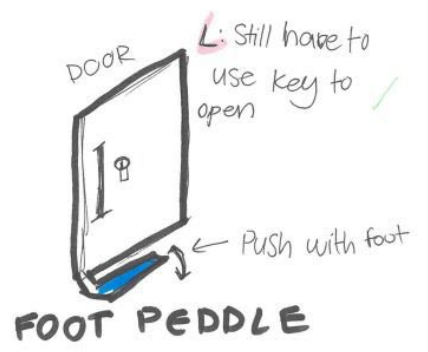
Ideations / Development



## KEY PAD LOCK

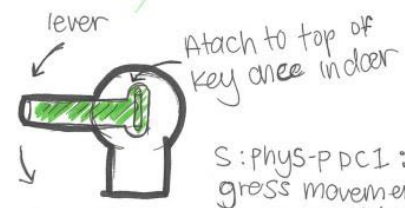
L: If old people might also suffer from other memories loss illness and could forget code

Socio-P: Uses the brain to remember the code  
 T: Use new Electrical technology  
 L-DC2: Might be to hard to figure out how to use  
 colours and symbols for easy understand  
 SCAMPER  
 A: From phone pass codes



## FOOT PEDDLE

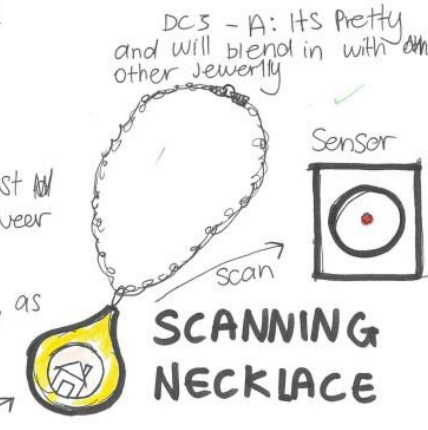
L: Still have to use key to open



## KEY LEVER

S: Phys-P DC1: uses gross movements to help old people  
 L: could be had to get key out  
 S: can easily turn key  
 S: Ideo - doesn't require any technology, so is easy

Ideo-P: Most ladies like to wear jewelry  
 S: can not be lost, as they will wear it all the time  
 house symbol to remember it's for the lock



## SCANNING NECKLACE

DC3 - A: Its pretty and will blend in with other jewelry



## Practices to strengthen

To further ensure accuracy and consistency of the application of the ISMG for this IA, it is recommended that:

- when matching evidence to characteristics for the Representing and communicating criterion at the upper performance level (4–5 marks), teachers ensure
  - responses include sequences of sketches to show
    - the initial thinking out of ideas in the devising pages
    - changes to ideas across the pages of the response
  - ideation sketches demonstrate sophisticated representation of ideas that do not require explanatory text, e.g. the use of line, colour, tone and texture to show form and the important attributes of the ideas, arrows to show movement and relationships, cut-aways and scaled enlargements to show additional detail
- when matching evidence to characteristics for the Synthesising and evaluating criterion at the upper performance level, attention is given to ensuring responses demonstrate discerning refinements that improve ideas, e.g. sketches across the pages show changes and modifications to design ideas as a direct result of judgments based on evaluation.

## Additional advice

- Teachers should encourage students to use the specified four pages for their response (Syllabus section 4.4.1), the first two pages for the divergent phase and the final two pages for the convergent phase. Evaluation should be evident across the first three pages as notes beside the representations. Additional pages completed in the supervised time of 60 minutes can be marked. If students are labelling pages, they should use the appropriate label for the parts of the develop phase described in the syllabus. The appropriate labels are Devising, Refining, and Design concept.
- The student's response should commence on page 1 of their response book with a range of devised ideas in response to the problem. Many student responses show an initial page with evidence that cannot be matched to the characteristics in the ISMG, such as a mind map of the design problem with notes of recalled subject matter. This unpacking of the design problem is best undertaken during the planning time on a planning page.

# Internal assessment 2 (IA2)



## Project (35%)

This assessment focuses on a design process that requires the application of a range of cognitive, technical and creative skills and theoretical understandings. Students document the iterative process undertaken to explore and develop a response to a stakeholder's need or want. The response is a coherent work that may include drawings, low-fidelity prototypes, written paragraphs, notes, photographs, video and spoken presentations. This assessment occurs over an extended and defined period of time. Students may use class time and their own time to develop a response.

## Assessment design

### Validity

Validity in assessment design considers the extent to which an assessment item accurately measures what it is intended to measure and that the evidence of student learning collected from an assessment can be legitimately used for the purpose specified in the syllabus.

### Reasons for non-endorsement by priority of assessment

Validity priority	Number of times priority was identified in decisions*
Alignment	81
Authentication	8
Authenticity	20
Item construction	10
Scope and scale	14

\*Each priority might contain up to four assessment practices.

Total number of submissions: 231.

### Effective practices

Validity priorities were effectively demonstrated in assessment instruments that:

- provided a clear and concise HCD context that described a group demographically different from the students, allowing demonstration of empathy (Unit 3 subject matter)
- directed students to identify a stakeholder and apply the HCD process in response to their needs and wants (Syllabus section 4.4.2)
- were developed for the Alternative Sequence (AS) and included an expectation to respond to the stakeholder's preferred design style.

### Practices to strengthen

It is recommended that assessment instruments:

- provide a context that assists students to commence the explore phase of the process. The context must support the analysis of a stakeholder's needs and wants using designing with empathy techniques and primary data

- use a HCD context as the teacher-facilitated direct stimulus rather than a guiding question
- if using a guiding question, consider questions that initiate the analysis of the stakeholder's needs and wants using designing with empathy techniques (e.g. How can you use designing with empathy techniques of interview, observation and experiences to explore the needs and wants of adults who work outdoors?)
- direct students to select a stakeholder from a demographic group that is physically accessible and appropriate for them to engage with one on one during the explore and develop phases
- include the correct and complete syllabus specifications for Parts A, B and C in the task instructions.

## Accessibility

Accessibility in assessment design ensures that no student or group of students is disadvantaged in their capacity to access an assessment.

### Reasons for non-endorsement by priority of assessment

Accessibility priority	Number of times priority was identified in decisions*
Bias avoidance	0
Language	2
Layout	0
Transparency	0

\*Each priority might contain up to four assessment practices.

Total number of submissions: 231.

### Effective practices

Accessibility priorities were effectively demonstrated in assessment instruments that:

- used inclusive language to appropriately describe a stakeholder group
- included a succinctly expressed context statement that clearly identified a stakeholder for students.

### Practices to strengthen

There were no significant issues identified for improvement.

### Additional advice

- Include specific drafting points (e.g. Part B, Part A and Part C, in that order), to clearly show that only one close-to-final draft of each part is to be submitted for feedback. It is important that the Design brief and criteria are drafted prior to students undertaking their develop phase.
- Avoid directing all students in a class to a particular organisation or individual as the stakeholder. This prevents each student being able to produce a unique response as it limits the usefulness of primary data, the range of design problems and the ability of students to demonstrate designing with empathy techniques throughout the explore and develop phases.

## Assessment decisions

### Reliability

Reliability is a judgment about the measurements of assessment. It refers to the extent to which the results of assessments are consistent, replicable and free from error.

### Agreement trends between provisional and confirmed marks

Criterion number	Criterion name	Percentage agreement with provisional	Percentage less than provisional	Percentage greater than provisional	Percentage both less and greater than provisional
1	Exploring	81.58%	9.65%	1.75%	7.02%
2	Devising	87.72%	11.84%	0.44%	0%
3	Synthesising and evaluating	82.89%	10.09%	1.75%	5.26%
4	Representing and communicating	79.82%	17.98%	2.19%	0%

### Effective practices

Accuracy and consistency of the application of the ISMG for this IA was most effective when:

- for the Devising criterion
  - responses showed credible ideas through a range of believable ideas in response to a HCD problem, e.g. if the problem required a toy to be designed for a child, all ideas were believable toys. Attempts to show flexibility of thinking by proposing ideas that were not toys (e.g. services, environments) did not demonstrate the devising of credible ideas in response to the problem
  - responses demonstrated fluency of thought in the divergent phase, e.g. at least three pages of the 12-page response showed a range of sketched ideas
  - ideas were devised, not described. Devised ideas were thought out and invented, using sketching and low-fidelity prototyping, e.g. using a series of low-fidelity prototype mock-ups for stakeholder feedback in the divergent phase.

### Samples of effective practices

The following excerpt has been included to demonstrate:

- multiple ideas or fluency of creative ideas. The excerpt shows the first of three pages of devising in the response. The size of the images allows the student to show devised ideas that incorporate unique, credible and detailed attributes. Across the three pages a total of 12 ideas were devised
- different points of view or flexibility of creative ideas. The student initially proposes to solve the problem by designing a suitable bag, which is one point of view. In the bottom-right quadrant of the page, an idea is devised from a different point of view, i.e. eliminating the need for a bag and incorporating a storage feature into the design of the bicycle.

**Note:** The characteristic/s identified may not be the only time the characteristic/s has occurred throughout a response.

Matthew needs a way to bike to work with all his belongings, whilst keeping his suit in-tact and crease free.

**1 ROLLER BAG**

⊕ VERY EASY METHOD TO IMPLEMENT

⊕ HOW BIG DOES THE BAG NEED TO BE?

HARD BACK

ROLLS INTO BAG

SWITSHIRT SHOULD BE MAIN FOCUS

⊖ MATTHEW CAN ROLL SUIT HIMSELF

⊖ WALLS CAN COMPRESS AROUND ROLLED SUIT

⊖ ROLLING SUIT MIGHT CREATE MORE CREASES

**3 BOXY BAG**

⊕ VERY EASY FORM, SHAPE IS EASY TO IMPROVE ON

BOXY BAG CAN HOLD MULTIPLE SUITS?

STRAPS WILL ALWAYS BE UNCOMFY EITHER TOO FAR APART OR TOO CLOSE!

⊖ TOO BIG? - CUMBERSOME

⊖ COULD WIPEDE THE BIKING TO WOR

COAT HANGERS ARE VERY WIDE

DOES METAL POLE GET IN THE WAY?

⊖ LENGTH!

---

**2 CARRY BAG**

⊕ THE MOST USABLE DESIGN SO FAR, EASY TO USE/IMPLEMENT & IMPROVE ON.

⊖ DOES SHOULDER STRAP GET IN THE WAY? LIKELY...

SHOULDER STRAP CAN DETATCH

LEATHER? HIGH QUALITY!

SOLID 'BUMP' IN THE MIDDLE OF BAG CREATES ONLY A SINGLE, 'CONTROLLED' CREASE.

LATCH COULD BE MAGNETIC/BUTTON UP (ETC.).

RELATIVELY SMALL FORM

**4 ROLLER**

⊕ SUIT SHIRT IS ROLLED TO REDUCE WRINKLES

⊕ INNOVATIVE, SAVES SPACE BY MOVING SUIT ONTO BIKE

⊖ SOLID METAL CYLINDER TO WRAP SUIT AROUND

⊖ CAN OPEN UP TO SLOT AROUND

WOOLY/SOFT BIKE?

⊖ CAN ROLL SUIT AROUND BIKE SUPPORTS

⊖ INSIDE KEEPS SUIT SAFE

⊖ COULD DIRTY THE SHIRT

⊖ ONLY HOLDS THE SHIRT/SUIT



## Practices to strengthen

To further ensure accuracy and consistency of the application of the ISMG for this IA, it is recommended that:

- when matching evidence to characteristics for the Exploring criterion at the upper performance level (9–10 marks), teachers ensure
  - responses demonstrate designing with empathy techniques (Syllabus section 4.3), e.g. observing a stakeholder in their house, interviewing the stakeholder, simulating the experience of the stakeholder’s circumstances
  - responses demonstrate interaction with the stakeholder, e.g. notes to confirm assumptions about the stakeholder’s aesthetic, cultural, economic, social and technical needs and wants and to clarify understandings about possible design problems
  - the description of the design problem defines what needs to be developed, e.g. at the conclusion of the exploring phase students clearly state their decision about what they were intending to design for their stakeholder
  - the description of the design criteria demonstrates good judgment to explicitly identify the essential requirements of the stakeholder, e.g. successful criteria based on the aesthetic, cultural, economic, social and technical needs and wants of the stakeholder with the five syllabus principles of good design (Syllabus section 2.4) integrated without being explicitly stated
  - AS responses analyse a stakeholder’s needs and wants with an emphasis on understanding their preferred aesthetic design style (AS Syllabus Section 2.5.2)
- when matching evidence to characteristics for the Representing and communicating criterion at the upper performance level (7–8 marks), teachers ensure
  - responses adhere to the specifications for Part C (Syllabus section 4.4.2). Students should not include a stimulated recall of their exploring and developing phases. This is a design proposal that includes a visual presentation of the final design concept and a 2–3 minute spoken evaluation for the stakeholder audience.

## Additional advice

- Teachers should support students to identify a stakeholder who is
  - willing to be involved in the project from the start to the final presentation of the design concept
  - demographically different from students, to support design decisions based on authentic stakeholder data rather than a student’s personal preference
  - accessible, to ensure primary data can be collected using observations, interviews and experiences
  - exclusive to the student. Across the cohort stakeholders may be demographically similar but each student must work with a different stakeholder.
- Teachers should indicate judgments clearly on the ISMG by highlighting the characteristics of each performance level that are evidenced in the responses (*QCE and QCIA policy and procedures handbook v5.0*, Section 9.7.1). Where a response contains no evidence of a characteristic, this should be annotated on the ISMG beside a relevant descriptor. For instance, where a student has not provided a Part C, annotations would be required beside the characteristics related to

- evaluation of the design concept (Synthesising and evaluating criterion)
- synthesis to propose a design concept (Synthesising and evaluating criterion)
- decision making about spoken features and visual elements and principles to present a design proposal for an audience (Representing and communicating criterion).

Teachers choose the performance level that best fits, overall, the evidence in the student work. The provisional mark is then determined.

For more information about making judgments using an ISMG, refer to the following resources in the QCAA Portal:

- *Module 3 – Making reliable judgments* in the Assessment Literacy application (app)
- *Making judgments and using ISMGs* support resources in the Syllabuses app.

# Internal assessment 3 (IA3)



## Project (25%)

This assessment focuses on a design process that requires the application of a range of cognitive, technical and creative skills and theoretical understandings. Students document the iterative process undertaken to explore and develop a response to a design opportunity. The response is a coherent work that may include drawings, low-fidelity prototypes, written paragraphs, notes, photographs, video and spoken presentations. This assessment occurs over an extended and defined period of time. Students may use class time and their own time.

## Assessment design

### Validity

Validity in assessment design considers the extent to which an assessment item accurately measures what it is intended to measure and that the evidence of student learning collected from an assessment can be legitimately used for the purpose specified in the syllabus.

### Reasons for non-endorsement by priority of assessment

Validity priority	Number of times priority was identified in decisions*
Alignment	47
Authentication	5
Authenticity	35
Item construction	8
Scope and scale	16

\*Each priority might contain up to four assessment practices.

Total number of submissions: 229.

### Effective practices

Validity priorities were effectively demonstrated in assessment instruments that:

- included a clear and concise sustainable context derived from the unit description and subject matter of Unit 4
- included the task instruction from the syllabus for students to 'identify an opportunity and redesign a product, service or environment to improve its sustainability' (Syllabus section 5.5.1)
- when developed for the Alternative Sequence (AS), included an expectation for students to identify a client and respond to the client's needs.

### Practices to strengthen

It is recommended that assessment instruments:

- provide a context that allows all students in the cohort to identify a different opportunity, e.g. reducing e-waste is an opportunity that one student might choose to explore, not an opportunity that can be written into the context for all students



- ensure the task allows all students in the cohort to identify a different problem. Guiding questions that identify a sustainable problem for all students to solve are not appropriate
- describe the task as a redesign to align with the subject matter of Unit 4
- provide a student-centred task that allows students to make all decisions as they apply the explore and develop phases of the design process to redesign something of their choice to be more sustainable
- include the correct syllabus specifications for Parts A, B and C in the task instructions, to ensure the differences between IA2 and IA3 are followed (see *Unit 3 and 4: Improving the implementation of the exploring phase in Projects IA2 and IA3* in the Syllabuses app in the QCAA Portal). For instance, IA3 does not require:
  - primary data from stakeholders in the explore phase
  - low-fidelity prototyping during the develop phase
  - a spoken pitch.

## Accessibility

Accessibility in assessment design ensures that no student or group of students is disadvantaged in their capacity to access an assessment.

### Reasons for non-endorsement by priority of assessment

Accessibility priority	Number of times priority was identified in decisions*
Bias avoidance	0
Language	0
Layout	0
Transparency	1

\*Each priority might contain up to four assessment practices.

Total number of submissions: 229.

### Effective practices

Accessibility priorities were effectively demonstrated in assessment instruments that:

- were correctly formatted using the print view feature in the Endorsement app to confirm the layout
- provided an image of the syllabus design process in the scaffolding.

### Practices to strengthen

There were no significant issues identified for improvement.

### Additional advice

- Include specific drafting points (e.g. Part B, Part A and Part C, in that order), to clearly show only one close-to-final draft of each part is to be submitted for feedback. It is important that the design brief and criteria are drafted prior to students undertaking their develop phase.

## Assessment decisions

### Reliability

Reliability is a judgment about the measurements of assessment. It refers to the extent to which the results of assessments are consistent, replicable and free from error.

### Agreement trends between provisional and confirmed marks

Criterion number	Criterion name	Percentage agreement with provisional	Percentage less than provisional	Percentage greater than provisional	Percentage both less and greater than provisional
1	Exploring	90.79%	9.21%	0%	0%
2	Devising	95.61%	4.39%	0%	0%
3	Synthesising and evaluating	93.42%	6.14%	0%	0.44%
4	Representing and communicating	89.91%	10.09%	0%	0%

### Effective practices

Accuracy and consistency of the application of the ISMG for this IA was most effective when:

- for the Devising criterion, responses
  - showed ideas based on circular design methods, e.g. ideas considered ways to change an existing linear life cycle, employing methods such as product life extension, closed loop, product as a service and modularity
  - showed detailed ideas when they demonstrated insight and understanding of Unit 4 subject matter (Syllabus section 5.3), e.g. balancing the economic, social and ecological impacts and the acceptance of new ideas by stakeholders
  - in the AS, showed detailed ideas when they demonstrated insight and understanding of the client's economic, social and cultural needs and wants. Credible ideas were a believable response to the client's commercial context.

### Samples of effective practices

The following excerpt has been included to demonstrate perceptively devised ideas in response to a sustainable redesign problem, which required students to extend the life cycle of leather lounges. The excerpt shows the second of two pages of devising in the response. It demonstrates ideas devised with insight and understanding of the sustainable subject matter as it applies to the design problem, e.g. ideas 1 and 7 demonstrate an understanding of social sustainability. The idea of collecting patches from different national parks considers that, for the design opportunity to be successful, relevant stakeholders must be determined and encouraged to accept the new idea.

**Note:** The characteristic/s identified may not be the only time the characteristic/s has occurred throughout a response.

## Ideation 2

Ideation for different backpacks/bags for different purposes/uses and new innovative designs/concepts.

**The key initial strengths + Limitations are analysed in green and red.**

For this ideation - I used a divergent thinking strategy called 'CRAZY 8'S' which is where you fold a paper to create 8 squares with 60 seconds (1 minute) to ideate in each box.

## How Can My backpack be different?

What can it offer? → Where is the GAP in the market?

What hasn't been done before? → How can my design use innovation to change the game?

Can it solve problems hikers face? → What are current problems with back-packs?

## 1. PATCHES

Could it have PATCHES that attach to a panel on backpack?

Collect the Patches! of different NATIONAL PARKS!

Strength: Stakeholders love exploring & so going to different places & collecting souvenirs / things that show this.

## 2. ENERGY CONVERTER

Could you somehow create energy through your backpack?

How could you make usable energy? → Wind? → Rain? → Kinetic motion?

Strength: This is too complicated in the way.

Limit: Solar panel on hiking pack with USB clamp port?

as you walk? → a pulley system that makes energy from arm/leg movement.

## 3. Interchangeable Straps!

What if you could choose to convert it from a backpack to shoulder handbag?

Leather loops → you can connect to any hook.

Strength: has so much applications and uses!

Limit: hook.

## 4. Hiking Pack modular Pack!

Day pack / comes off hiking pack.

Strength: is really needed & practical.

Limit: Zipper won't work good & won't logically work.

Zipper or unzip to get daypack!

## 5. Upholstery Straps TURNED bag Straps

original leather backpack design.

Strength: uses lots of material.

Limit: Needs more than one strap to hold sleeping mat.

USES All couch material!

## 6. Fold out BACK-PACK

Limit: shoe will fall out.

Strength: ties together velcro.

## 7. NATIONAL PARKS!

Strength: Stakeholders like outdoors imagery. & Leather has aesthetics!

what if each bag was a different NATIONAL PARK THEME?

Leather burning using engraving?

## 10. FOLD OUT BACK-PACK

Strength: folds out automatically for easy access.

Limit: All luggage will fall out & be extremely impractical.

## 9. Converts into seat cushion.

For ON THE GO HIKES.

Strength: really quick, easy fast access.

Limit: might not be able to sit on fragile luggage.

## 8. RAIN WATER CATCHER

Strength: access to water!

Limit: could not lug/grip/shift.

could it collect rain-water or dew for drinking?

## 12. ANTI MOZZIE BACKPACK

Limit: has potential of melting bag / repelling people instead.

could it be soaked in a citrine or scent liquid which like to mozzies dont like to smell them.

## Practices to strengthen

To further ensure accuracy and consistency of the application of the ISMG for this IA, it is recommended that:

- when matching evidence to characteristics for the Exploring criterion at the upper performance level (6–7 marks), teachers ensure
  - responses include an initial analysis of existing designs, e.g. annotations beside images of a range of designed solutions that students were considering redesigning
  - responses integrate an understanding of subject matter into the analysis and description of the features of possible redesign problems, e.g. notes identifying economic, ecological and social impacts relevant to particular design solutions rather than the inclusion of a page of recalled sustainable subject matter that does not provide evidence that can be matched to the ISMG characteristics
  - in the AS, responses integrate an understanding of subject matter into the analysis and description of the features of possible commercial design problems, e.g. notes identifying economic, social and cultural factors, relevant to the client’s needs, that influenced the decisions rather than the inclusion of a page of recalled commercial subject matter that does not provide evidence that can be matched to the ISMG characteristics
- when matching evidence to characteristics for the Representing and communicating criterion at the upper performance level (7–8 marks), teachers ensure
  - responses present a single A3 visual presentation that promotes the design concept to stakeholders
  - illustrations of the design concept are supported with notes that evaluate how well the design concept meets the design criteria
  - in the AS, the design concept is promoted to the client.

## Additional advice

- Teachers must ensure responses adhere to the specifications for Part C (Syllabus section 5.5.1). A spoken pitch is not required and a response that suits IA2 cannot be submitted for IA3. The design proposal is in the form of a single A3 page. It is multimodal using visual and written modes.
- The student decides on the design opportunity and subsequent redesign problem. Students have the freedom in this assessment to pursue an area of their interest and make their own decisions about what they wish to redesign. However, the success of a design is dependent on stakeholders’ acceptance and use of the designed solution. Therefore, it is important that students are encouraged to identify possible stakeholders, consult with them and deliver the design proposal to them as a target audience (Syllabus section 5.5.1).
- Students are required to provide assessable evidence of the design process undertaken in line with the specifications for Part A (Syllabus section 5.5.1). This involves students selecting a maximum of 10 A3 pages from the authentic design work undertaken. When compiling scanned pages of sketches and notes, ensure that the resolution is high enough that the images remain clear and the annotations are large enough to be legible.

# External assessment



External assessment (EA) is developed and marked by the QCAA. The external assessment for a subject is common to all schools and administered under the same conditions, at the same time, on the same day.

## Examination — design challenge (25%)

### Assessment design

The assessment instrument was designed using the specifications, conditions and assessment objectives described in the summative external assessment section of the syllabus.

The examination consisted of a single question (34 marks).

### General syllabus examination

The examination assessed subject matter from Unit 4. The question was derived from the context of sustainable design.

The assessment required students to use the develop phase of the design process to respond to a provided design brief and stimulus.

The stimulus was a single A3 page of visual and written information. The stimulus included a short, written description of the problem, design criteria and visual and written information, which provided contextual information about the problem and provided links to Unit 4 subject matter.

### Alternative Sequence (AS) examination

The AS examination assessed subject matter from AS unit 2. The question was derived from the context of commercial design.

The AS assessment required students to use the develop phase of the design process to respond to a provided design brief and stimulus.

The AS stimulus was a single A3 page of visual and written information. The stimulus included a short, written description of the problem, design criteria and visual and written information, which provided contextual information about the problem and provided links to Unit 2 subject matter.

## Assessment decisions

Assessment decisions are made by markers by matching student responses to the external assessment marking guide (EAMG). The external assessment papers and the EAMG are published in the year after they are administered.

### Effective practices

Overall, students responded well when they:

- devised a range of ideas that showed different ways to solve the problem, e.g. where ideas were not all variations of a packaging box, this demonstrated the characteristics of flexibility associated with divergent thinking
- demonstrated knowledge of Unit 4 subject matter by using circular design methods, e.g. extending the life cycle with additional uses for the packaging

- demonstrated knowledge of Unit 2 subject matter in the AS examination, e.g. by applying a 'Beyond single use' visual identity to the packaging
- represented ideas using two- and three-dimensional sketches that were fit for purpose and suited the context of the design problem, e.g. elements and principles of visual communication such as line, tone, colour and scale were used to elaborate key attributes
- demonstrated application of the develop phase of the design process across the four pages of the response book.

## Samples of effective practices

### Extended response

The following excerpt is from Question 1. It required students to use the stimulus and circular design methods to redesign packaging.

Effective student responses:

- demonstrated a range of divergent ideas in response to the problem
- demonstrated the evaluation of ideas in relation to relevant design criteria by noting strengths and limitations
- proposed a design concept that included a credible way to reduce packaging waste.

This excerpt has been included:

- to demonstrate how the first two pages of the response book have been used to represent a range of divergent ideas in response to the problem
- to highlight how the detail in the sketches represents the attributes of the student's ideas. The detail in the ideas demonstrates insight and understanding of the problem and discerning use of the stimulus.



# Ideation.

How can I redesign packaging to be More sustainable?

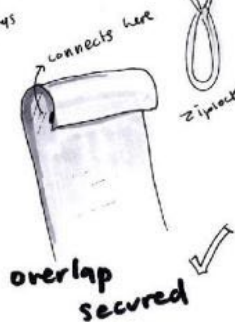
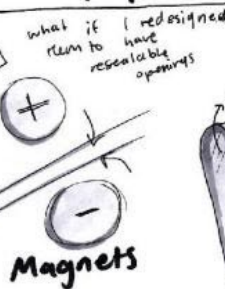
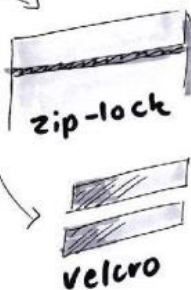
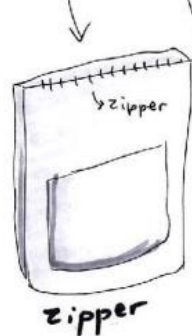
So it can be used over & over Again?

could it be used again as gift wrapping or packaging?

Resealable openings?

could it be used for a different purpose?

As a toy or DIY project for kids?



RESEALABLE WARP

hopper box



what if it was used as a 'donation box service'

**DONATION SERVICE**

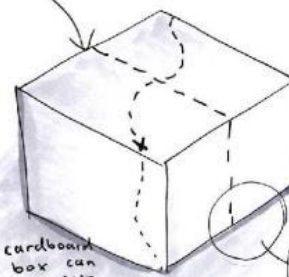
What if people could donate to people in need by filling their packaging boxes and sending them back?

Limitation: has only one extended life cycle. helps those in need and would have positive acceptance of new users. (OC 3)

Strength:



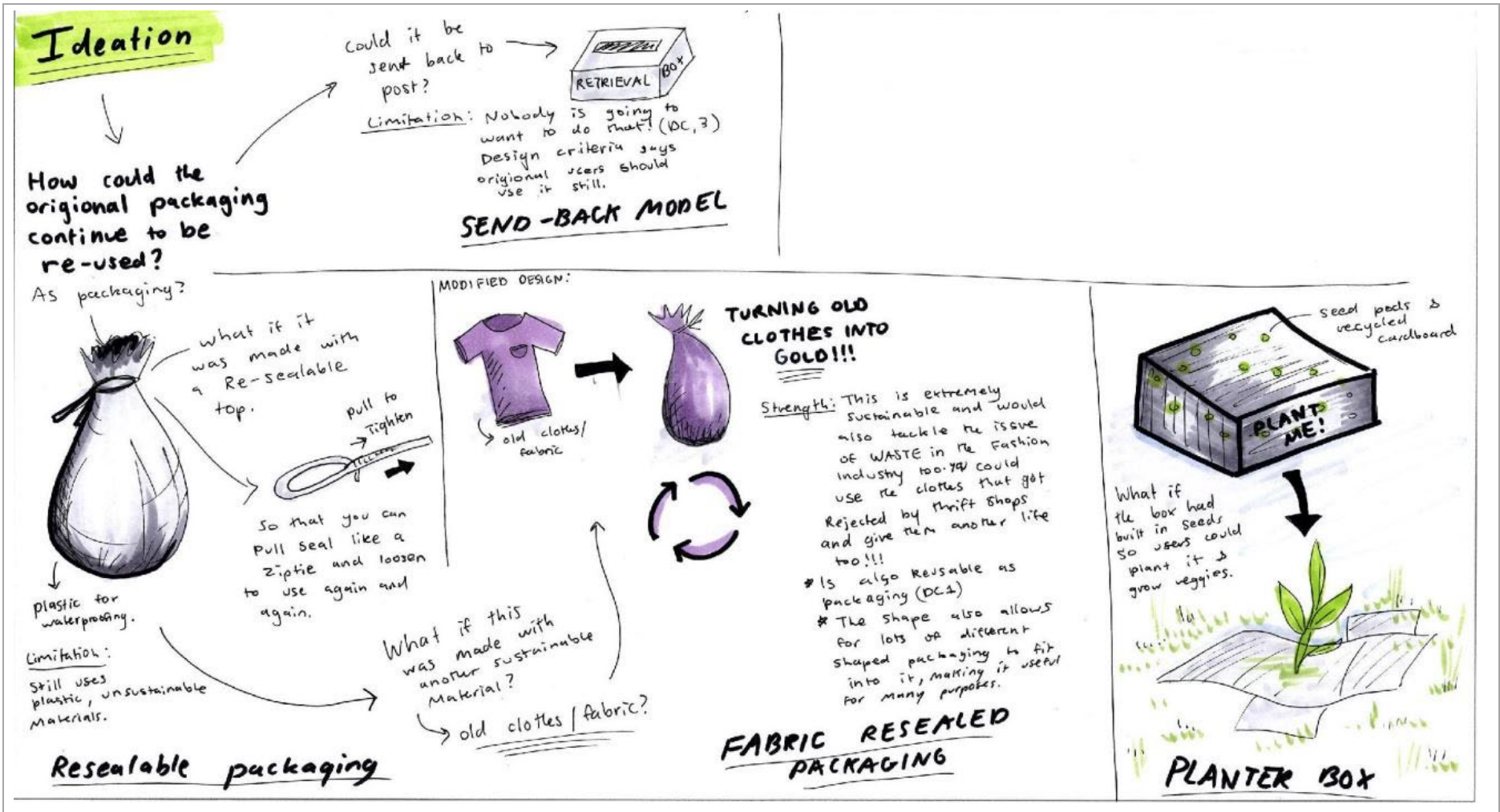
Taking attributes from Christmas box foundation except using original/recycled materials.



Strength: is Engaging and extends the lifecycle (OC 1) but ...

Limitation: not relevant to all users - the ones receiving it aren't children! (OC 2)

**CRAFT BOX**





This excerpt has been included:

- to demonstrate refinement, as changes in the visual attributes of the ideas are a direct result of judgments made in evaluation. Specific attributes of ideas (selected for value and relevance) are modified to better respond to the problem and improve how the criteria are met, e.g. the limitation of using a material that is not waterproof (bottom left of page) is addressed in the representation on the following additional page. Note, this response used five pages, which were all marked against the EAMG.

**Development + Refinements**

Reused as giftwrap for Christmas

Christmas Themed idea taken from Donation Service + Christmas hamper. Appeals to stakeholders on stimulus.

Reusable opening from resealable wrap idea - Ziplock concept.

Made of fabric from Rejected Thrift Shops (resealable packaging cloth/fabric idea).

**Strengths:**  
Rather than being sent back to POST to be reused like send-back model idea, users can Reuse it as gift wrapping that will NEVER be thrown out as it gets passed on to different people. (Social Sustainability) from idea of resealable packaging.

**Limitations:** The Christmas theme would only be able to be used once a year therefore does not fit (DC:1) or (DC:2)

**What if it came in different Editions for different purposes?**

Refinement idea:  
could it be a halloween lolly bag?  
Christmas  
What events/seasons are gifts needed for?  
birthdays  
EASTER

What if the packaging type changed with the season e.g around Christmas may send Christmas themed.

**you can use me as GIFT WRAPPING!**

**Strength:** Now engaged use of product and extensive lifetimes whilst encouraging their good choices of sustainability.

**Limitations:** limits current use as implication isn't waterproof or protective enough (DC:2)

**\* see next PAGE \***

Refinement idea? waterproof?

Engaging text allows users to understand that it can be reused as Gift - Present wrapping, and encourages reuse and sustainability

**im sustainable**

**Strength:** packaging has extended life-cycle (DC 1) with additional uses for gifting in future. - people continue to pass it on and it continues its life cycle, rather than traditional wrapping paper. breaks the linear cycle of wrapping paper and of post packaging.

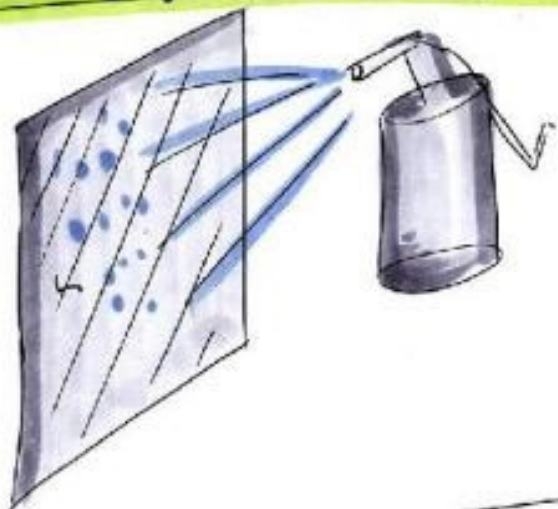
**Limitation:** (DC 3) doesn't encourage use of new product

Reused forever

EASTER CHRISTMAS BIRTHDAYS HALLOWEEN

Throughout the seasons.

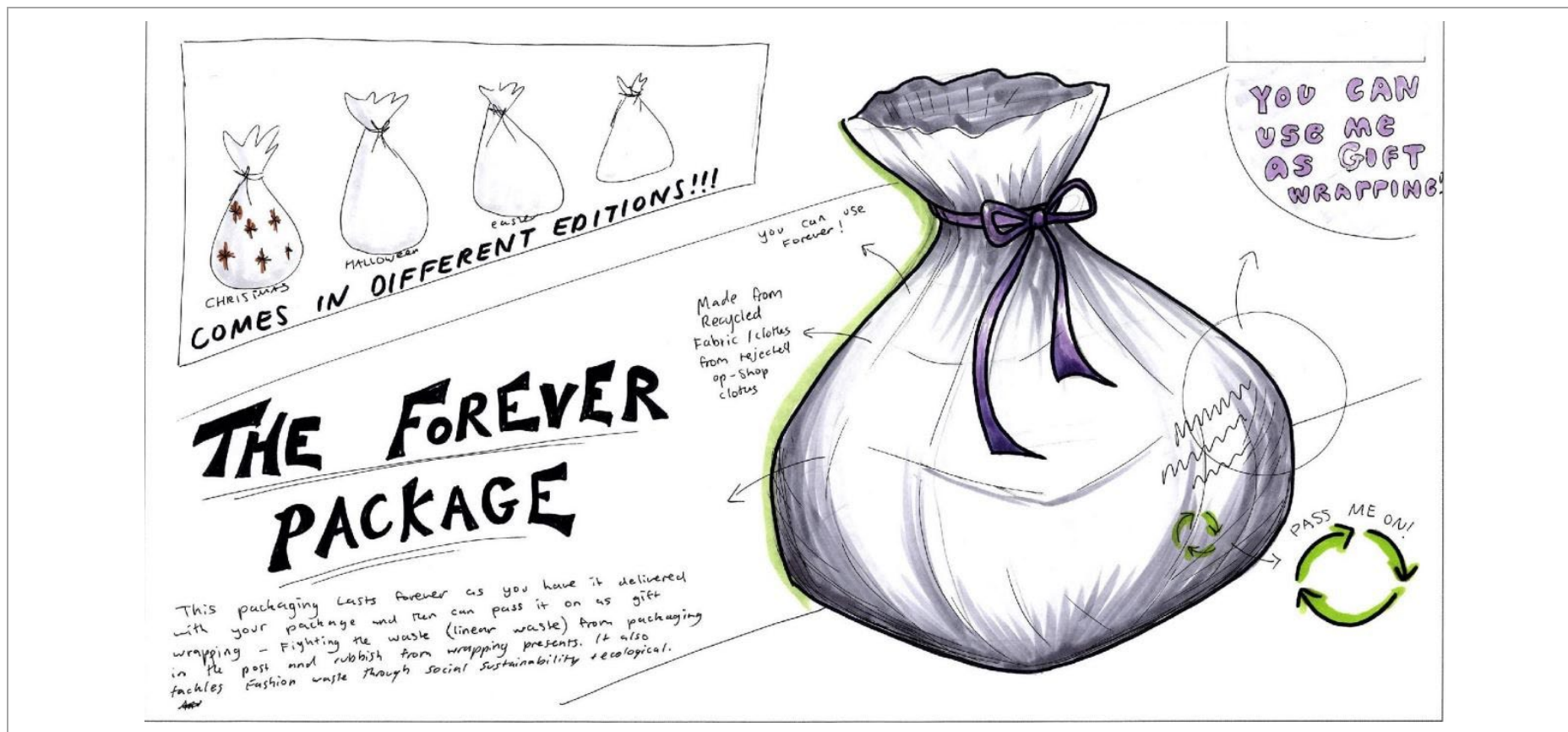
## Develop + Refine



Strength:  
waterproofing spray  
on fabric to  
protect packaging  
+ use as  
original purpose  
(DC: 2)

This excerpt has been included:

- to demonstrate a proposed design concept that includes a detailed and refined sketch with related labels. The sketch details the form, function and features that make up the design concept. The response does not include an evaluation of the design concept.





## Practices to strengthen

When preparing students for external assessment, it is recommended that teachers consider:

- advising students to use the planning page to unpack the problem and make notes about how they propose to respond to the problem, e.g. in lower-level responses students commenced page 1 with an unpacking of the problem and recall of subject matter. In higher-level responses page 1 was used to commence the devising of ideas using ideation sketches large enough to show details relevant to the problem
- developing strategies to assist students to understand the relationship between the design criteria and the related visual and written stimulus information, e.g. ideas devised in response to Criterion 3 needed to consider the stakeholder comments related to the launch and acceptance of a new design opportunity
- instructing students to develop ideas by focusing on the detail of the design that best demonstrates how the idea matches the design criteria and responds to the problem, e.g. time spent sketching trivial elements such as background colour, rather than details that showed function, form and features related to the design criteria, resulted in fewer marks
- instructing students to apply Unit 4 subject matter. Responses should demonstrate an understanding of the relationship between the problem and sustainable design subject matter, e.g. responses that focused mainly on the material choices of the packaging were less effective than ideas that considered extending the life cycle through a range of alternative uses
- in the AS, instructing students to apply Unit 2 subject matter. Responses should demonstrate an understanding of the relationship between the problem and commercial design subject matter, e.g. students who applied the commercial identity of RTK packaging and their new product line 'Beyond single use' were the most effective
- instructing students to evaluate ideas using written notes that explain the value and relevance of attributes in relation to design criteria. Less effective responses used coded evaluation such as a tick matrix with design criteria (DC#) on one axis and idea # on the other
- instructing students to refine ideas by making visual changes that progress how well ideas match the design criteria. The purpose of this refinement is to bring forward the best attributes from across the range of ideas, e.g. the change or modification to a sketch referred to a stated evaluation of an earlier idea or attribute
- explaining to students that an evaluation of the design concept is not required. The final page should show an illustration of a coherent and logical design concept with sketched details that demonstrate how the concept satisfies all design criteria.

## Additional advice

- Teachers should instruct students to check they are answering the question provided in the question and response book. Effectively using the planning time may assist students who fixate on one criterion and therefore do not provide effective responses to the overall question.
- Teachers should remind students that only the develop phase of the design process is assessable in the examination (Syllabus section 5.5.2). Therefore, it is reasonable to advise students to use the first two pages for divergent thinking and the final two pages for convergent thinking. Pages 1 and 2 should contain sketched ideas annotated with evaluation. Page 3 should contain sketches of refined ideas annotated with evaluation, and page 4 a sketch of the final design concept.