Oide

Tacú leis an bhFoghlaim Ghairmiúil i measc Ceannairí Scoile agus Múinteoirí

Supporting the Professiona Learning of School Leaders and Teachers

Session 6

ALT 1
Design and Create

By the end of this session

Participants will have:

- experienced the design phase for an original ALT1 project
- enhanced their team working, communication and collaboration skills
- acquired additional skills, knowledge and ideas on how to facilitate ALT 1 in their own classrooms
- enhance their understanding of the Design and Create stages of the Design Process with a particular focus on ALT 1

The Design Process

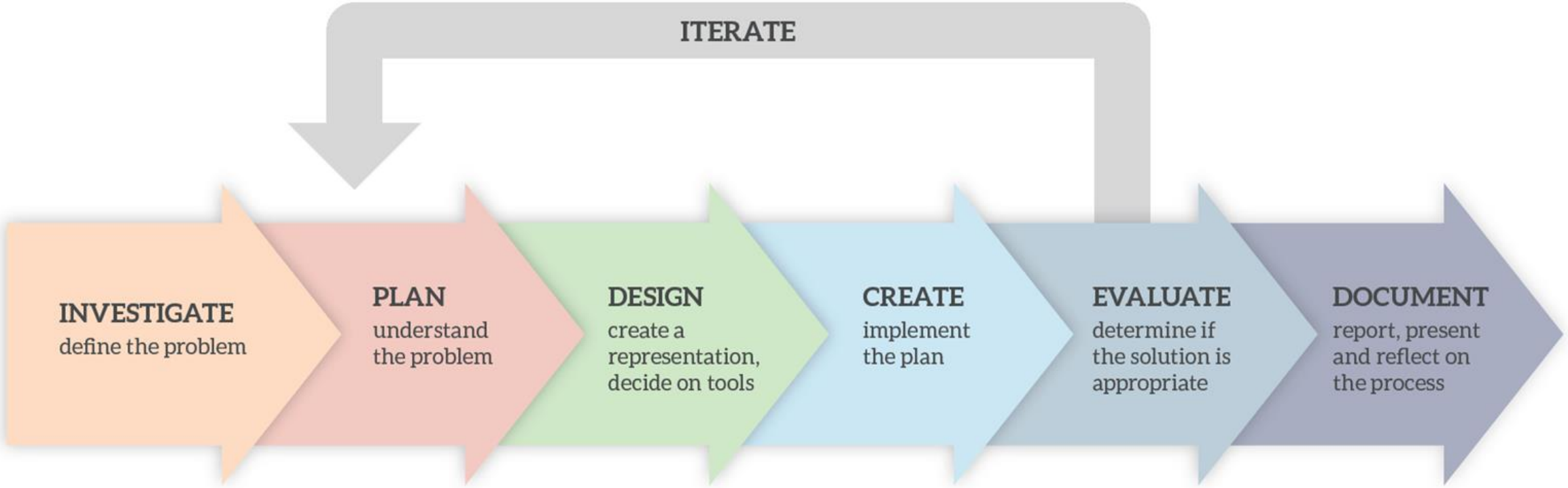
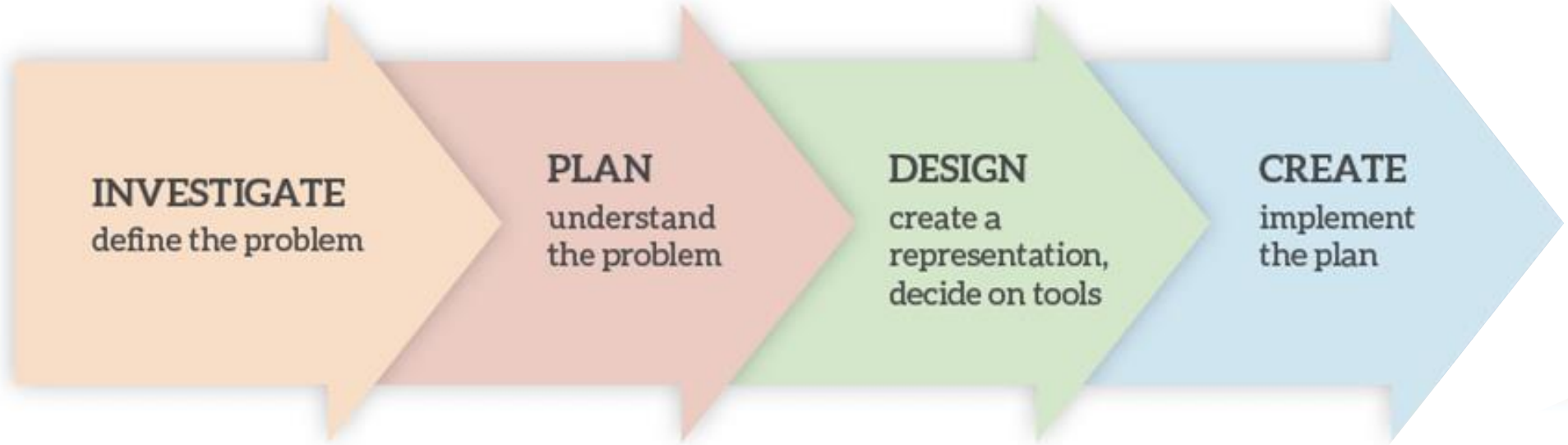


Figure 3: Overview of a design process

The Design Process



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- Map
- Diagram
- Storyboard
- Mock-up
- Wireframe
- Paper Prototype

Learning Outcomes

Students learn about:	Students should be able to:
Information systems	3.1 understand and list user needs/requirements before defining a solution
User-centred design Web design	3.2 create a basic **relational** database to store and retrieve a variety of forms of data types
File systems and **relational** databases	3.3 use appropriate programming languages to develop an interactive website that can display information from a database that meets a set of users' needs
Design process	

Learning Outcomes
(don't try and do too much!)

1.15	consider the quality of the user experience when interacting with computers and list the principles of universal design, including the role of a user interface and the factors that contribute to its usability
1.16	**compare two different user interfaces and identify different design decisions that shape the user experience**
1.17	describe the role that adaptive technology can play in the lives of people with special needs
1.18	recognise the diverse roles and careers that use computing technologies

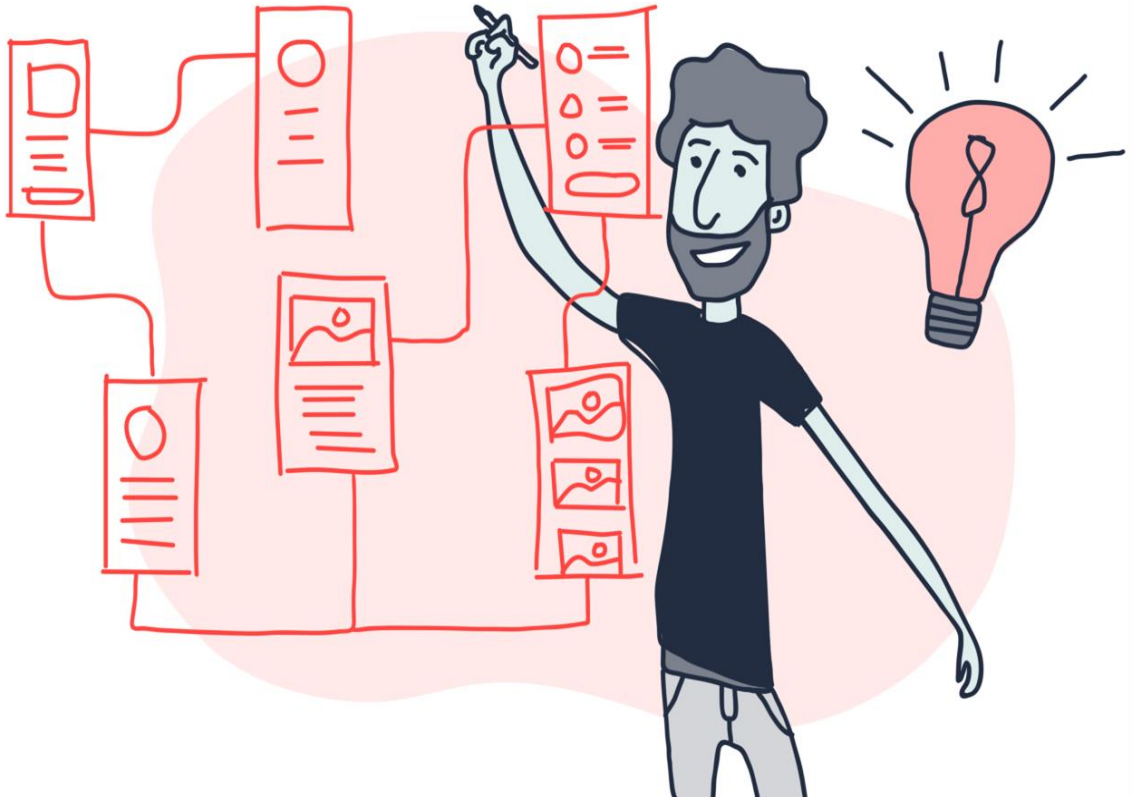
S1: Designing and developing	
Design process	1.19 identify features of both staged and iterative design and development processes
Working in a team, assigning roles and responsibilities	1.20 collaborate and assign roles and responsibilities within a team to tackle a computing task
Communication and reporting	1.21 identify alternative perspectives, considering different disciplines, stakeholders and end users
	1.22 read, write, test, and modify computer programs
Software development and management	1.23 reflect and communicate on the design and development process

S2: Abstraction	
	2.1 use abstraction to describe systems and to explain the relationship between wholes and parts
	2.2 use a range of methods for identifying patterns and abstract common features
	2.3 implement modular design to develop hardware or software modules that perform a specific function
	2.4 illustrate examples of abstract models

S2: Evaluation and testing	
Debugging	2.19 test solutions and decisions to determine their short-term and long-term outcomes
Testing: Unit test, **Function test, System test**	2.20 identify and fix/debug warnings and errors in computer code and modify as required
	2.21 critically reflect on and identify limitations in completed code **and suggest possible improvements**
	2.22 explain the different stages in software testing

2.5 use pseudo code to outline the functionality of an algorithm

Wireframes



Wireframing

https://www.youtube.com/watch?v=8-vTd7GRk-w&feature=youtu.be

Benefits of Wireframing

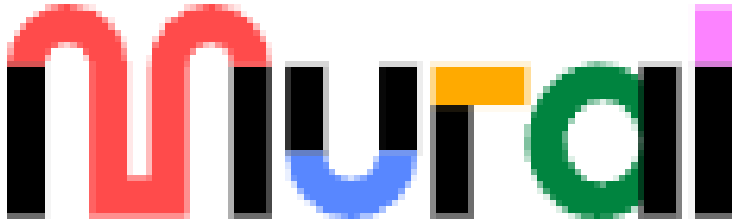
- ✓ Structure
- ✓ Layout (hierarchy)
- ✓ Content
- ✓ Functionality
- ✓ Refinement
- ✓ Understanding

Tips for using Wireframes

- ✓ Keep it simple
- ✓ Use a grid
- ✓ Develop a user-flow
- ✓ Encourage feedback

Digital wireframing tools

What collaborative whiteboard platforms have you used?



ALT1: Design

Create a wireframe for your ALT 1

P30

ALT1: Design - Feedback

Create a wireframe for your ALT 1

P30

Prototyping

https://www.youtube.com/watch?v=JMjozqJS44M&feature=youtu.b

The Design Process

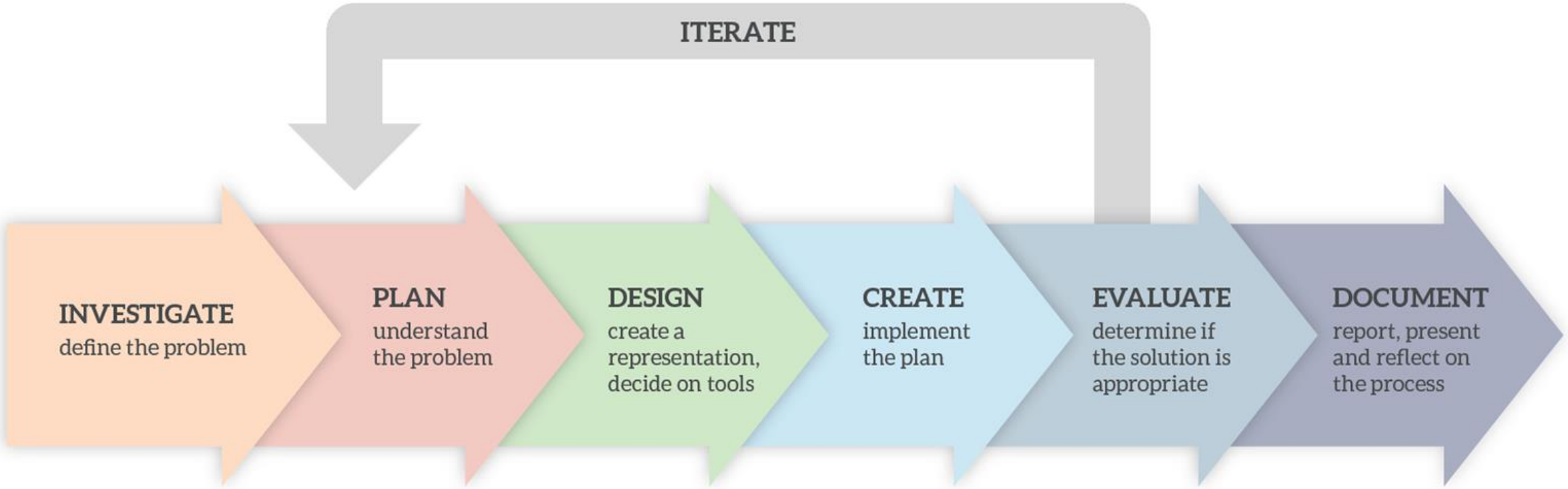
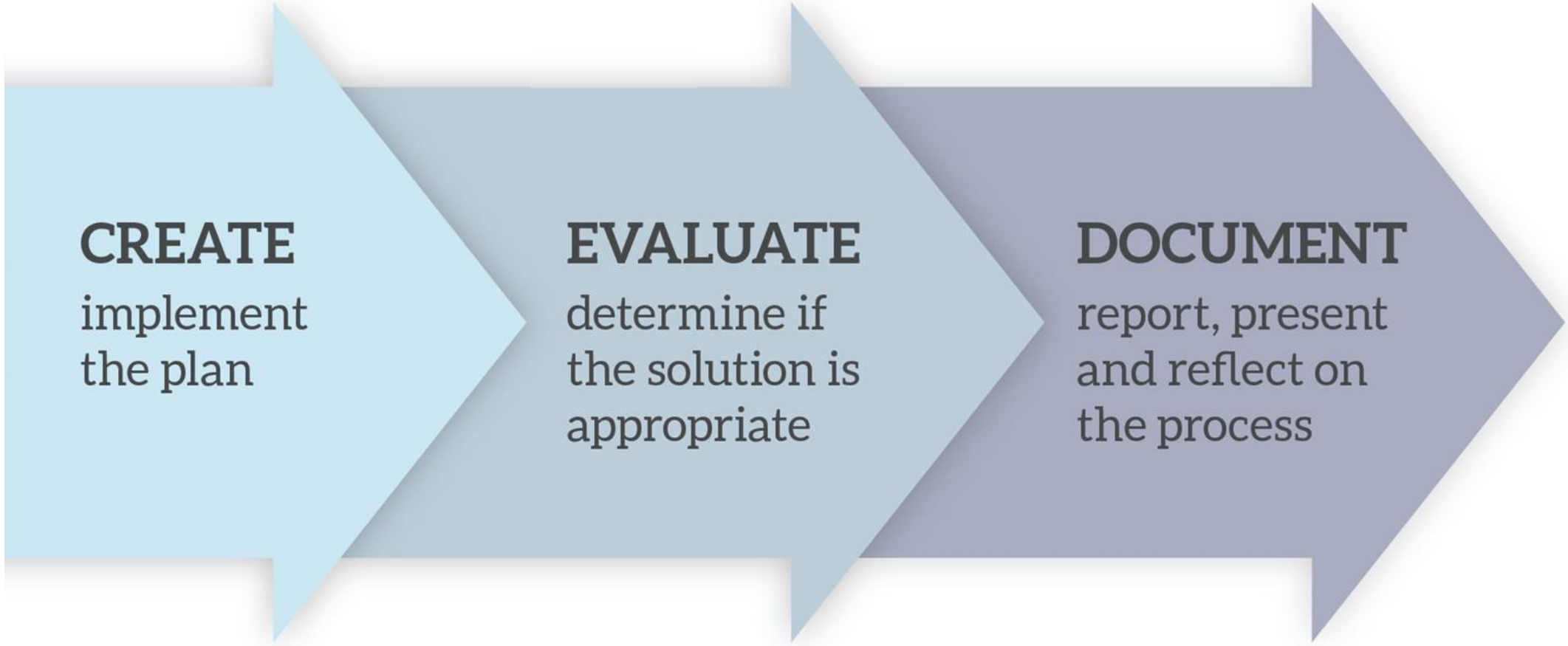


Figure 3: Overview of a design process

Create Evaluate Document

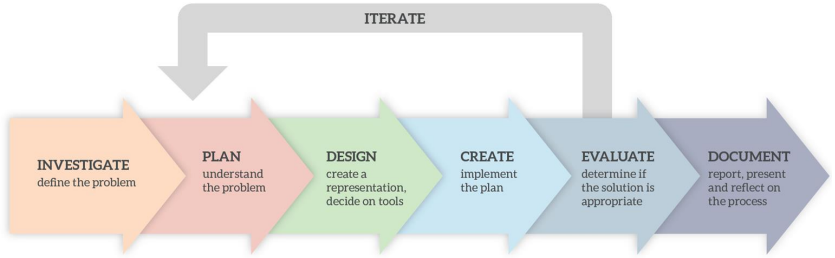


From the Specification

The output from each task is a computational artefact and a concise individual report outlining its development.

In the report, students outline where and how the core concepts were employed.

The structure of the reports should reflect the design process shown above in Figure 3.



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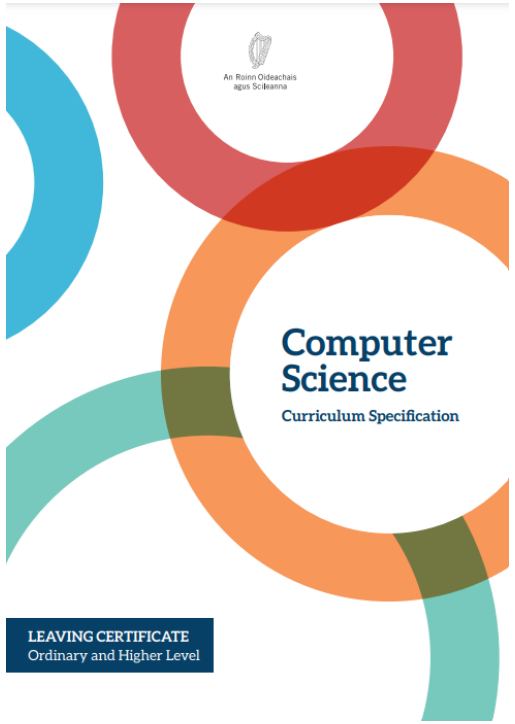
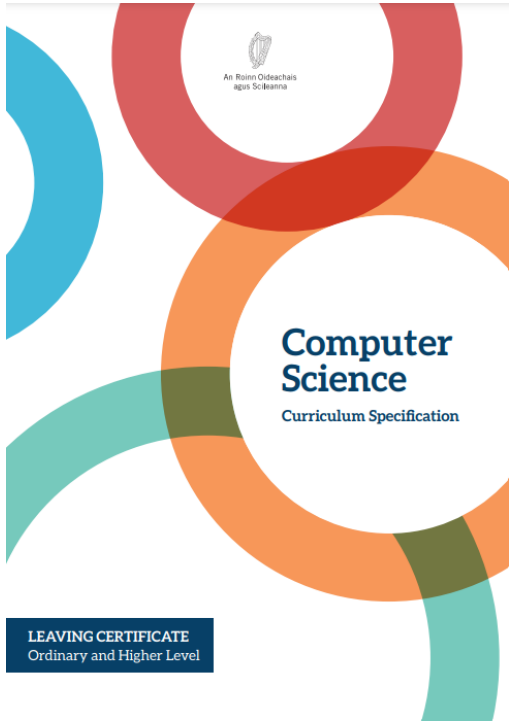


From the Specification

Initial reports could be in the form of structured presentations to the whole class.

As students progress, reports should become detailed and individual.

Reports are collected in a digital portfolio along with the computational artefact and must be verified as completed by both the teacher and the student.



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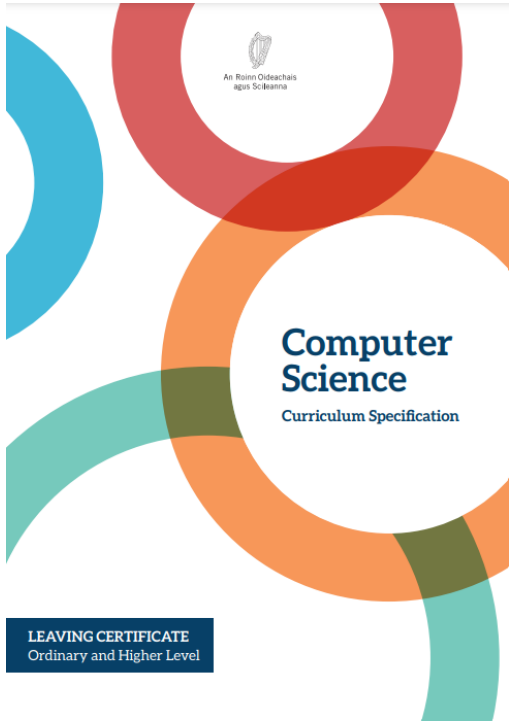
Create Evaluate Document From the Specification

Students are expected to document, reflect and present on each applied learning task.



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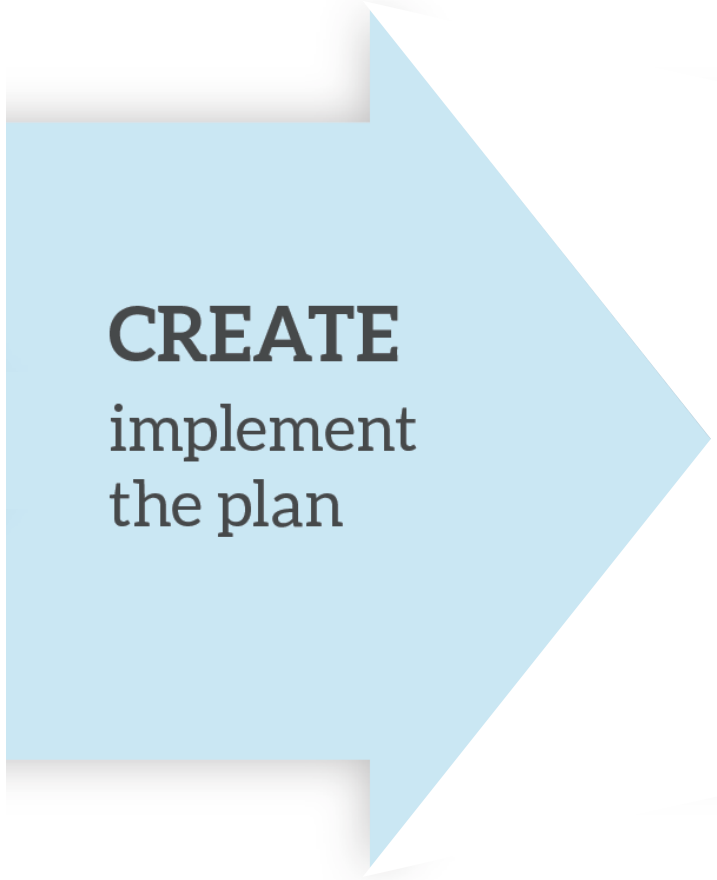
Create



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An Roinn Oideachais
Department of Education