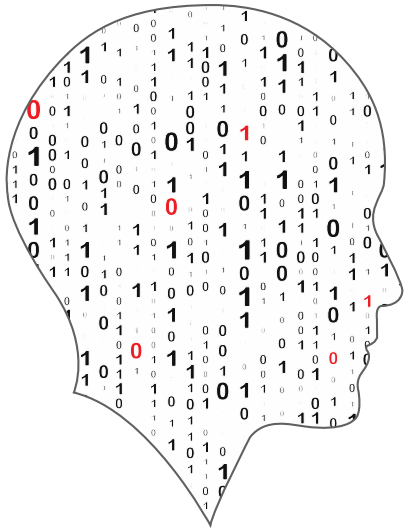
PDST
Professional Development Service for Teachers | An tSeirbhís um Fhorbairt Ghairmiúil do Mhúinteoirí

An Roinn Oideachais agus Scileanna
Department of Education and Skills



LEAVING CERTIFICATE
COMPUTER SCIENCE

Coursework Assessment Workshop

December 2021

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Welcome

Schedule

9:30 – 9:45	Introduction, Context + Individual Reflection
9:45 – 10:15	Investigate – breakout I
10:15 – 10:45	Investigate – feedback
10:45 – 11:10	Plan – breakout II
11:10 – 11:30	**BREAK**
11:30 – 12:30	Design – breakout III
12:30 – 13:00	Design – feedback
13:00 – 14:00	**LUNCH**
14:00 – 15:00	Design – feedback (continued)
15:00 – 15:10	**STRETCH BREAK**
15:10 – 15:30	Understanding of brief - breakout
15:30 – 15:55	Understanding of brief – feedback

By the end of this workshop participants will have:

- Experienced the first three stages of the design process – Investigate, Plan and Design for the Coursework brief.
- Enhanced their team working, communication and collaboration skills.
- Acquired additional skills, knowledge and ideas on how they will facilitate the Coursework component in their own classrooms.

Key Messages

LCCS can be mediated through a constructivist pedagogical orientation.

ALTs

The ALTs provide opportunities for students to develop their theoretical and procedural understanding of the course.

The coursework assessment offers students an opportunity to combine (and build on) the skills and knowledge they have accumulated through engaging with the ALTs and demonstrate their own individual creativity

All learning outcomes (LOs) are interwoven and should be studied concurrently at different stages of the course and should not be studied in a linear order

Purposeful reflection on one's accumulated experience leads to greater learning than the accumulation of additional experiences.

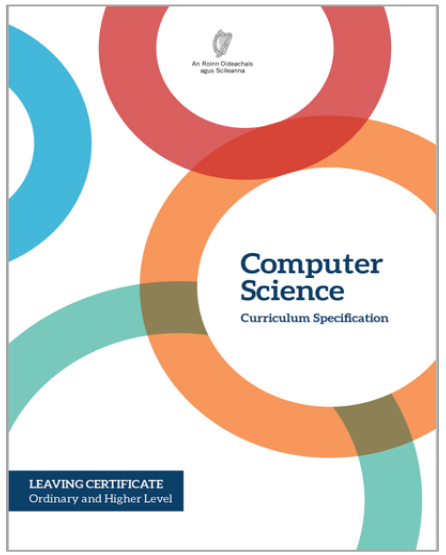
Digital technologies can be used to enhance collaboration, learning and reflection.

CS is a subject for all
Phase 1 teachers have done a great job in introducing LCCS.
Ongoing support is needed to ensure that the subject can flourish.

Context

"The **learning achieved** through practical exercises and the applied learning tasks **will be assessed** both **by the coursework** project assessment and by the end-of-course examination." (Page 16)

"Coursework assessment provides students with **opportunities to demonstrate their understanding in multiple ways** that highlight their creativity, interests, and understanding." (Page 24)



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate Examination 2022

Computer Science

Coursework Project Brief

Higher and Ordinary Levels

Time: 12 weeks

90 marks

The key components of the coursework digital portfolio are:

- The digital components of the computational artefact
- A coursework report, including a video presentation.

The key sections of the 2022 coursework report (**HTML**) are:

1. Investigation and Plan (approx. 600 words)
2. Design (approx. 600 words)
3. Implementation and Testing (approx. 1000 words)
4. Evaluation (approx. 300 words)
5. References
6. Sumary word count

Past Experiences

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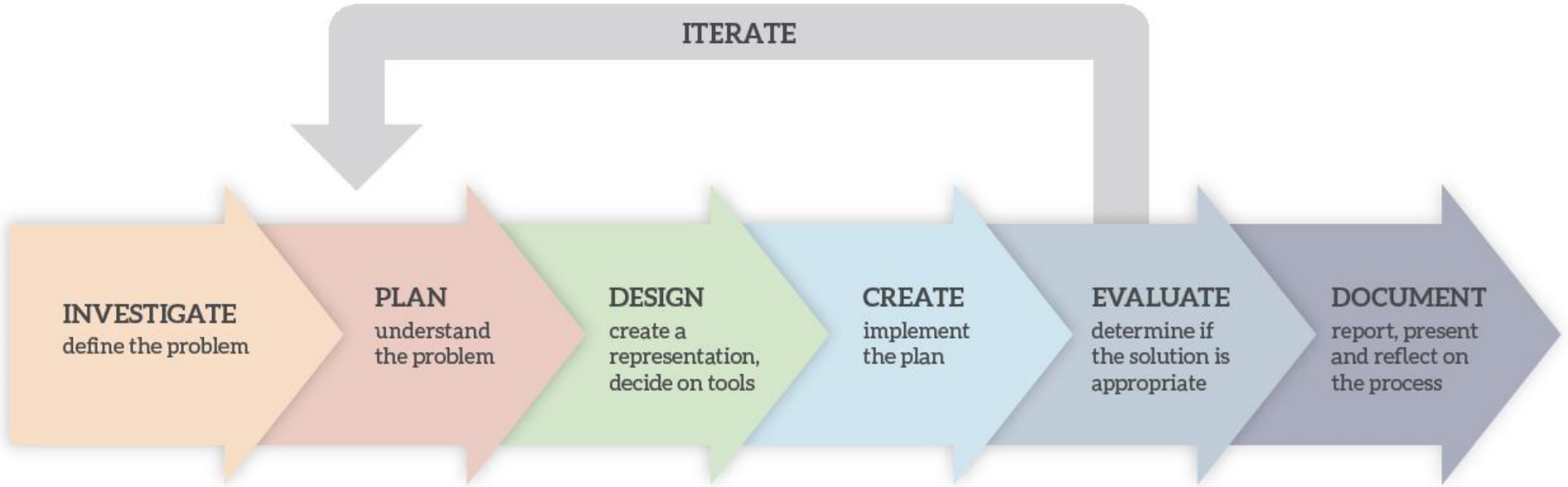
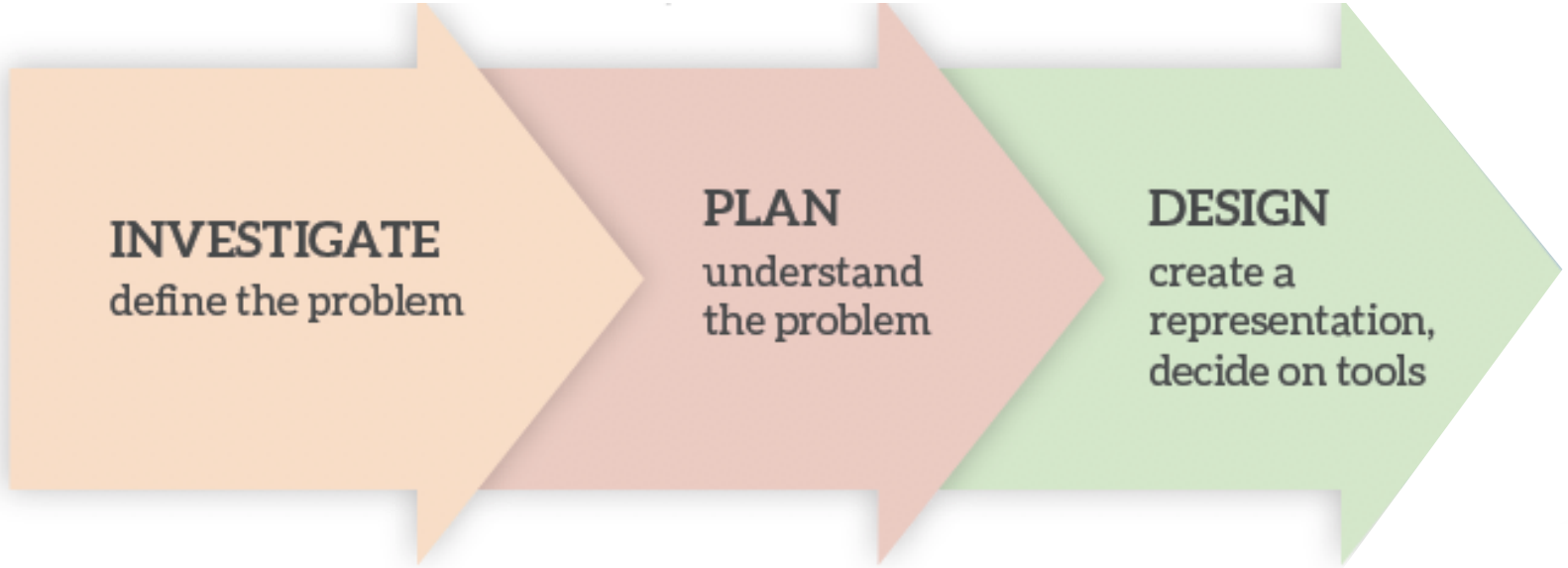
Session 1

Coursework – Investigate/Plan/Design

Group Activity

Experience the Coursework through the lens of your students


ITERATE
INVESTIGATE
define the problem
PLAN
understand the problem
DESIGN
create a representation, decide on tools
CREATE
implement the plan
EVALUATE
determine if the solution is appropriate
DOCUMENT
report, present and reflect on the process


INVESTIGATE
define the problem
PLAN
understand the problem
DESIGN
create a representation, decide on tools

1

INVESTIGATE
define the problem

Discussion of possible ideas for coursework (blue-sky thinking)

Output: A list of ideas

Group Activity
Breakout I - Investigate

Group Activity
Breakout I - Investigate

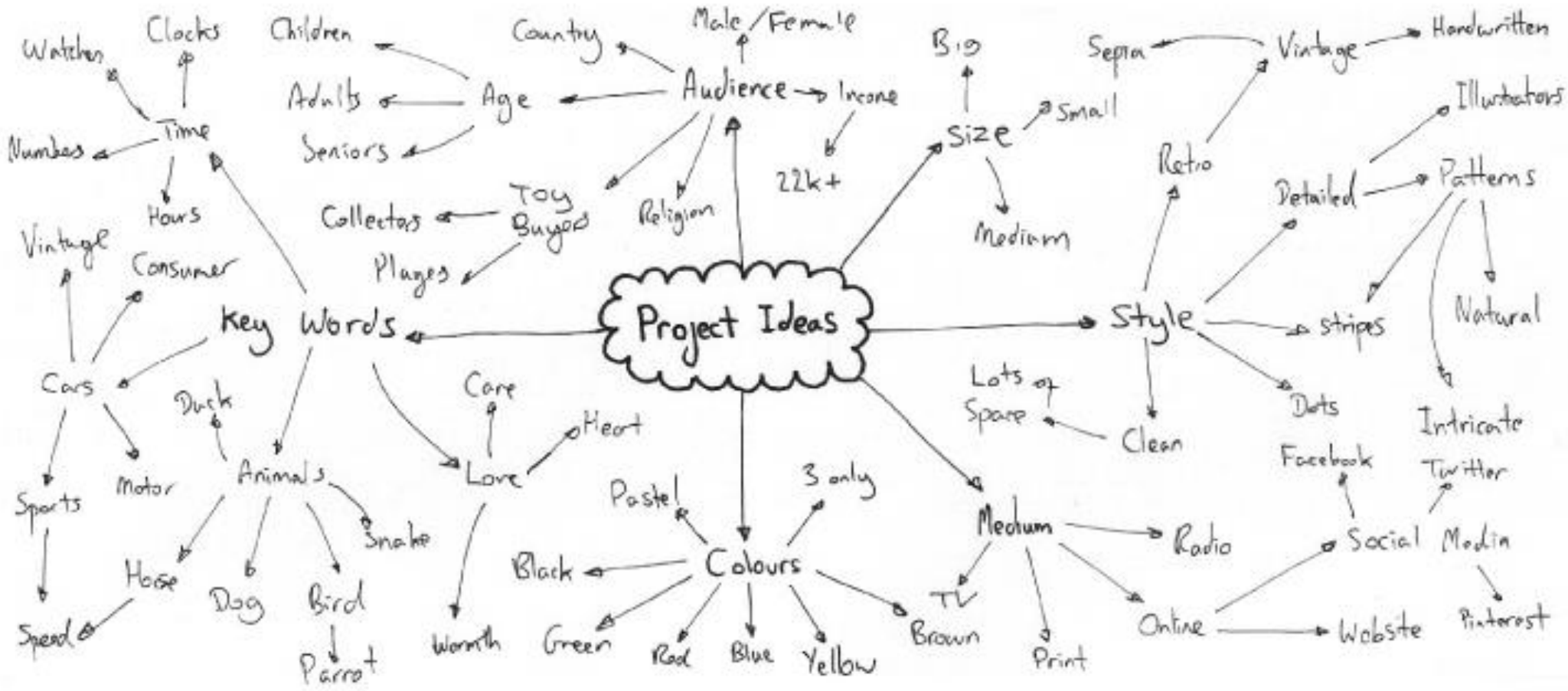
In your assigned groups, share potential ideas for the coursework

Aim for as many ideas as you can

Add your ideas to the Google doc for your Group Number (corresponds to breakout room number)

Nominate a timekeeper, notetaker, chairperson and spokesperson

Group Activity
Breakout I - Investigate



Group Activity
Breakout I - Investigate

What is the context?

Identify a range of existing systems related to the context.
- What problem(s) (if any) do these systems solve?
- Who are the stakeholders and how do they benefit?

Are you curious to find out more about any of these systems?

Do any of the links provided in the context inspire you?

How can you relate your own interests to the brief?

Are there areas you would like to explore further? Who will the solutions help?

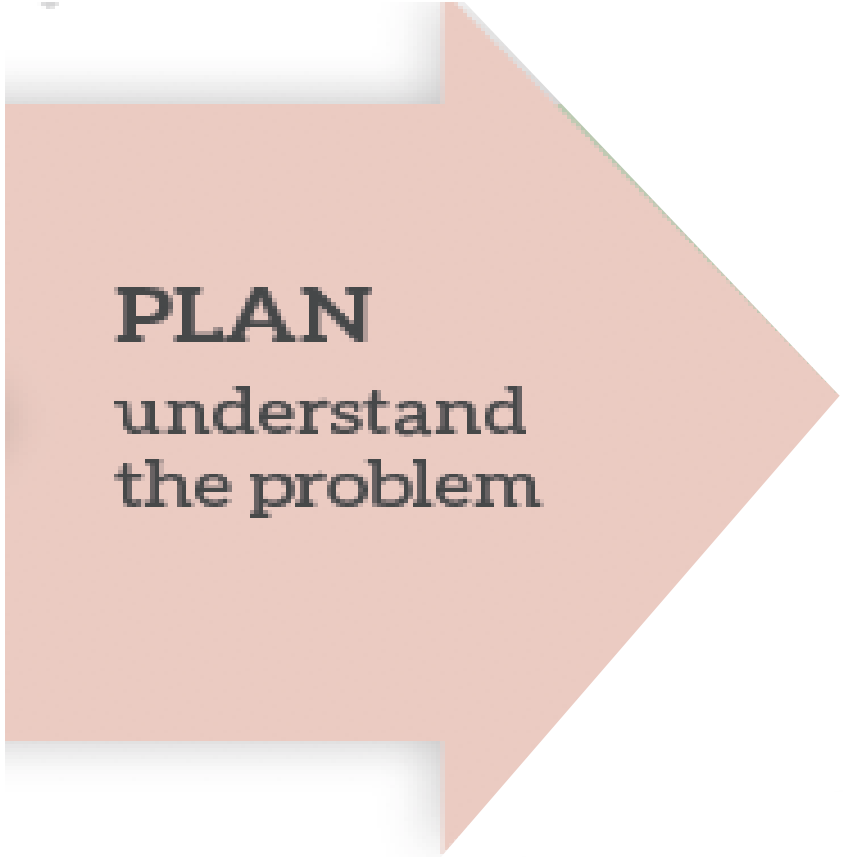
Output: List of possible projects

Group Activity
Breakout I - Investigate

Feedback from each group

What were your ideas? – brief summary

2



Pick one of the suggestions

Dissect the idea

Decide on the WHAT

Group Activity
Breakout II - Plan

Group Activity
Breakout II - Plan

In your assigned groups, **evaluate** your potential ideas

Choose **one idea** for further development

Develop your chosen idea further and produce a list of system requirements

Nominate a timekeeper, notetaker, chairperson and spokesperson

Group Activity
Breakout II - Plan

Of all your project ideas which one resonates with you most? Why?

Why did you select this idea?

What problem will this system address/solve? What are the system objectives?

Who is your target audience?

Are there any social/ethical/moral considerations?

What will the system do/not do?

How will I know if I succeeded?

Output: Problem statement and specification of system functionality.

3

DESIGN

create a representation, decide on tools

Decide on the how?

Group Activity
Breakout III - Design

Group Activity
Breakout III - Design

In your assigned groups, **design** a solution for your artefact

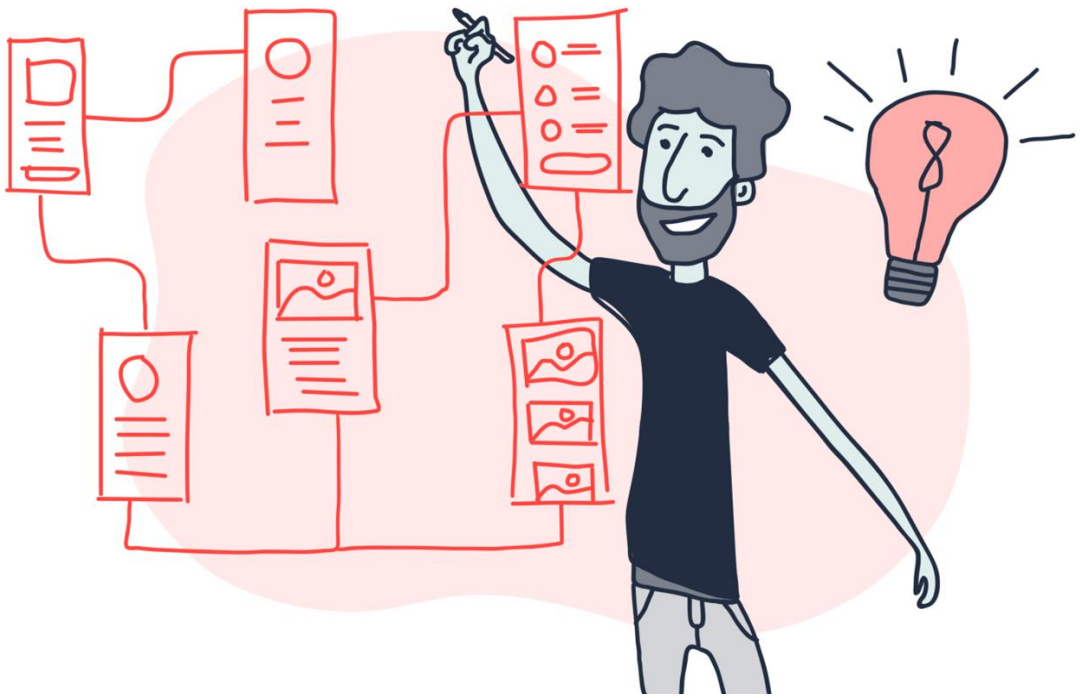
Draw a diagram of the system architecture

Identify inputs / outputs / dataflows

Create sitemaps / wireframes / prototype / pseudo-code / flowcharts

Nominate a timekeeper, notetaker, chairperson and spokesperson

Group Activity
Breakout III - Design



Symbol	Name	Function
	Start/end	An oval represents a start or end point
	Arrows	A line is a connector that shows relationships between the representative shapes
	Input/Output	A parallelogram represents input or output
	Process	A rectangle represents a process
	Decision	A diamond indicates a decision

Group Activity
Breakout III - Design

How does the system work in an overall sense?

- How do the various sub-systems relate/talk to one another?
- What platforms/technologies are used?
- What does the architecture of the system look like?

How will each part of the system gather any necessary data?

- What are the data requirements?

What tools or materials are needed?

Embedded system: digital/analogue i/o, use of sensors etc

Website: sitemap, storyboards, wireframes, prototype etc

Specification of algorithms e.g. pseudo-code, flow charts

Not expected to get finished!
- some groups might though!

5 minute stretch break

Group Activity
Breakout III - Design

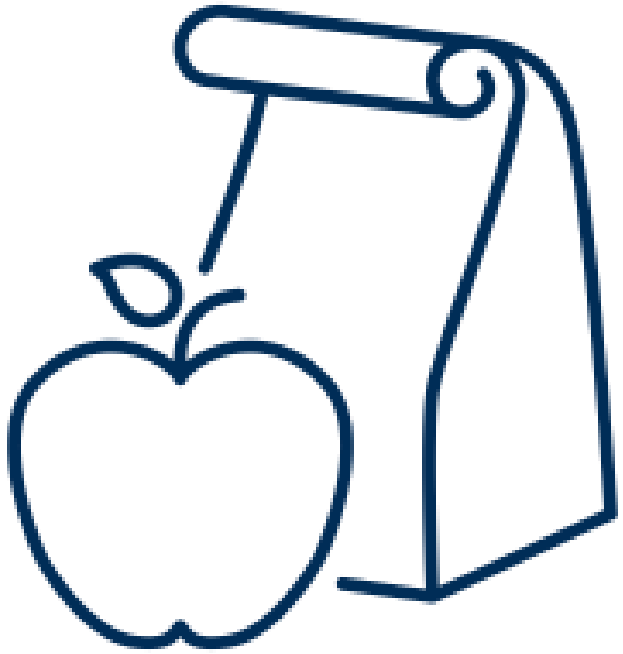
Feedback from each group

What? How?

Presentation and Evaluation

Guidelines for Critical Dialogue

1. Set Container
2. Suspend judgement
3. Listen
4. Listen with Empathy
5. Authentic Voice
6. Opinions based on observations and experiences
7. Allow diversity
8. Listen without Resistance
9. Respect
10. Balance (Advocacy and Inquiry)



Lunch

Group Activity
Breakout III - Design

Feedback from each group continued

What? How?

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Session 2

Developing a shared understanding

Group Activity

Dissect the Coursework Brief

Each group will be assigned one topic from the brief to dissect and then explain to the other groups.

Groups 1 & 6: Information for candidates

Groups 2 & 7: The project brief

Groups 3 & 8: Coursework report – content and structure

Groups 4 & 9: Outline marking scheme

Groups 5 & 10: Instructions on completing and submitting

Presentation & Reflection

Update from each group