



Unpacking the Food & Nutrition subject report 2021

Internal assessment



Image: *Ee Lah Roo — Long time ago* by Kargun Fogarty

Presenters

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Learning goals

Learn how to use the QCAA Food & Nutrition subject report to inform teaching and assessment practice.

Success criteria

You will know you are successful if you know how to:

- reflect purposefully on the information provided in the subject report to determine how you can improve your school's internal assessment in Food & Nutrition.

Locating the subject report

The screenshot shows the QCAA website interface. At the top left is the Queensland Government logo and the QCAA Queensland Curriculum & Assessment Authority logo. At the top right are links for Site map, Contact us, and Help, along with a search bar. A navigation menu below the header includes Home, About us, News & data, PD & events, Kindergarten, Prep-Year 10, Senior secondary (highlighted in red), and Logins (in a yellow box). A breadcrumb trail shows the path: Home > Senior secondary > Senior subjects > Technologies > Food & Nutrition (2019) > Teaching & learning (highlighted in yellow). The main content area is titled "Food & Nutrition General Senior Syllabus 2019: Teaching and learning" with "Version 1.1" below it. A tabbed interface shows "Teaching" selected. Under "Teaching and learning resources", there is a "Subject reports" section with a table of reports. The table has columns for "Year" and "Resource". The 2021 report is highlighted with a yellow "NEW" tag. Below the table is a "Cognitive verbs" section.

Queensland Government | QCAA Queensland Curriculum & Assessment Authority

Site map | Contact us | Help

Search website

Home | About us | News & data | PD & events | Kindergarten | Prep-Year 10 | **Senior secondary** | Logins

Home > Senior secondary > Senior subjects > Technologies > Food & Nutrition (2019) > Teaching & learning

Technologies

- Learning area news
- Aerospace Systems (2019)
- Building & Construction Skills (2019)
- Design (2019)
- Digital Solutions (2019)
- Engineering (2019)
- Engineering Skills (2019)
- Fashion (2019)
- Food & Nutrition (2019)**
- Furnishing Skills (2019)
- Hospitality Practices (2019)

Food & Nutrition General Senior Syllabus 2019: Teaching and learning

Version 1.1

Overview | Syllabus | **Teaching** | Assessment | Review

Teaching and learning resources

Subject reports

Year	Resource
2020	Subject report 2020 (PDF, 2.2 MB)
2021	NEW Subject report 2021 (PDF, 2.1 MB)
2020	Subject reports factsheet 2020 (PDF, 170.2 KB)
2021	NEW Subject reports factsheet 2021 (PDF, 166.6 KB)

Cognitive verbs

Locating the subject report

Food & Nutrition 2019 resources

Syllabus contact
Penny Braithwaite, Principal Education Officer Phone: (07) 3864 0400
Email: Food&Nutrition@qcaa.qld.edu.au

[Units 1 and 2](#) [Units 3 and 4](#) **[Additional resources](#)**

Teaching and learning

Resource
Sample teaching, learning and assessment plan template (DOTX, 58 kB)
Teaching, learning and assessment plans how-to (PDF, 144 kB)
Categories of cognitive verbs (PDF, 90 kB)
Glossary of cognitive verbs (PDF, 144 kB)
Concurrent delivery (PDF, 95 kB)
Food experiment template (DOCX, 74 kB)
Subject report 2021 (PDF, 2.1 mB)
Subject report 2020 (PDF, 2.2 mB)
Subject reports factsheet 2021 (PDF, 170 kB)
Subject reports factsheet 2020 (PDF, 170.2 kB)



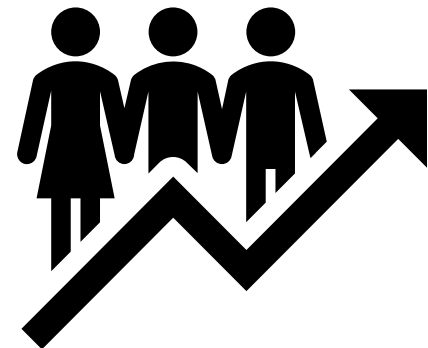
The purpose of the subject report

2021 summative assessment cycle key outcomes:

- Quality assurance: Endorsement and Confirmation
- External assessment results



- Effective practices and practices to strengthen
 - Internal assessment
 - Assessment design (Validity, Accessibility)
 - Assessment decisions (Reliability)
 - External assessment
 - Teaching and learning





Structure of the webinar



Celebrate



Unpack



Reflect



Strengthen



Questions



How to use the subject report

Subject leaders

- Subject-specific priorities and actions
- Advice about practices to strengthen

Subject teachers

- Reflect > maintain/apply
- Explore > inform practice and judgments
- How to improve student outcomes

Quality assurance	
Resource	
Endorsement	
IA1 quality assurance tool (DOCX, 161 kB)	
IA2 quality assurance tool (DOCX, 163 kB)	
IA3 quality assurance tool (DOCX, 162 kB)	
Endorsement submission information: Technologies (PDF, 165 kB)	
Guidelines for reviewing and developing assessment instruments (PDF, 1.1 MB)	
Lessons from Endorsement 2019/20: Digital Solutions (PDF, 7.1 MB)	
Confirmation	
Confirmation submission information (PDF, 190 kB)	
Digital Solutions ISMG webinar (PDF, 3.4 MB)	

Internal assessment

Percentage of instruments endorsed in Application 1

Number of instruments submitted	IA1	IA2	IA3
Total number of instruments	103	103	103
Percentage endorsed in Application 1	31%	38%	62%

Number of samples reviewed and percentage agreement

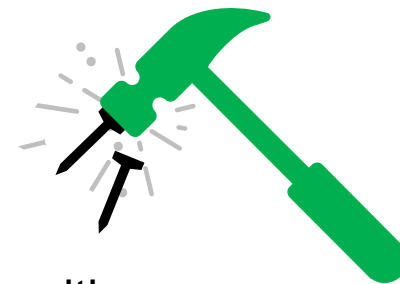
IA	Number of schools	Number of samples requested	Number of additional samples requested	Percentage agreement with provisional marks
1	102	538	199	61.76%
2	102	548	165	55.88%
3	102	545	92	70.59%





IA1: Examination

Assessment design: **Effective practices**



Validity

- using a range of appropriate cognitions aligned with assessment objectives
- providing sufficient opportunities to demonstrate the assessable objectives at the highest performance level
- using a different context from the IA2 (fat vs carbohydrate)
- providing relevant and sufficient stimulus material for the extended response

Accessibility

- clear instructions (cognitions and processes)
- accurate textual features and appropriate language
- clear layout and alignment to the syllabus assessment specification
- no obvious patterns in the data leading students to a response
- questions that were sufficiently different from the QCAA sample and allow for unique student responses





IA1: Examination

Assessment design: **Practices to strengthen**



- Provide sufficient opportunities for students to demonstrate their ability in a range of cognitions and reinforce the importance of the cognitions as cues in instructions within the task.
- Use **unseen, relevant** stimulus items with sufficient and correct data, which do not lead to a predetermined response, and aren't copied from texts/information previously used in class.
- Avoid questions on topics from other units, such as food drivers, as these are outside the scope of Unit 3.
- Use language that is appropriate, technically correct and aligned with the syllabus, e.g. formulation, prototype.
- Use only one topic context.



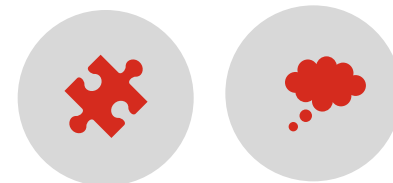
Examination (IA1): Assessment decisions

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	Recognising and explaining	86.27%	9.8%	1.96%	1.96%
2	Analysing and determining	81.37%	15.69%	1.96%	0.98%
3	Synthesising and evaluating	64.71%	30.39%	4.9%	0%

Question for reflection:

What processes did you use with your students to teach them to synthesise and evaluate?





IA1: Examination

Assessment design: **Effective practices**



- Responses matched to the upper and mid performance levels in the Analysing and determining criterion when:
 - evidence in the student response explicitly referenced stimulus data
 - the student response showed keen discernment of the problem in the self-determined criteria.
- Evidence of refinement of ideas and solutions showed perception and relevance when recommendations for enhancement were justified from the stimulus data.



IA1: Examination: Sample response

Appropriate analysis

After analysing the processes and food components used in each formulation, and to sensory profiling data, it is clear that formulation 1 ~~is~~ has the most effective fat to use when making the dressing. This is because:

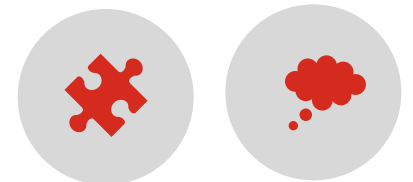
- formulation one has good sensory feedback from the customers. ✓
- the rice bran oil does not have a strong effect on the taste of the dressing.

Insightful: showing understanding of a situation or process; understanding relationships in complex situations; informed by observation and deduction

Appropriate: acceptable; suitable or fitting for a particular purpose, circumstance, context, etc.

- **appropriate** analysis of problems, information and data related to the properties and processing of carbohydrate- or fat-based food to identify some of the characteristics and constraints
- **reasonable** determination of some
 - solution requirements from the brief
 - self-determined criteria that include impacts and implications, and the quality, functionality or reliability indicators for carbohydrate- or fat-based food problems.

3-4



IA1: Examination

Sample response

Reasoned evaluation

- logical synthesis of chemical, functional and nutritional information, and primary and secondary data for chosen solutions
- reasoned evaluation and effective refinement of ideas and carbohydrate- or fat-based food solutions against self-determined criteria to make effective recommendations for enhancements, justified by data.

Reasoned: logical and sound; based on logic or good sense; logically thought out and presented with justification; guided by reason; well-grounded; considered

Critical: rationally appraising for logical consistency and merit

created some air ~~po~~ pockets but not many leaving it dense in some places. This product has a lower melting point not quite low enough to make the product out of 16 people like people either liked it or very much which is still over half. Most sensory profilings are lower than the land except the flavour, ~~which~~ aroma and colour which people preferred the sweet and coconutty senses more and the golden colour. The last formulation, Olive oil spread is also Australian made, but has a low melting point which makes the final product greasy, also because it is an unsaturated fat the pastry does not stay together making it crumbly and gritty. ^{why? explain} Of the 16 no one liked it or liked it very much and this is also evident in the sensory profile as it has a bland and grassy flavour, it is odorless and has a yellow colour. The last thing to evaluate is the feasibility, the 3rd formulation is the cheapest at \$0.74/100ml but also has done the worst everywhere else, the next cheapest is formulation 2 but this product has not got the desired texture.

IA1: Examination

Sample response

Evaluation of
cost data

This leaves the first formulation, the most expensive ✓
at \$1.63/100g although this is still feasible as
it is a high quality ✓ product. For further improvements

Effective refinement
of ideas and
recommendations
for enhancement

I would recommend combining the lard and copha to help reduce
costs ✓ but still maintain the sensory profile of a decent
pastry.

Effective: successful in producing the intended, desired or expected result; meeting the assigned purpose





IA1: Examination

For judgments for Synthesising and evaluating at the higher performance level:

Practices to strengthen



- Responses that match to the 8–9 performance level synthesise the chemical, functional, sensory properties and nutritional information in a coherent and logical manner.
- Evaluations need to be justified with data and information from the stimulus.





IA2 and IA3: Project — folio

Assessment design: **Effective practices**



Validity

- replicated syllabus specifications and directly used them in the task. Scaffolding provided clear instructions to inform students and provide opportunities to develop a unique response
- provided a context that was relevant to the subject matter for the unit/topic and a clear overview for the assessment task, e.g. for IA3 — a specific nutrition consumer market problem
- provided an accurate representation of the scale of information, knowledge and skills that students were required to demonstrate
- ensured all stimulus material was relevant to the task, specific to the syllabus and useful to students without directing their responses
- used authentication strategies and suitable checkpoints reflecting QCAA guidelines for assuring student authorship
- were sufficiently different to the QCAA sample assessment instrument, other school assessments and previous cohorts' assessments.





IA2 and IA3: Project — folio

Assessment design: **Practices to strengthen**



Validity

- Ensure the wording of the task matches the syllabus specifications and the topic.
- Ensure all stimulus material is concise, relevant to the task, specific to the syllabus and free of information that should be found through research.
- Facilitate a unique student response and avoid directing students to a set solution.
- Suit the local school context and be sufficiently different from the QCAA sample instrument to ensure students can demonstrate authentic responses.
- For IA3, avoid including every NCM and lactose-intolerant consumers.
- Include specifications in relation to supporting evidence, e.g. ‘To complete this task ...’





IA2 and IA3: Project — folio

Assessment design: **Practices to strengthen**



Accessibility

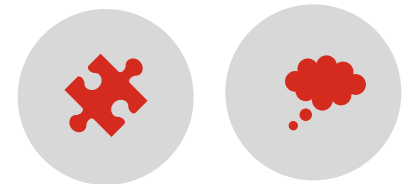
- Provide clear instructions, using cues that align to the syllabus specifications, objectives and ISMG.
- Provide a clear layout of stimulus material and ensure all stimulus material is specific, relevant to the task and referenced from a reliable source.
- Use the terminology of the syllabus and food industry, e.g. formulations, food components.
- Be free of errors in spelling.



IA2: Project — folio: Assessment decisions

Agreement trends between provisional and confirmed marks

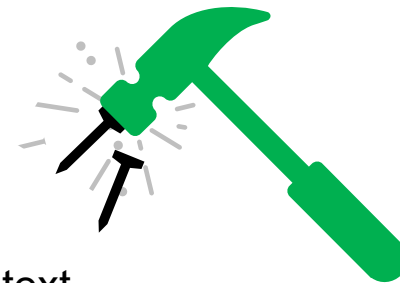
Criterion number	Criterion name	Percentage agreement with provisional	Percentage less than provisional	Percentage greater than provisional	Percentage both less and greater than provisional
1	Recognising and explaining	78.43%	19.61%	1.96%	0%
2	Analysing and determining	75.49%	22.55%	1.96%	0%
3	Synthesising, generating and evaluating	64.71%	30.39%	2.94%	1.96%
4	Communicating	90.2%	6.86%	2.94%	0%





IA2: Project — folio

Assessment decisions: **Effective practices**



- The identification of constraints and essential characteristics was developed through the analysis of information and data from the context, task and stimulus.
- Generation of solutions at the higher performance level was supported by logical synthesis of information and data from student research, experimentation and sensory testing.
- Evaluation of the generated solution at the higher performance level addressed all self-determined criteria and data, and was justified by data from the sensory profiling of the prototype.



IA2: Project — folio: Sample response

Evaluation addresses all self-determined criteria

Therefore, after thorough analysis and consideration, the proposed solution for the carbohydrate-based, ready-made, breakfast product line extension is the peanut butter and chocolate chip pancakes. This is due to this product addressing multiple criteria including:

- Being an appropriate and suitable product for a line extension, fitting in with the company's current line of a carbohydrate-based, ready-made breakfast food.
- The solution could easily be converted into a dry mix and packaged similarly to the other products already in the line. As a result, no new equipment for packaging would be required for the company to invest into.
- The solution upholds the values and brand of the company. All ingredients are ethically sourced and produced, as well as being natural and organic. Hence, the food fits with the company's ethos.
- When the product is converted into a dry mix, the product would have a reasonably long shelf-life as long as the product is stored properly and the packaging is not damaged in any way, allowing air and moisture into the product. Furthermore, this long shelf-life is not achieved through the addition of harmful preservatives or additives, or the application of cold.
- The product takes into consideration of the chemical and functional properties, which include: physical manipulation, aeration, leavening, the addition of chemical agents, the addition of preservatives, the application of heat and the process of dextrinization.
- It is a ready-made pancake product, which was highly recommended by 89% of the focus market. Similarly, it is a product that has a unique flavour, which was also highly desired by the focus market.
- Once the product is converted into a dry mix, minimal further preparation will be required to produce the product.



IA2: Project — folio

Assessment decisions: **Practices to strengthen**



- The response space provided should be consistent with the assessment conditions of 10–12 A3 pages.
- When making judgments about synthesis, schools should consider how well the response demonstrates the generation of a solution, e.g. a response that has partial demonstration of a solution is unlikely to demonstrate logical synthesis.
- Schools note that identifying chemical and functional properties requires an in-depth analysis of the properties the folio will be used to investigate, e.g. if the problem does not require developing prototypes for sugar products, crystallisation does not need to be discussed in the folio.



IA2: Project — folio

Sample response

Analysing and determining (6–7 marks)

- insightful analysis of a relevant problem, information and data

Synthesising, generating and evaluating (8–9 marks)

- critical evaluation, and discerning refinement of ideas and the generated solution

From the analysis of the above sensory feedback, it is evident that prototype 1 has large room for improvement, in all 5 areas. For taste, which was one of the lowest quality areas, 50% of sensory profilers reviewed it as 'bad' and the other 50% as 'average'. This implies that there is a lot of room for refinements to improve the taste of the cake, likely as a result of the over inclusion of spices cinnamon and nutmeg, which resulted in a strong, overpowering taste. Profiler's recommendations also suggested that the cake should be less overpowering in terms of aroma. For texture, which was the aspect with the best-received sensory data overall, the majority (50%) of profilers reviewed it as 'average', while 16.7% said it was 'bad' and the other 33.3% as 'good', implying that there is room for improvement, however the texture is not 'bad'. This is likely due to it's moist texture that was achieved by the incorporation of pumpkin puree, and the use of raising agents. For appearance, the large majority (66.7%) rated prototype 1 as 'average', with 16.7% as 'poor' and the other 16.7% as 'good'. This spread in review is likely a result of personal opinion of sensory profilers, where some thought it was better than others. Profiler recommendations suggested that adding an icing will improve the overall appearance. It is noted that the appearance of prototype 1 was quite average, with no icing or top decorations, which is reflected in the average reviews. For the level of leavening, the majority of profilers (66.7%) rated prototype 1 as 'average', with the other two 16.7% rating 'bad' and 'good'. This implies that there is room for improvement to increase the quality of leavening in the cake, which was attempted through the incorporation of chemical raising agents: bicarbonate soda and baking powder. For aroma, 66.7% or $\frac{2}{3}$ of profilers reviewed the formulation as 'average', with the other $\frac{1}{3}$ or 33.3% reviewing it as 'bad'. This suggests further room for improvement to the aroma, which is likely due to the overuse of spices, which resulted in an overpowering aroma once baked. Sensory profilers additionally suggested further improvements to the overall sensory quality of the formulation which are listed above



Reflection

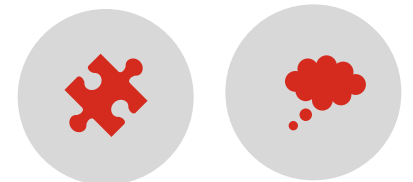
- Think about the strategies you use to support students to demonstrate **purposeful** generation of a solution and **logical** synthesis of information and data.



IA3: Project — folio Assessment decisions

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	Recognising and explaining	85.29%	12.75%	1.96%	0%
2	Analysing and determining	79.41%	18.63%	0.98%	0.98%
3	Synthesising, generating and evaluating	74.51%	18.63%	1.96%	4.9%
4	Communicating	90.2%	7.84%	0.98%	0.98%





IA3: Project — folio

Assessment decisions: **Effective practices**



- The generation of solutions at the higher performance levels was supported by logical synthesis of information and data — from both the sensory profiling data and nutritional data — in the student response.
- High-level responses included detailed recommendations for enhancement that were justified using data from students' research and experimentation.





IA3: Project — folio

Assessment decisions: **Practices to strengthen**



- When making judgments about the Recognising and explaining criterion, responses at the higher performance levels must include a discerning description and explanation of facts and principles. Responses that include an explanation of facts/principles that are not relevant to the problem do not demonstrate discrimination.
- Support purposeful and effective generation of solutions with logical synthesis of information and data. If a response does not include concise and well-presented data, the solutions will not be supported.
- Make recommendations for enhancements, with support from the sensory profiling data presented in the generation section of the response.





IA3: Project — folio

Sample response

3.2 Refinements of ideas and solution

The Red Thai Chicken Curry with Rice is a suitable solution; however, the product does not utilise any natural preservatives that will help reduce the perishability of the product and extend shelf life, which is crucial for pre-made meals. The addition of salt, vinegar, sugar, castor oil or herb extracts such as oregano or rosemary would accommodate this problem. Additionally, all sensory attributes were ranked by most of the focus group in the strongly like category. However, some participants ranked the texture, appearance, flavour, and taste in the like category. A potential refinement to enhance flavour is the addition of chilli or pepper to create more depth in the flavour or by adding Worcestershire sauce to improve the savoury taste and add an umami flavour.

Specifically, to improve the texture and appearance including vegetables such as bamboo shoots, cauliflower, zucchinis, or mushrooms would provide a range of different textures and enhance the vibrancy of colours to the dish. These additions are minor refinements that would improve all sensory attributes to be unanimously strongly liked as a sensory ranking. Despite these minor refinements, the product was positively received by the stakeholders and sensory profilers considering the nutritional and sensory attributes. The product meets all essential criteria and is expected to be a successful option during the trial period. Therefore, the Red Thai Chicken Curry

Effective refinement of ideas and recommendations
for enhancements





Project — folio (IA2 and IA3)

Additional advice

- response length
- appendices
- ensure all pages are scanned in pdf files and are in order and orientated correctly before uploading.



Questions about IA3



Email questions to: Food&Nutrition@qcaa.qld.edu.au

Learning goals

Learn how to use the QCAA Food & Nutrition subject report to inform teaching and assessment practice.

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Contact details

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