



National Workshop 7



LEAVING CERTIFICATE
COMPUTER SCIENCE

Session 1	Coursework 2020: Reflections on experiences
11.00 – 11.30	Tea/Coffee
Session 2	Coursework 2021: Investigate, Plan and Present
13.00 – 14.00	Lunch
Session 3	Coursework 2021: Developing an agreed understanding

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.

Mentoring

A mentor is not an instructor; a mentee is not a student

Talk about teaching and learning, strategies and successes

Support (beyond the technical!)... wellbeing, planning, reflective... an ear to listen

A WOW conversation (Wins, Obstacles, Wonderings)

Slack

By the end of this day participants will have:

shared reflections on the 2020 coursework brief.

experienced the early stages of the design process for the 2021 coursework brief and shared their experiences with other participants.

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.

Session 1

Coursework 2020: Reflections on experiences

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)

“The coursework assessment will use practical situations to assess how students **design** data structures and develop **algorithms**, integrate ideas, **test hypotheses**, and **explore alternative** approaches..” (Page 27)



Context

Based on the task given in the brief, students will construct a **coursework digital portfolio**. The key components of the coursework digital portfolio are:

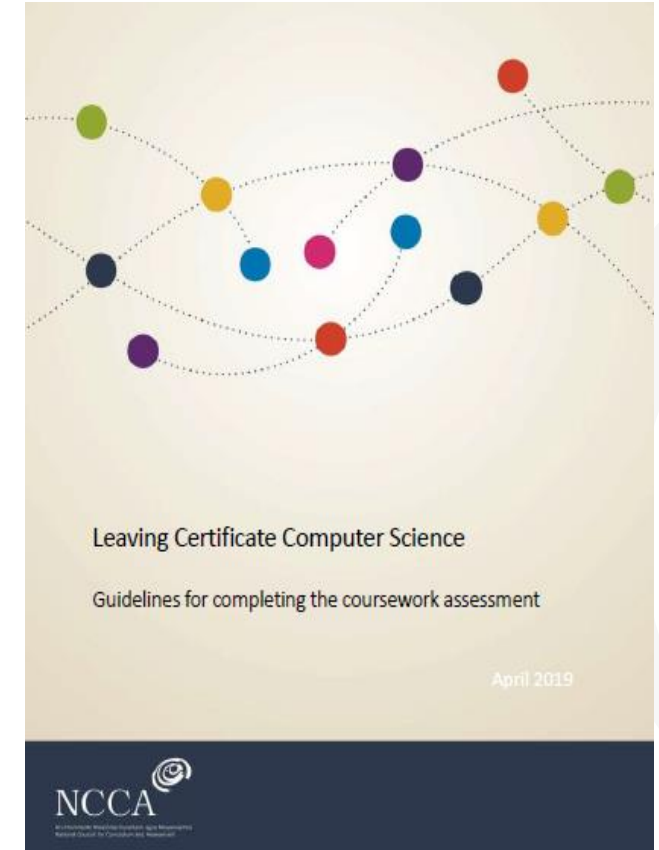
- The digital components of the computational artefact
- A coursework report, including a video presentation. (Page 3)

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

1. A rationale for the approach to the brief
2. The final artefact in operation
3. Design and development of the artefact
4. Evaluation of the final artefact (Page 4)

The key areas of assessment addressed by the quality descriptors are:

- Design and development
- Computational thinking
- Computer programming
- Problem solving
- Appropriate use of computing technologies
- Awareness of potential social impacts (Page 7)



5 Key Skills at Senior Cycle



Show and Tell: student work, coursework reports and videos



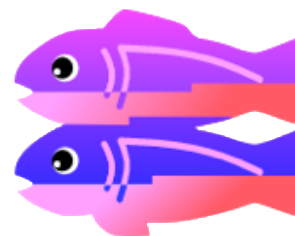
Google Classroom



OneNote



Google Sites



Group Discussion

Reflect on experiences from coursework 2020





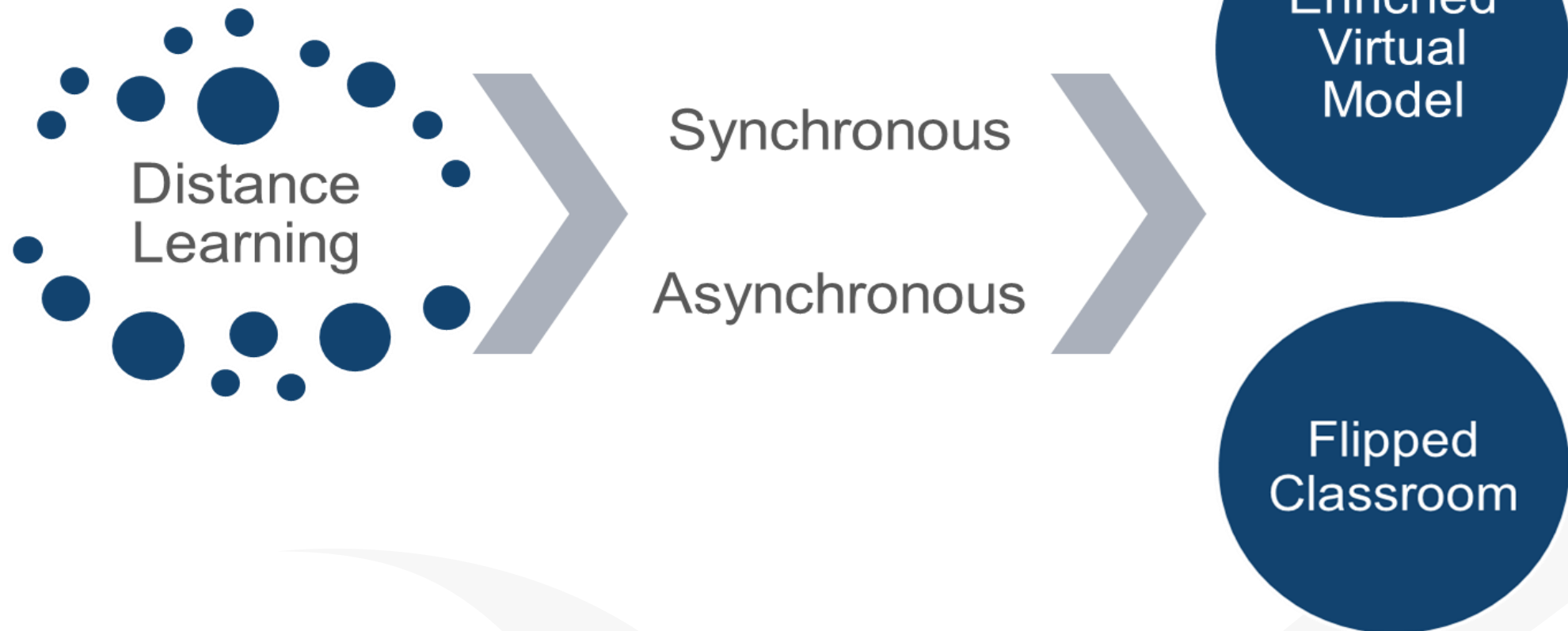
5 minute stretch break



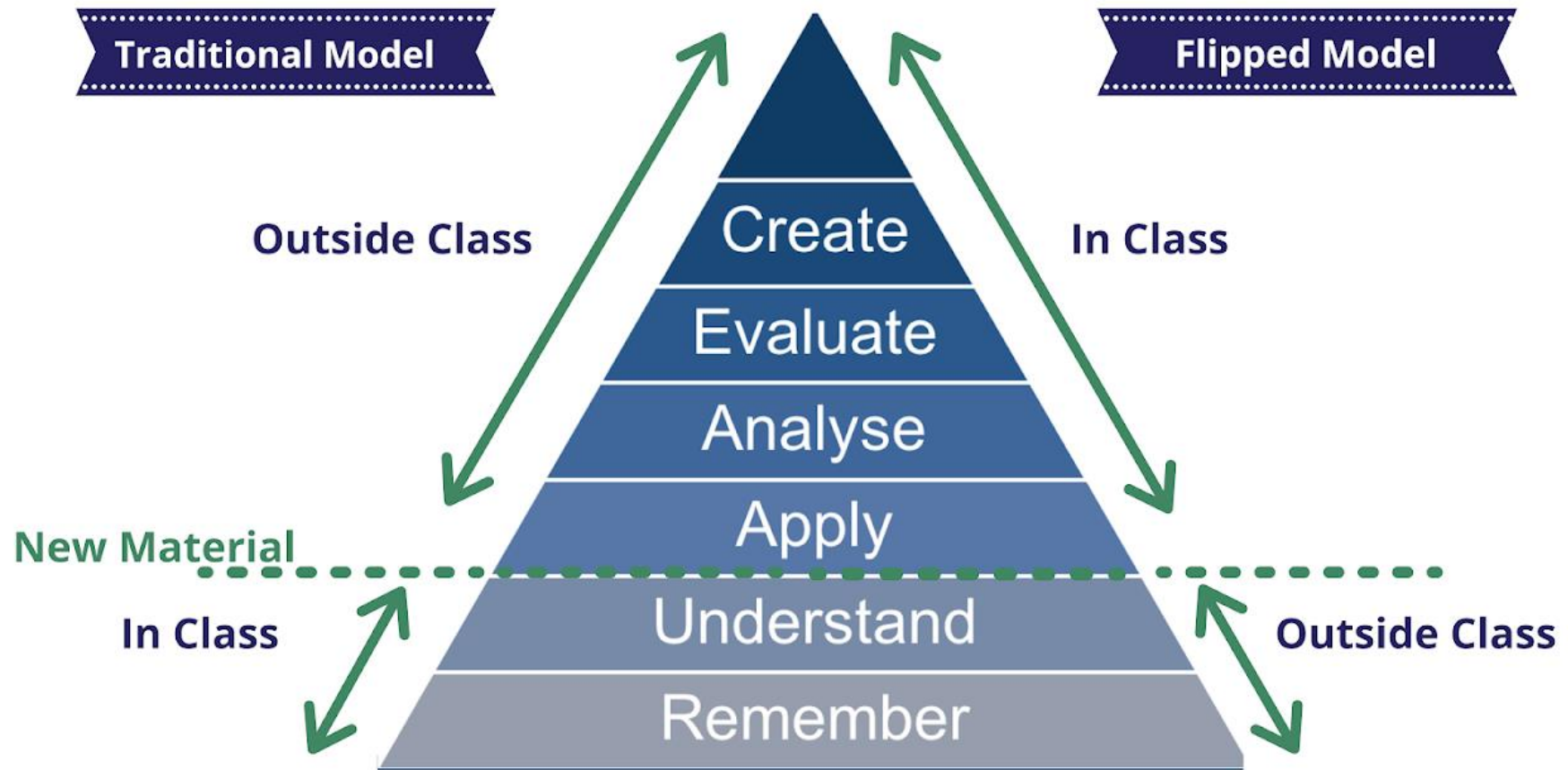
Blended Learning

Blended Learning

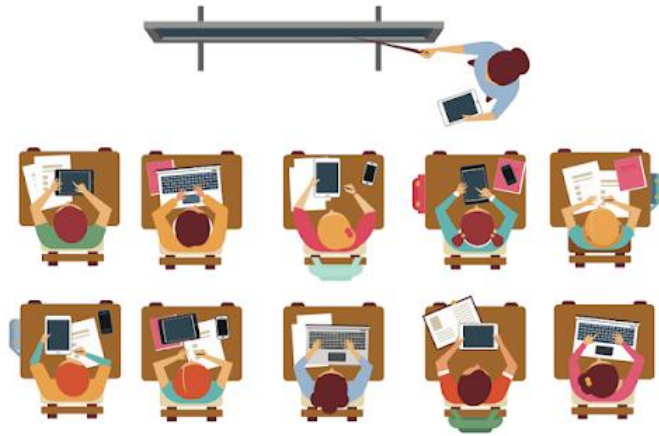
“the thoughtful integration of classroom face-to-face learning experiences with online learning experiences” (Garrison and Kanuka, 2004)



Flipped Classroom Model



Enriched Virtual Model



In School:
face-to-face
instruction/ supplementation



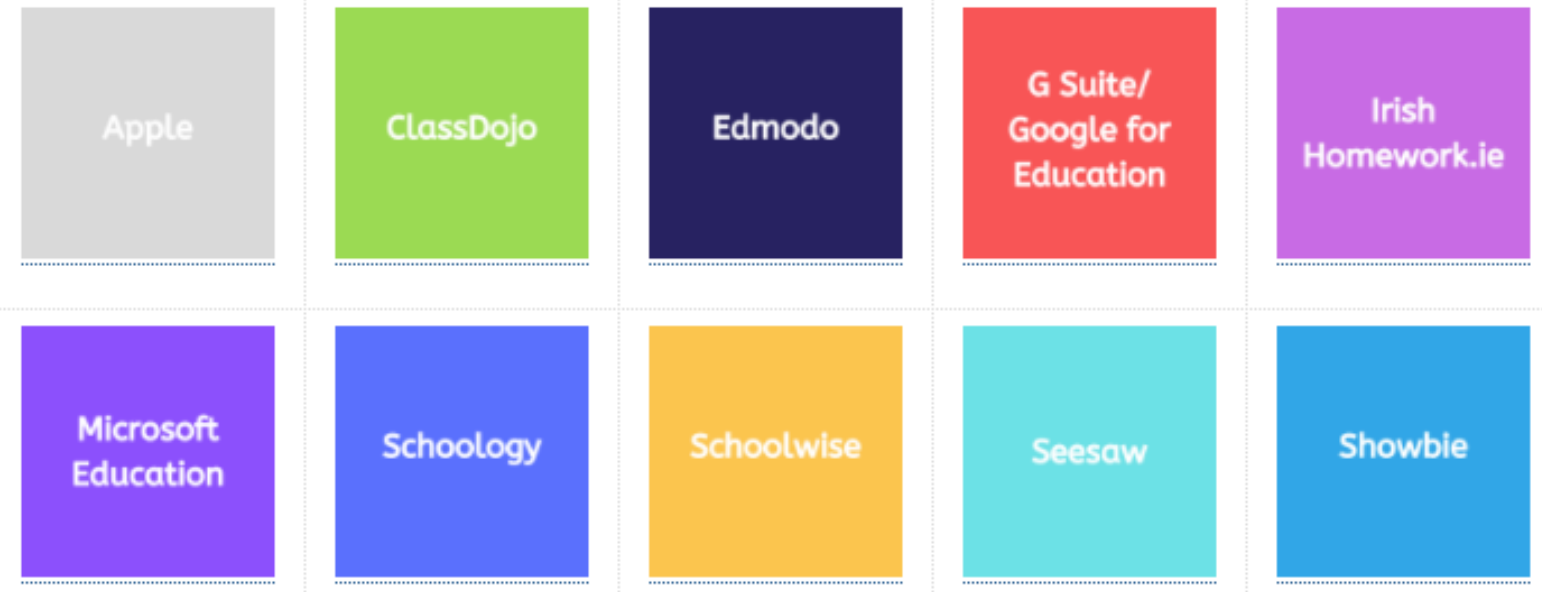
At Home:
Online instruction
and content

Blended Learning – Digital Platforms

Platforms to support distance learning




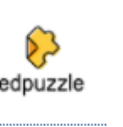





















Click on the images and links below to find out more about the various platforms and their online features that can be used to support teaching and learning remotely.

Platforms



<https://www.pdst.ie/DistanceLearning/DigTech>

Blended Learning - Tools

Online Tools				
				
Adobe Spark Page	Adobe Spark Video	Book Creator	Edpuzzle	Epic
				
Formative	Google Forms	Google Meet	Loom	Mentimeter
				
Microsoft One Drive	Microsoft Stream	Microsoft Teams	Microsoft Word	Nearpod
				
Quizizz	Screencast-o-matic	Showbie	Socrative	Wakelet
				
VideoScribe	Webex	Write Reader	YouTube Playlists	Zoom

Mentimeter

URL = www.menti.com

Code = 56 76 463

What software did you use to record the
2020 coursework video?

SCREENCAST  MATIC



Camtasia[®]



iMovie



 **Screencastify**



Adobe Spark



Clips for iOS

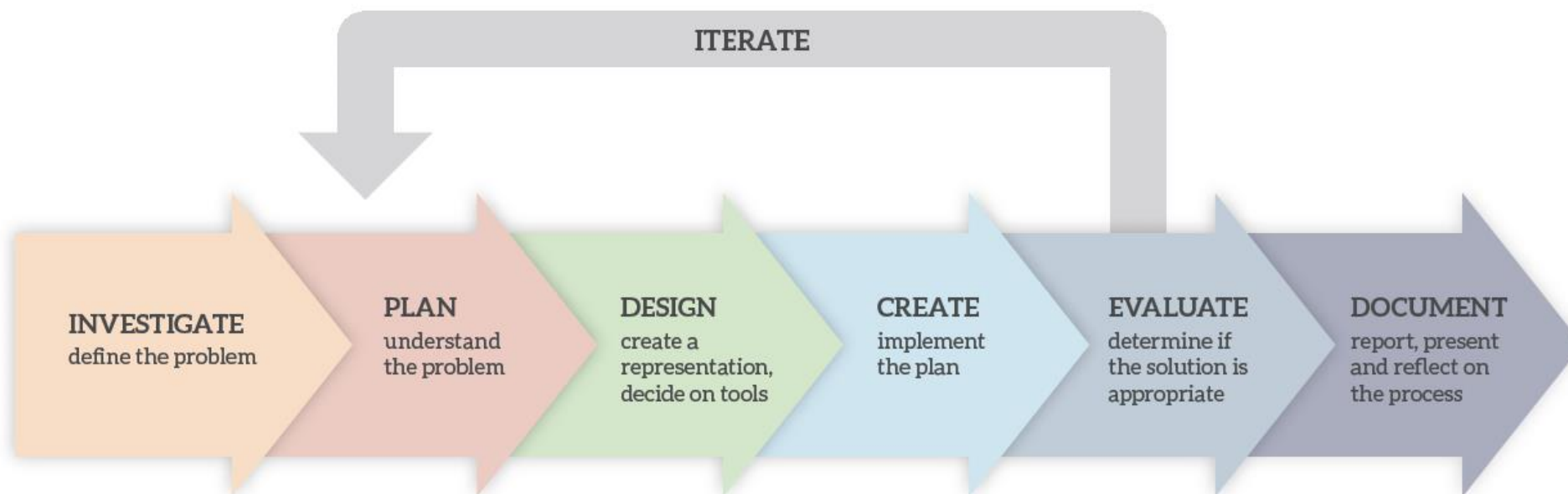


Tea/Coffee

Session 2

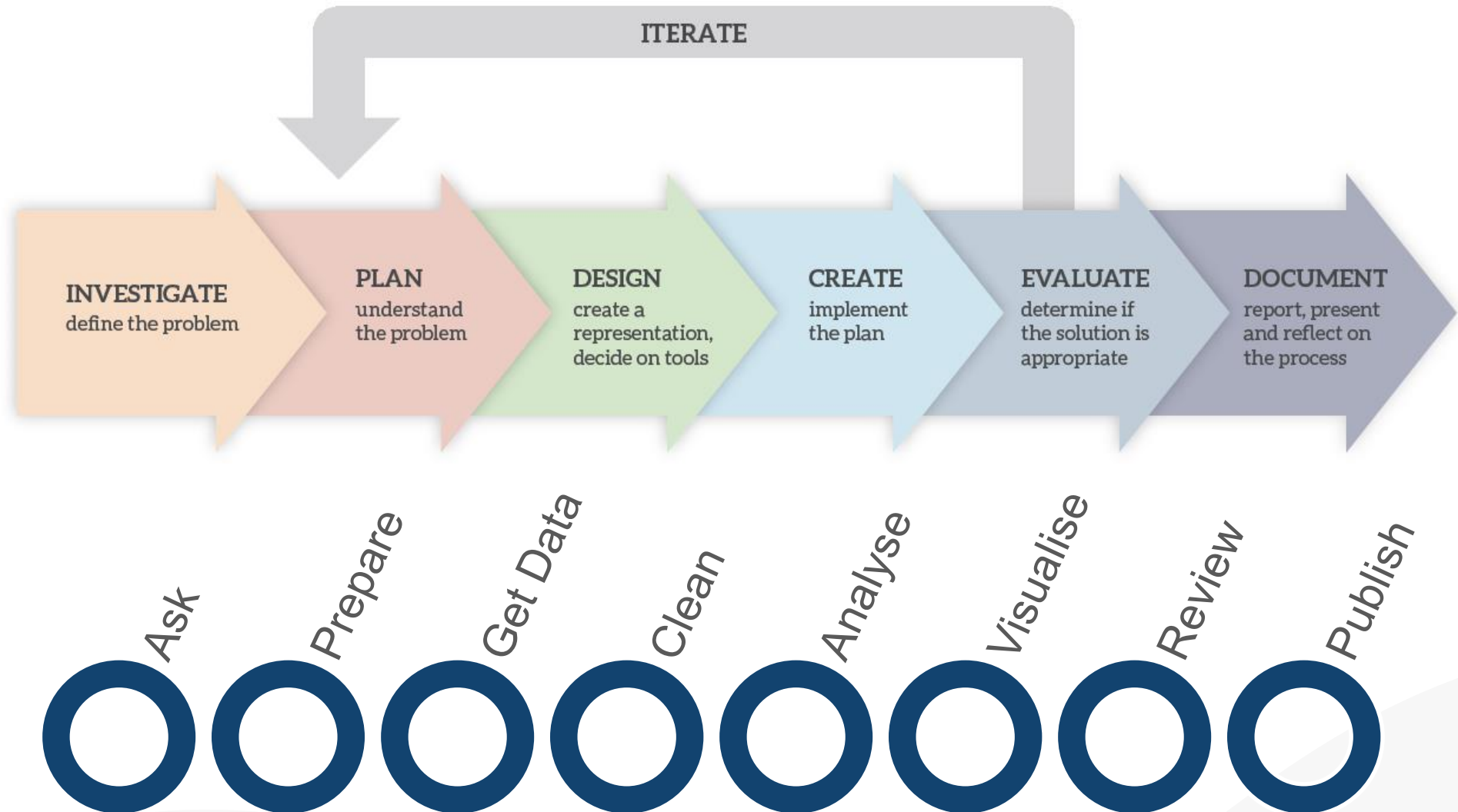
Coursework 2021: Investigate, Plan and Presentations

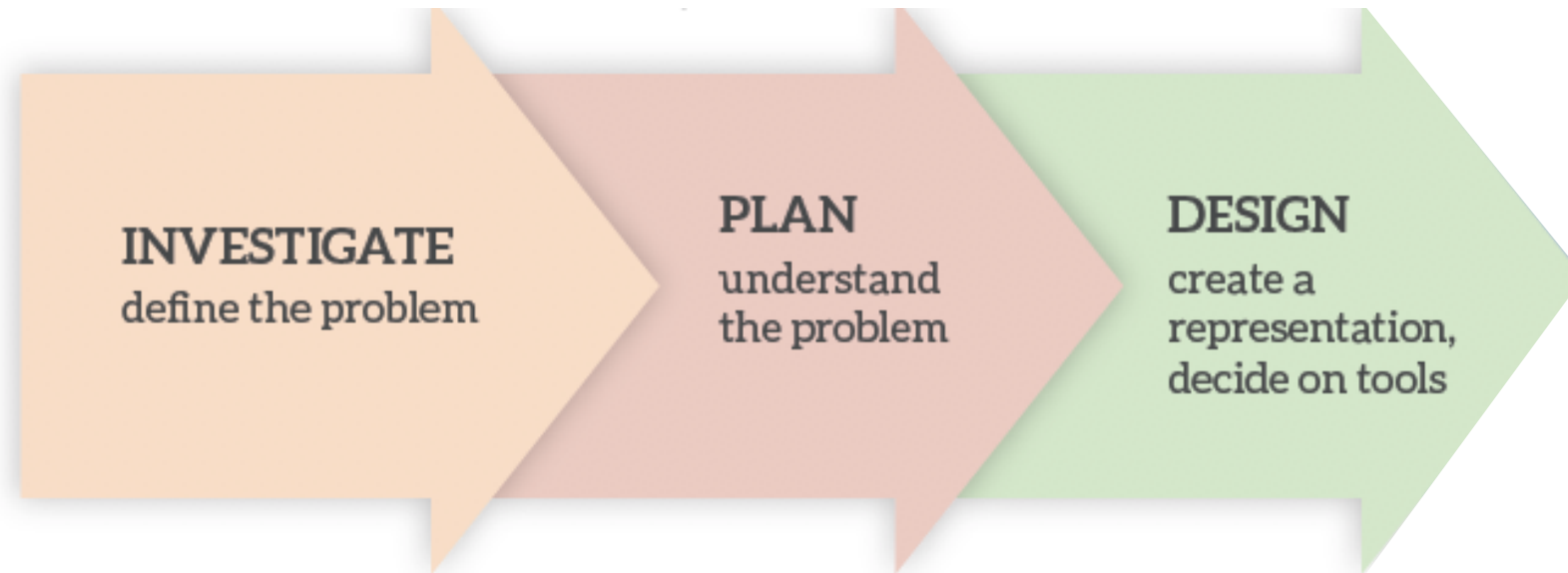
The Design Process



NCCA, Leaving Certificate Computer Science Specification, Page 11

The Design Process





Group Activity / Breakout #1



Investigate

1

INVESTIGATE define the problem

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

- What is the context?
- What are your hobbies, interests, passions?
- How do these align with the context?
- Can you define a potential problem area?
- What about existing systems?
- Who are your stakeholders?

Output: A list of ideas



Group Activity / Breakout #2



Plan

2

PLAN understand the problem

Input: An idea to develop

- Why did you select this idea?
- Who is your target audience?
- What problem will this system address/solve?
- Are there any moral/ethical considerations?
- What are the system requirements?
- What if I want to change the requirements later?
- What will the system do/not do?
- How will I know the system does what I want it to do?
- What are the key milestones?
- Timeline?

Output: A problem statement and functional specification



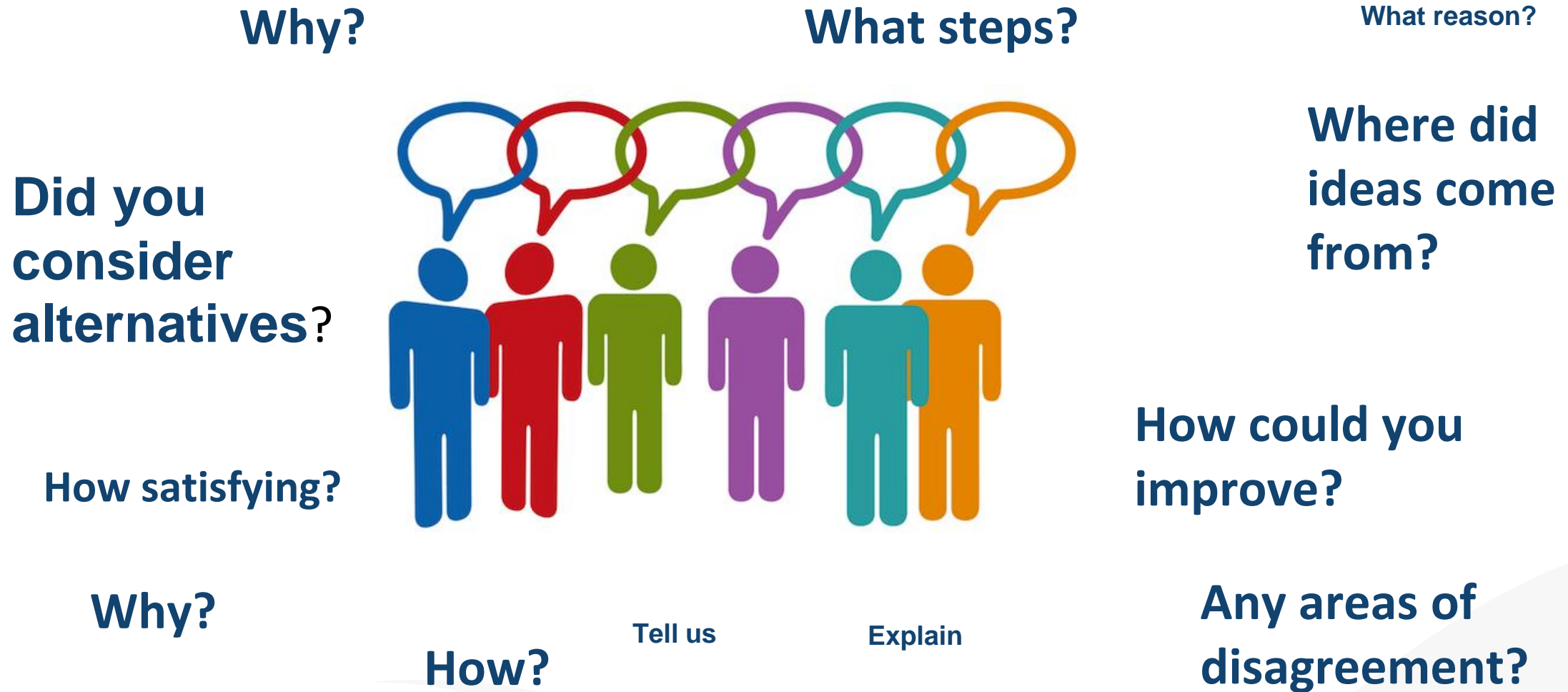


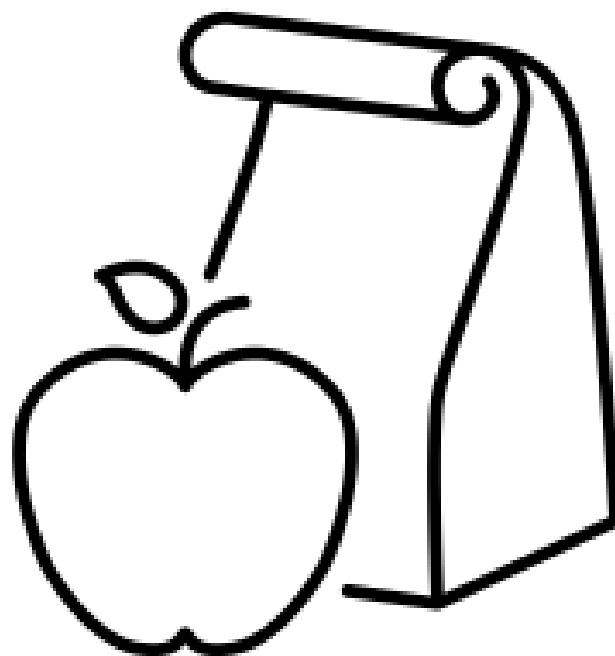
5 minute stretch break



Presentation of Ideas

Each group shares their ideas with the other groups





Lunch

Session 3

Coursework 2021: Developing a Common Understanding

Presentation of Ideas (ctd.)

Each group shares their ideas with the other groups

Why?

What steps?

What reason?

Did you
consider
alternatives?

Where did
ideas come
from?

How satisfying?

How could you
improve?

Why?

How?

Tell us

Explain

Any areas of
disagreement?





5 minute stretch break



Group Activity / Breakout #3



Home expert activity on dissecting the brief



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

Groups 1 & 2: Information for Candidates

Groups 3 & 4: The project brief

Groups 5 & 6: Coursework Report – Content & Structure

Groups 7 & 8: Outline Marking Scheme

Groups 9 & 10: Information on completing and submitting

Group Discussion



Feedback from each group



**An Roinn Oideachais
agus Scileanna**
Department of
Education and Skills



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