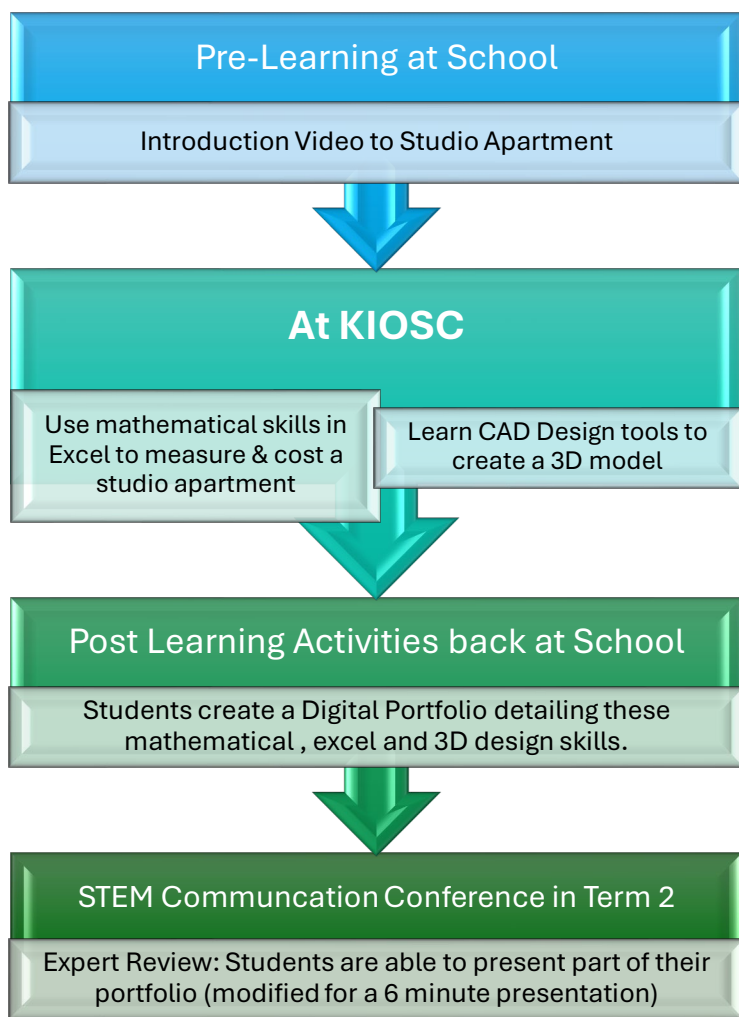# Studio Apartment Design @ KIOSC

Information and Pre/Post -Learning for Classroom Teachers

KIOSC designed pre/post work aims to bridge the gap between students' existing knowledge and the learning outcomes of the workshop. This allows for a smoother learning experience, maximizing the workshop's effectiveness, and fosters deeper student understanding and engagement with material.

Pre-Learning at School

Introduction Video to Studio Apartment

At KIOSC

Use mathematical skills in Excel to measure & cost a studio apartment

Learn CAD Design tools to create a 3D model

Post Learning Activities back at School

Students create a Digital Portfolio detailing these mathematical , excel and 3D design skills.

STEM Communcation Conference in Term 2

Expert Review: Students are able to present part of their portfolio (modified for a 6 minute presentation)

Program Overview: This interdisciplinary project integrates concepts from Foundational Mathematics, Vocational Major (VM) Numeracy, to engage learners to design their ideal teenage studio apartment. The program fosters a real-world application of mathematical skills while encouraging creativity and personal expression.

Project Context: Students will design a detached studio apartment suitable for a teenager, situated in the backyard of their parents' house. Given a budget of $20,000 for building materials and interior furnishings, students will utilize 3D design software to create a virtual model of their studio. The project allows for flexibility by not factoring in the cost of labor, allowing students to focus on design choices and budget management within the set financial constraints. At KIOSC, student activities include:

Student Materials required at KIOSC to complete the Portfolio:

- Student Phone: To capture screen shot and record video of their Extended Reality (XR) model.
- USB Drive: To take any screen shots from the computer and save their Excel Budgeting Sheet for extended work back at school.

Session 1: Project Brief & Money and Maths Matters in Excel

- Foundations (concrete slab) –**measuring and calculating the volume** of a rectangular prims, percentage calculations, budgeting and financial calculations.
- External walling with bricks –**measuring and calculating the area** of a rectangle, percentage calculations, budgeting and financial calculations.

- Internal walling with plaster –**unit conversions** (mm, cm, m), measuring and calculating the area of a rectangle, budgeting and financial calculations.

- Flooring –**measuring and calculating the area** of a rectangle, measuring and calculating total perimeter of a complex shape, budgeting and financial calculations

- Internal furnishings – **percentage calculations, budgeting and financial calculations** (e.g. best buys).

Session 2: Designing in CAD

Learners use TinkerCAD, a free online tool to create 3D design. Students learn how to navigate and begin creating their design concept of their own studio apartment. This work can be saved easily, and they can continue to work on this back at school, refining the process.

Session 3a: 3D Design to Extended Reality (Merge Cube)

Learners can export their CAD files to view in the [Merge Cube](). Merge Cube is a digital learning platform that brings science and STEM concepts to life through 3D simulations. Through this process, students can view their designs in 3D offering a new perspective and re-iterate their designs.

Session 3b: The Keys to the Apartment

In the final session, students can create their own keyring for their house. They are lead through a design phase to create and print their own key rings. This activity offers students a fun way to finish their designs.

Pre/Post learning Opportunities

Students can learn about the program by watching the [pre learning video]() The unit has post work elements, but the purpose of the one-day workshop is for students to learn how to measure and scale using CAD and work within the excel budget template, using key formulars. A digital portfolio is a great assessment tool to view the learning of students in a real application of mathematics and design. The portfolio guide, template and rubric are available on request at the end of the session to be completed back at school over the timeframe of 3-4 lessons. This portfolio works well in the Vocational [Major Numeracy]().

Program Outcomes:

1. Understanding

1.1 Students will be able to explain the purpose of creating a Studio Apartment that factors in design, mathematical and reflection choices.

1.2 Students will be able to explain the purpose of unit conversion (e.g., mm to cm) in the context of their studio design.

1.3 Students will be able to interpret and apply percentage calculations for budgeting and discounts in their design.

2. Applying:

2.1 Students will be able to calculate the volume of concrete needed for the foundation slab based on its dimensions.

2.2 Students will be able to determine the total area of materials needed for the walls and flooring of their studio.

2.3 Students will be able to use TinkerCAD to create a 3D model of their teenage studio.

2.4 Students will be able to use the Merge Cube to view their 3D model in an augmented reality setting.

3. Analysing

3.1 Students will be able to compare and contrast the costs of different materials for their design choices.

3.2 Students will be able to identify areas for improvement in their 3D model after viewing it through the Merge Cube.

4. Evaluating

4.1 Students will be able to assess the feasibility of their design based on budget constraints.

4.2 Students will be able to judge the effectiveness of their 3D model in representing their design concept.

4.3 Students will evaluate the portfolio's effectiveness in communicating the learning journey and design process.

4.4 Students will reflect on their portfolio learning journey, learning from diverse perspectives of feedback given throughout the course.

5. Creating

5.1 Students will be able to design their own personalised teenage studio using mathematical calculations and 3D software.

5.2 Students will be able to create a digital portfolio showcasing their learning journey and design process, presenting to the class.

Curriculum Links:

This program has strong links to:

- VCE Vocational Major Numeracy
    - Unit 1 and Unit 3

There are **three outcomes** in the VCE Vocational Major study design. These three outcomes are intended to be taught in an **integrated** manner, and where possible they should not be taught in isolation. Outcomes 1, 2 and 3 are mapped to Personal Numeracy and Financial Numeracy for this program.

Outcome 1:

Personal Numeracy covering:

      One: Number

      Three: Quantity and measures

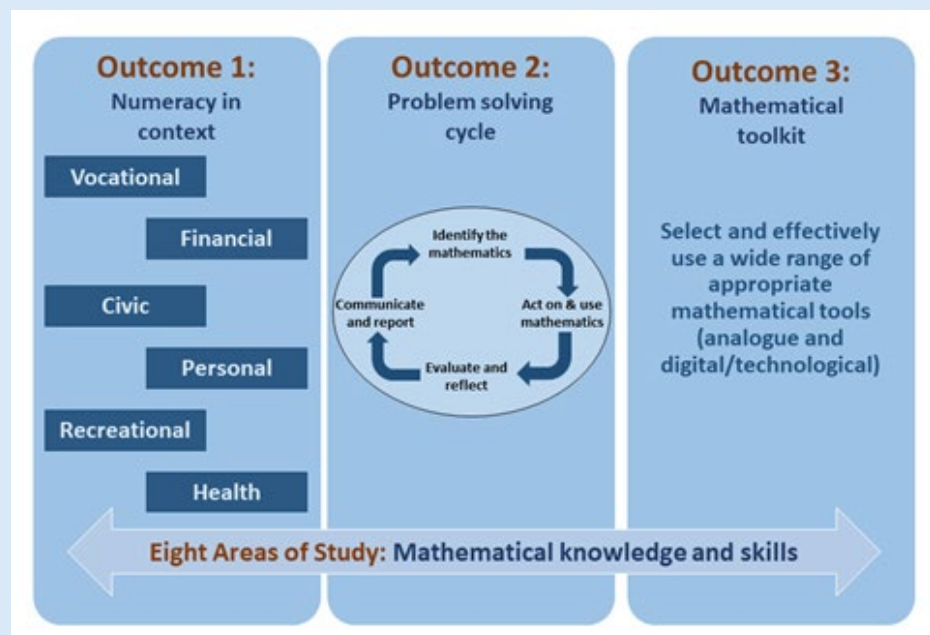Financial Numeracy covering:

      One: Number

      Two: Shape

      Four: Relationships

Outcome 2:

Problem Solving Cycle

Outcome 3: Technological Toolkit.

Outcome 1: Numeracy in context	Outcome 2: Problem solving cycle	Outcome 3: Mathematical toolkit
Vocational	Identify the mathematics	Select and effectively use a wide range of appropriate mathematical tools (analogue and digital/technological)
Financial	Communicate and report — Act on & use mathematics	
Civic	Evaluate and reflect	
Personal		
Recreational		
Health		

Eight Areas of Study: Mathematical knowledge and skills

(*Pages - Planning*. (n.d.))

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Pre/Post KIOSC - Learning at School

Enabling Student Success

These post lessons are scaffolded to ensure success of the portfolio. Portfolios can be a new concept for students, and creating one from scratch can be overwhelming. By modeling the process, you break it down into manageable steps, showing learners what's expected and how to approach each section. This will help improve consistency, increase their knowledge, and gain confidence in each step. Overall, modeling, and scaffolding portfolio creation equips students with valuable skills for documenting their learning journey, fosters a deeper understanding of the program's objectives, and sets them up for success in creating high-quality and informative portfolios.

Portfolio Tasks:

Each artefact can be modified to suit your classrooms needs. There are eight artefacts in total, including the formal presentation of the portfolio and a Reflection Journal.

Artefact 1	Studio Mood Board	**Artefact 5**	Extended Reality (XR) Video
Artefact 2	CAD Design of Studio	**Artefact 6**	3D Print of Studio
Artefact 3	Reflective Journal	**Artefact 7**	Portfolio Development Completed
Artefact 4	Excel Budget and Studio Calculations	**Artefact 8**	Reflection Stage, including self-assessment

Timeline Development Overview for students and teachers

This timeline outlines the key stages involved in the Planning and Design phase of the Teenage Studio Apartment Project, highlighting the creation of artefacts and opportunities for feedback.

Week	Task	Artefact
1 **Pre-KIOSC**	**Introduction and Digital Portfolio** • Students watch the video on Studio Apartment. • Digital Portfolio overview and preparation and Artefact Preparation	NA
2 **Pre-KIOSC**	**Digital Portfolio Integration back at School with Miro Software** • Student are lead through Miro Navigation, familiarising themselves with how to use the software before starting the Portfolio. This step is vital for overall success. • Students create a Mood Board in Miro of their design concepts. • Reflective Journal Introduction	**Artefact 1: Mood Board in Miro** **Artefact 3: Reflective Journal**

3 **@KIOSC**	**Studio apartment Program @ KIOSC** • Introduction to CAD Design • Introduction to Excel Budgeting	**Artefact 2: Initial CAD Design** **Artefact 4: Initial Excel** **Spreadsheet** **Artefact 5: XR Create XR video** **Artefact 3: Reflective Journal**
	Revisit your mood board to make changes now that you have started designing in CAD. You may find that you need to alter some of your original concepts. Ensure to track changes that you have made and provide reasons for these choices. • Feedback check point – complete a think-pair-share about your moodboard with a partner. Add to your journal.	Revisit Artefact 1: Mood Board in Miro **Artefact 3: Reflective Journal** After your feedback session, journal the feedback that you have received.
4 **Post** **KIOSC**	**Preparing students to give Peer Feedback** • Feedback Checkpoint: Think-pair-share activity	Re-iteration process **Artefact 3: Reflective Journal**
5 **Post** **KIOSC**	**How to use and respond to feedback** • Feedback Checkpoint	Re-iteration Process **Artefact 3: Reflective Journal**
6 **Post** **KIOSC**	**Creating and Adding Digital Media to a Professional Portfolio using Adobe Express/CANVA and Miro Integration** • Students will have many draft process of their portfolio, but may want to improve the aesthetics of their designs. This is a great time to introduce them to Adobe Express or CANVA to assist in presenting work well. • Feedback Checkpoint: Muddiest Point Activity	Re-iteration process **Artefact 1, 2, 3, 4, 5, 7**
7 **Post** **KIOSC**	**How to Present a Portfolio** • Feedback Checkpoint: Peer Practice and Gallery Walk	
8 **Post** **KIOSC**	**Oral Presentation of your Portfolio** • **Submit your portfolio by providing the link to the teacher**	
9 **Post** **KIOSC**	**Reflecting on Feedback: A Growth Mindset** • **Submit the feedback essay at the end of the week**	**Artefact 8: Reflection Essay** To be completed after the portfolio presentations

Week 1: Introduction and Digital Portfolio

Rationale:

There are many benefits from keeping a digital portfolio to showcase student work and their learning journey through reflective practice. A digital portfolio empowers students to take ownership of their learning journey, showcase their growth, and effectively communicate their skills and achievements to the world. It includes:

- Demonstration of deeper understanding
- A growth mindset
- Metacognition
- Communication skills

Lesson Overview:

In this week lessons:

(1) **Introduction to Studio Apartment**: This video will introduce students to the Studio Apartment and details about the Digital Portfolio.
(2) **Digital Portfolio Overview**: Guide students through the tasks, highlighting the timeline and feedback check ins.
(3) **Digital Portfolio Rubric**

Lesson Resources:

1. **Introduction to Studio Apartment**: VIDEO LINK. This video will introduce students to the Studio Apartment and details about the Digital Portfolio.
2. **Digital Portfolio Assessment Task.**
   a. Guide student through each artefact.
3. **Digital Portfolio Rubric**
   a. Guide students through the assessment rubric.

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DIGITAL PORTFOLIO ASSESSMENT TASK DESCRIPTIONS

Artefact 1: Mood Board

Planning Process: These artefacts document your creative journey and design thinking process. Focus on presenting a clear and visually engaging representation of your planning and design decisions for your teenage studio apartment.

Artefact	Artefact Requirements	Description of task

Planning and design	**Artefact 1:** Create a mood board using the provided Miro template.
	 • Include a variety of images, textures, and colour swatches that represent your design vision.
	 • Annotate each element on your mood board:
	     • Briefly explain why you selected each element and how it contributes to your overall design concept.
	     • If applicable, reference the source of the image (website, magazine, etc.)
	 Ensure your mood board is visually appealing and well-organised.
		Your mood board will visually represent the style and inspiration for your teenage studio apartment design. It should showcase elements like:
		 1. Furniture styles and materials
		 2. Colour palettes and overall aesthetic (modern, minimalist, cozy, etc.)
		 3. Textures, patterns, and finishes
		 4. Examples of lighting fixtures and décor

Mood Board Examples:
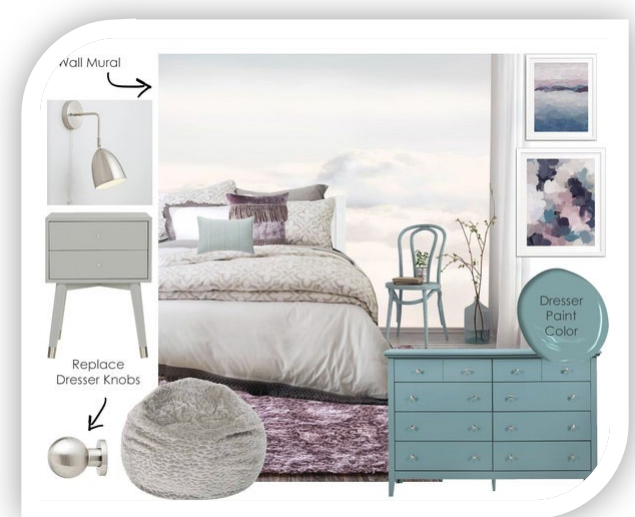
Artefact 2: CAD Design Documentation

Artefact	Artefact Requirements	Description of task

	Artefact 2 - 3D CAD Documentation:
	a. Capture key stages of your design development within the 3D CAD software.
	b. Use screenshots with annotations to explain your thought process and design decisions. This could include:
	    a. Early sketches or layout variations within the 3D model.
	    b. Adjustments made to furniture placement or room layout.
	    c. Exploration of different design elements or materials (e.g., flooring, roofing etc.)
	
	Aim for **5-7 annotated screenshots** showcasing your design evolution.
		Document the ideation and prototyping stages of the development.
		
		Use Adobe Express/CANVA for these applications.
		
		Add narration to explain your design choices during the modelling process.
		
		Scaled Representation: Students will be able to translate real-world measurements into a scaled 3D model. This includes accurately calculating scale ratios and ensuring the virtual studio reflects the intended size and proportions.
		
		Space Optimisation: Students will utilise their understanding of measurement to design a functional layout that maximizes the available space within the studio. This involves planning for essential areas like sleeping, studying, storage, and relaxation, considering furniture placement and traffic flow.

CAD Design Examples: Annotate and show progression of design.
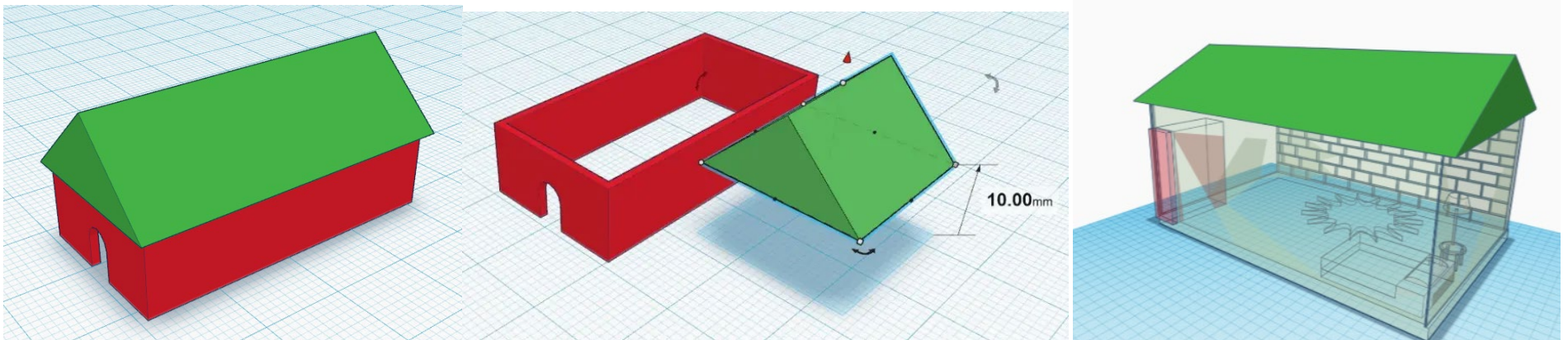
Artefact: Reflective Journal

Artefact	Artefact Requirements	Description of Task
Reflective Journal	Artefact 3: Reflective Journal	As you are given feedback on your planning and design phase, highlight in your portfolio if you used the feedback given from peers, experts. The most important part of feedback is choosing what to act on.

Journal Template – In Miro, there is a template. Add to this each week.

Date	Guiding Questions	Who provided feedback?
Week 1	1. What were the key strengths identified in your portfolio by the feedback you received? (Focus on specific comments) 2. Were there any areas for improvement mentioned in the feedback? If so, what were they? (Ensure understanding of the feedback) 3. Considering the feedback, what aspect of your portfolio design do you feel most confident about? Why? (Self-assessment and justification) 4. Which area of the portfolio design do you think would benefit most from improvement based on the feedback? How will you approach making these improvements? (Action plan based on feedback) 5. Did the feedback prompt you to consider any new ideas or design elements you hadn't thought of before? How might you incorporate these new ideas? (Encourages reflection and innovation)	Have you acted on the feedback? Explain.
Week 2	Continue each week and encourage students to read back over pervious weeks to see their own progression and growth.	

Artefact 4: Mathematical Calculations

Artefact	Artefact Requirement	Description of task
Mathematical Calculations	Excel Spreadsheet: a. Artefact 4: Use the template Excel Spreadsheet to document the calculations throughout the project. b. Create screen shots of spreadsheet and annotate for explanations of mathematical formulars.	Include separate sheets for: a. Foundation, Brick walls, Doors and Windows, Roofing, Internal Walls, Painting, Insulation, Flooring and Furniture, Budget Sheet. Add a link in the Miro Board to the full Spreadsheet for assessment. b. Formulars should be used to aid in re-iteration of planning. Formulars and explanations can be included in screenshots along with the mathematical concepts applied such as area and volume.
Reflective Journal	Artefact 3: Reflective Journal – see notes from Week 1	As you are given feedback on your planning and design phase, highlight in your portfolio if you used the feedback given from peers, experts. The most important part of feedback is choosing what to act on.

Examples:

Show how you have adapted your budget – what did you change to make room for additional items?

Pull out formulars and demonstrate how you used the formulars to help minimise workload.

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Artefact 5: Extended Reality (XR)

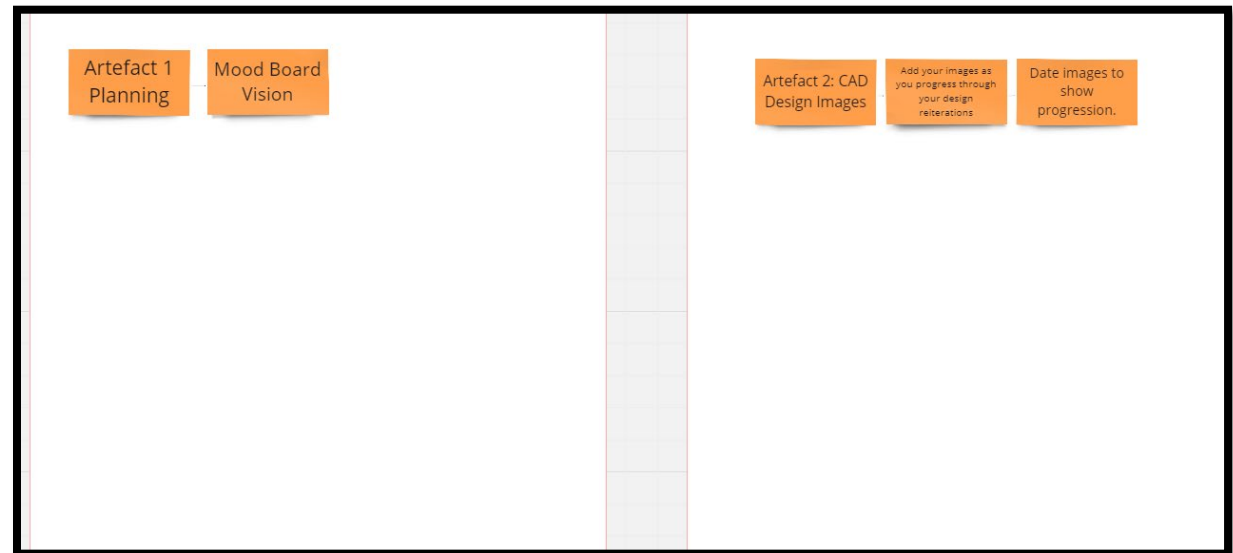| Artefact	Artefact Requirement	Description of task

XR Viewing and Re-iteration	Artefact 5: XR Viewing:
	  a. View in Merge Cube and/or VR Headset
	  b. Create an annotated video* of your 3D CAD model in merge cube and/or VR headset.
		At KIOSC: Through the 3D CAD designing process, export your model to the Merge Cube and/or VR headset. Use these XR (extended reality) tools to view your project in 3D. Highlight any changes you made based on viewing in a 3D environment. Was the XR environment helpful in walking the space and re-iterating change?
		
		*Students will require their mobile phones to record the video during the KIOSC lesson.

Reflective Journal	Artefact 3: Reflective Journal	As you are given feedback on your planning and design phase, highlight in your portfolio if you used the feedback given from peers, experts. The most important part of feedback is choosing what to act on.

Recording Merge: It is useful to have a partner (or 2) to help with this. Someone to hold the camera and iPad and the other person to hold the Merge Cube and move it. Here is an example from a KIOSC program about a penguin. You will need to record a similar video, but obviously it will be your studio!

https://youtube.com/shorts/GXB-e7gLQ80?feature=share

Artefact 6: 3D Printed Models

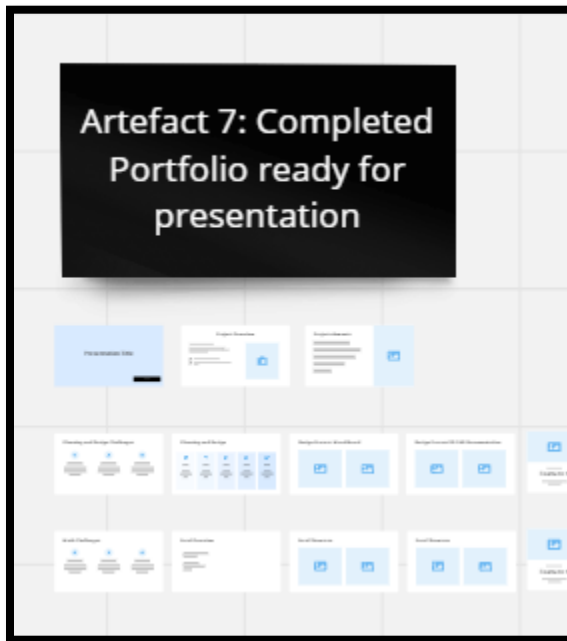| Artefact	Artefact Requirement	Description of task

3D printed Model and constraints	Artefact 6: 3D Print:
	  a. Artefact: Print your final 3D design using Ultimaker cura software.
	Optional Artefact: Create a hyperlapse video of your print. The video should be a maximum of 2 minutes. (Depends on where the 3D print is done – at KIOSC or back at school.)
		Print your 3D modelling ensuring that you work in the parameters set:
		  a. Print time 6 hours maximum
		  b. Prints may include multiple artefacts that piece together.
		  c. Use minimal scaffolding to avoid waste.
		  d. Submit physical print on completion of the Portfolio
		Optional: Use the hyperlapse camera feature to create a video of your artefact printing. If you are able to print at school, this is a great asset to your portfolio. If the print is at KIOSC, you will not be able to obtain this.

Reflective Journal	Artefact 3: Reflective Journal	As you are given feedback on your planning and design phase, highlight in your portfolio if you used the feedback given from peers, experts. The most important part of feedback is choosing what to act on.

Example:

You will need your 3D Print for your presentation, but in the portfolio, you can add pictures of your house. Make the pictures fun and interesting, for aesthetics. You can also use CANVA or Adobe Express to jazz them up!

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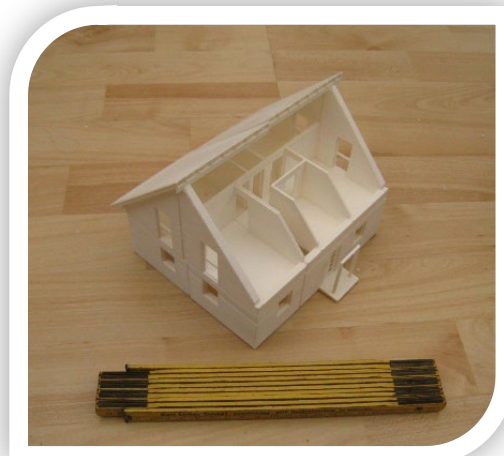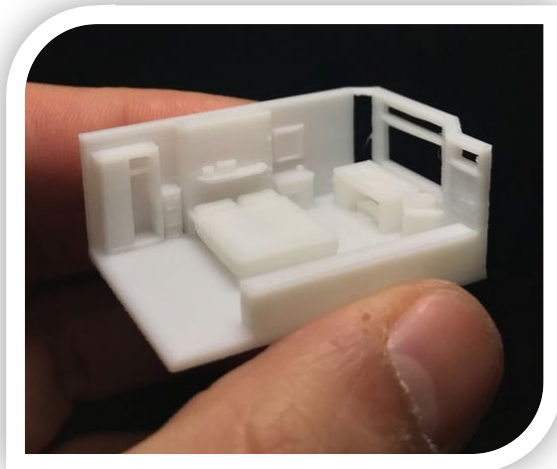
Artefact 7: Portfolio Development

Artefact	Artefact Requirement	Description of task
Portfolio Development	Template Scaffold Example: <mark>Artefact 7</mark>: Completed Portfolio	Use the template to assist in your portfolio presentation. When you open the board – click 'Duplicate'. That way you will have your own board to work in. You will be shown how to do this. **This is a template – please add and create to suit your design.**
Reflective Journal	<mark>Artefact 8:</mark> Reflective Journal	As you are given feedback on your planning and design phase, highlight in your portfolio if you used the feedback given from peers, experts. The most important part of feedback is choosing what to act on.

Use the Miro Template for this. It is just a template, you can modify and add what you need.

Artefact 8: Journal reflection submitted after the presentation is completed

Artefact	Artefact Requirement	Description of task
Reflection Stage Self assessment on the process.	Artefact 8: Reflect on each of the 5 stages of your learning process: a. Planning and Design b. Mathematical Calculations c. XR d. 3D Printed Model e. Portfolio Development Add these reflections to the portfolio. Note: These are guided questions, you may want to add to the Miro template.	Prompts to help you reflect: The Learning Process: a. What was the most challenge part of this stage? b. What did you find the most interesting? c. Think about your approach to learning this topic. What strategies worked well for you? Are there any you would change for next time? Connecting to Personal Experience: a. Can you relate what you learned to something in your own life? Give an example. Looking Forward: a. What questions do you still have about this topic? How will this learning apply in a real-world situation?

Complete an essay of 1000 words, reflecting on this feedback in your portfolio journey. The following points should be considered:

a. Analyse specific examples of feedback that you received from your peers, teachers and expert. Explain how this feedback helped you identify areas for improvement or validation of your design choices.

b. Discuss how you incorporated this feedback into your design process. Did it lead you to modify specific design elements? Did it influence your approach to the overall concept?

c. Reflect on your strengths and weaknesses throughout the portfolio process. What did you find helpful and what was frustrating?

d. Explain how you might utlise the learning from this project to help in future projects. What strategies could you implement to be mindful to take on feedback.

REMINDER:

a. Use clear and concise language.

b. Organise the essay to have a clear and logical flow. Use subheadings if necessary.

c. Proofread before submission (or as the process has taught you, have someone read over and seek feedback)

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REFLECTION ESSAY: A GROWTH MINDSET (2 PAGES)

Criteria	0	1	2	3
Introduction	Not Shown	Briefly mentions the essay topic but lacks context.	Introduces the essay topic but lacks clarity on the project context.	Clearly introduces the essay topic and the project for which feedback was received.
Analysis of Peer Feedback	Not Shown	Briefly mentions receiving peer feedback but provides no details.	Mentions peer feedback but lacks specific details or analysis of its impact.	Provides specific examples of peer feedback and explains how it impacted the design process.
Analysis of Teacher Feedback	Not Shown	Briefly mentions receiving teacher feedback but provides no details.	Mentions teacher feedback but lacks in-depth analysis or connection to design improvements	Provides detailed analysis of teacher feedback, explaining how it helped improve specific design elements or address challenges.
Analysis of Expert Feedback	Not Shown	Briefly mentions receiving expert feedback but provides no details.	Mentions expert feedback but lacks in-depth analysis or reflection on its significance.	Provides insightful analysis of expert feedback, highlighting both positive reinforcement and areas for improvement. Demonstrates understanding of the expert's perspective.
Reflection on Growth	Not Shown	Mentions the idea of growth but lacks specifics or connection to feedback received.	Reflects on strengths and weaknesses but lacks specifics. Provides some ideas for future improvement.	Demonstrates a clear understanding of personal strengths and weaknesses identified through feedback. Articulates specific strategies for incorporating feedback into future projects. Shows a growth mindset.
Clarity and Organisation	Essay is poorly organized and difficult to understand. Grammar and mechanics are problematic.	Essay lacks clear organization or flow. Grammar and mechanics hinder understanding.	Essay is mostly organised but may lack transitions or clarity in some sections. Grammar and mechanics are acceptable.	Essay is well-organised with a clear and logical flow. Uses strong academic language and avoids grammatical errors

Criteria	0	1	2	3
Conclusion	Not Shown	Briefly concludes the essay but lacks substance	Provides a conclusion but lacks a strong final thought or connection to the main points.	Effectively summarises the key takeaways from the feedback experience and reiterates the importance of feedback in the design process.

PORTFOLIO ASSESSMENT RUBRIC (2 PAGES)

Criteria	0	1	2	3	4
Planning and Design	Not Shown	No mood board or unclear design intent. No documentation of the 3D modeling process.	Limited mood board or unclear design inspiration. Minimal documentation of the 3D modelling process.	Mood board present with some design inspiration. Some documentation of the 3D modelling process (screenshots/videos).	Comprehensive and visually appealing mood board showcasing design inspirations. Clear documentation of the 3D modelling process (screenshots/videos) demonstrating software proficiency and design decisions.
Mathematical Calculations	Not Shown	Few or no calculations documented in spreadsheets. No formula explanations.	Some calculations documented in spreadsheets. Limited or missing formula explanations.	Most calculations documented in spreadsheets. Some explanations of formulas included.	All calculations accurately documented in spreadsheets (Foundation, Walls, Flooring, Budget, etc). Formulas used with clear and concise explanations.
XR (Extended Reality) Viewing and Re-iteration Video	Not Shown	Video does not demonstrate the use of XR or its impact on design.	Purpose is not clear or not mentioned	Video mentions the purpose but may lack clarity on the specific connection between 3D viewing and design iteration.	Video clearly establishes the purpose showcasing how using XR to view the CAD model helped to improve the design. Highlight
3D printed Model and constraints	No picture of the 3D printed model included.	NA	NA	NA	Picture of 3D Model included in the portfolio presentation.

Criteria	0	1	2	3	4
Portfolio Reflection	Not Shown	Limited in presentation or missing elements. Superficial reflection or missing components.	Portfolio is missing some elements (model, annotations, screenshots). Reflection lacks details on challenges, math application, and learnings.	Portfolio includes most elements (model, annotations, some screenshots). Reflection discusses some challenges, math application, and learnings but lacks depth.	Compelling portfolio with final 3D model renderings, annotations explaining functionalities, screenshots of mood boards and budget spreadsheets. Reflection discussing challenges, application of math concepts, and key learnings with real-life connections.
Teacher comments					

Week 2: Digital Portfolio Integration back at School with Miro Software

Rationale:

Miro Software is an effective visual tool for digital portfolio development. It can also provide a collaborative component (that you may want to use). Miro aligns well with the Teenage Studio program's emphasis on project-based learning and design. Students can use Miro's features to create engaging and visually appealing portfolios that showcase their design process and application of math concepts. By using the digital portfolio template, you can provide a valuable scaffold for students in the Teenage Studio program. It fosters collaboration, facilitates visual communication, and empowers students to create engaging and informative portfolios that effectively document their learning journey and design process.

Lesson Content Overview:

In this week lessons:

(1) **Navigating Miro**: Teach students how to use and navigate Miro. Most teachers are now very familiar with Miro, but there are some navigation suggestions in the lesson Resources.

(2) **Artefact 1: Adding to the Board**: Allow students to practice adding content to their (Artefact 1) Mood board, remembering to annotate their design choices.

(3) **Presenting Mode**: Demonstrate to students the presentation mode in Miro. We can come back and revisit this when they are nearer to presenting.

(4) **Reflective Journal Week 1**: (Artefact 3) Provide time for feedback from peers or 1:1 teacher feedback.

Lesson Resources:

1. **Navigating Miro:** The teaching suggestion would be to have the students follow the teacher for these instructions.
    a. **Video Tutorials:**
        i. https://www.youtube.com/watch?v=CpV5gQaPxYE
        ii. https://www.youtube.com/watch?v=lUozBtrgRXU
    a. Sign up for a Miro Account
        a. Ask students to use their school email and password, to avoid issues.
    b. Access Miro: You will receive a link to your Miro board from your instructor. Click the link to open the board.
    c. If you as the teacher want to copy the board and make adjustments specific for you class, then this is how to ensure that students can duplicate the board that you share.
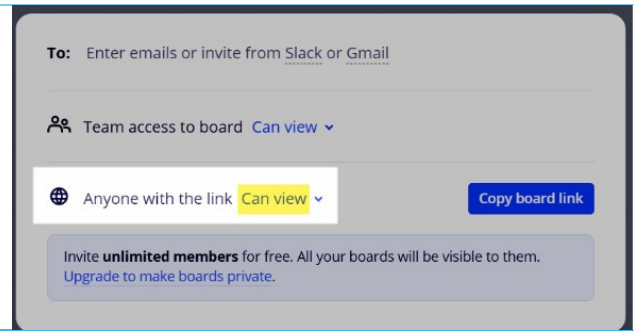
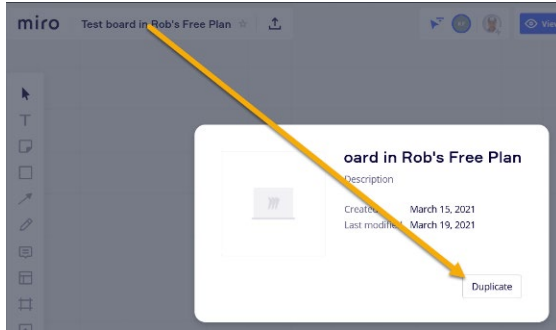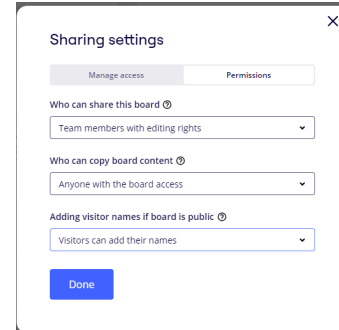| Step 1: From the KIOSC Account Board:	Step 2: To share:
Click the link to access the KIOSC Board.	

|	
If you want to make changes to the board template as the teacher – you will need to modify the way you share the board – follow the steps.	
Step 3: When students open the board, they should click the title and they will be given options to duplicate. 	Step 4 If they cannot duplicate, chance the setting when you share the board.
Step 4: Students should rename the Board to their name. This way they will now have their own private workspace which they can later share the link with you for assessment.	
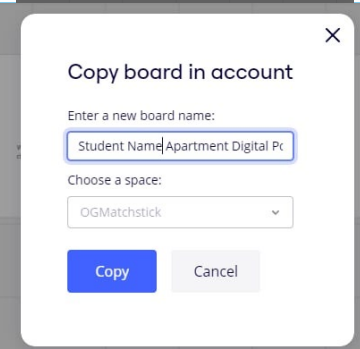
Explore the Interface: The Miro board provides a large workspace where you can add various elements. Here's a quick overview:

6. ==Left Toolbar==: This contains tools for adding sticky notes, text boxes, images, shapes, and more.
7. ==Top Toolbar==: Use this to zoom in/out, undo/redo actions, and access additional settings.
8. ==Right Canvas:== This is your work area where you will build your portfolio.
8.1 The template is already on this canvas.
9. ==Frames== (Presentation Mode): There is more detail on this at the end of this session.
d. Explore the template with the students, to get them use to navigating in Miro.

Image 1.1: Miro Board Template created @KIOSC
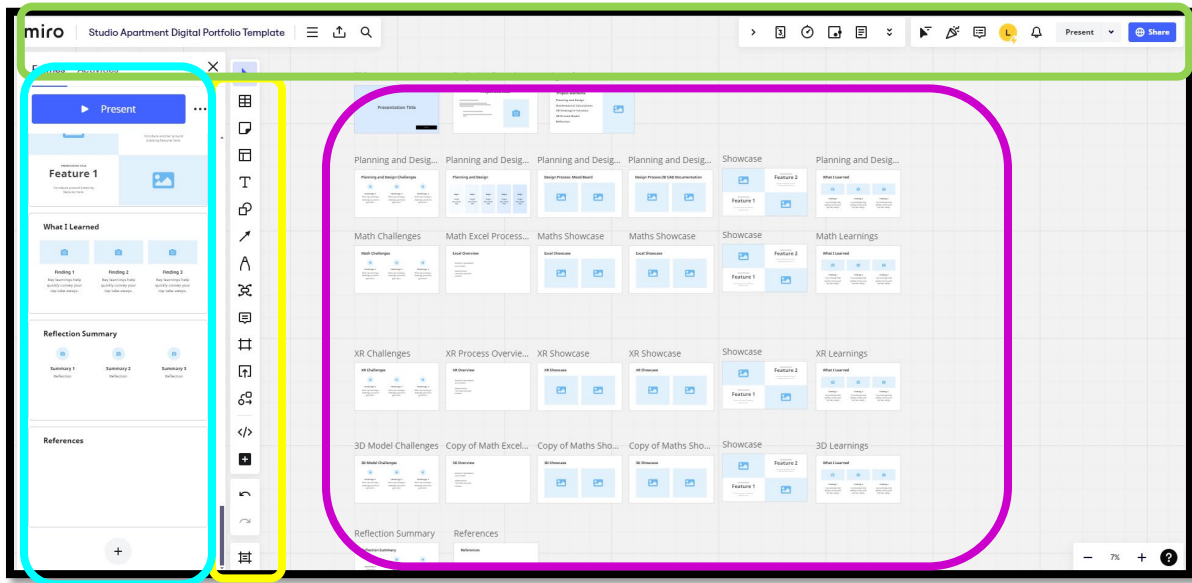
There are many resources to assist teachers and students to navigate the Miro Board, in the Miro Community.
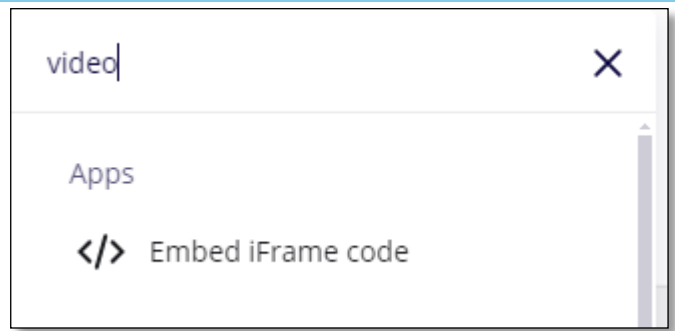
2. Adding to the Board

In this section, we want to teach students to add pictures to the board and video. Videos are not easily added, instead you can add a link from YouTube. The details are listed:
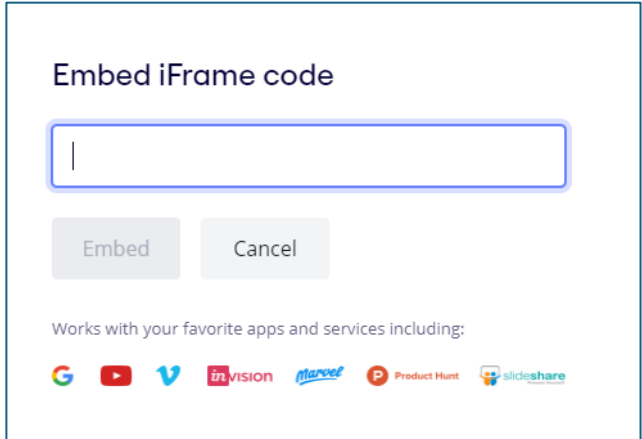
a. Adding in Pictures:
   a. Simply copy and paste pictures into Miro from any source. They may take some time to load in. Adjust as needed.
   b. Alternatively, you can click the + symbol and use the upload or image and icon apps.
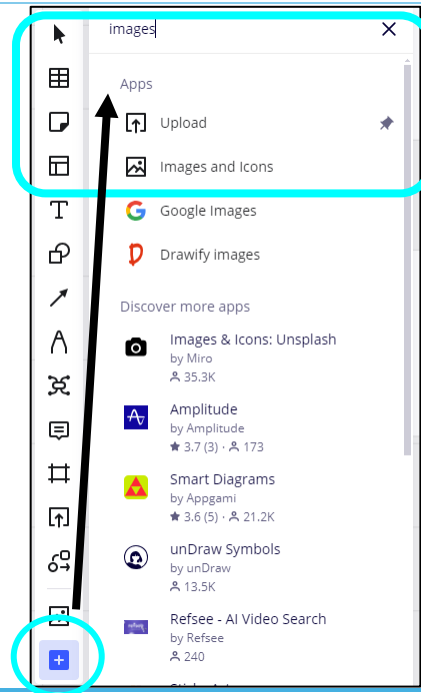
|	
b. Adding Videos: use the same APP tool. Search for Video and add the 'Embed iFrame Code	video ✕ Apps </> Embed iFrame code
c. Upload the video to the students You Tube (or other listed account) and use the link to add into the frame.	Embed iFrame code [|] Embed Cancel Works with your favorite apps and services including: G ▶ V in VISION Marvel P Product Hunt slideshare

Ask students to practice these skills and check in with their learning for feedback and reflection.

3. Presentation Mode
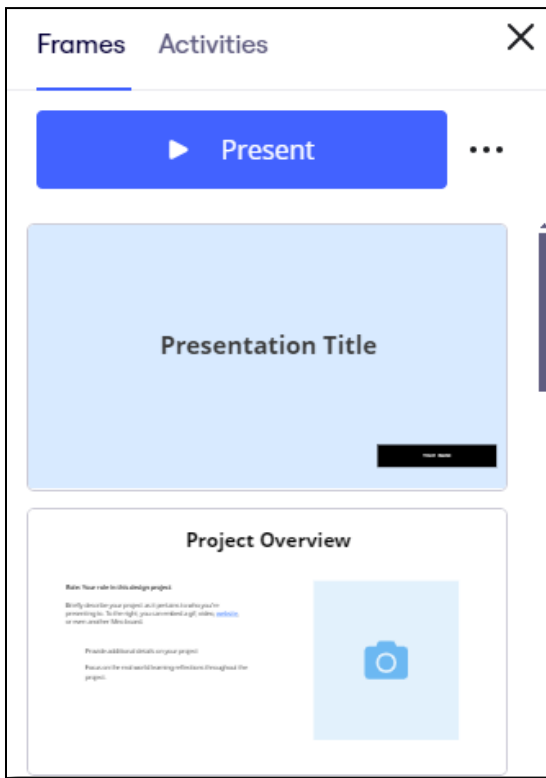
Students will need to practice their presentation in Present Mode. In the Template, the slides are already in order, but if they want to move them around, then will need to do it in the FRAMES slides.

It is very similar to PowerPoint, but can be tricky to pick up the whole slide. Click the left mouse button and drag to cover the slide content, then move the slide into the position you want.

Advise students that time will be given later in the unit to practice this.

4. <u>Artefact 1:</u> Creating Your Dream Studio: A Mood Board Outline

A mood board is a visual collage that helps you capture the look and feel you desire for your space. It's a great way to experiment with styles, colors, and furniture arrangements before committing to anything. This outline will guide you in creating a mood board for your studio apartment.

Step 1: Define Your Style

- Think about your personal style. Do you prefer modern, minimalist, bohemian, or something else entirely?

- Look through magazines, websites like (Pinterest, HOUZZ) or interior design blogs to find inspiration.

- Consider how you want your studio to feel: cozy and inviting, bright and airy, or sleek and sophisticated?

Step 2: Utilising Miro for your board

- Add the images into the board, use sections to help with the layout and organisation.

Step 3: Living/Sleeping Area

- Furniture: Collect images of sofas, armchairs, coffee tables, ottomans, and any other furniture pieces you envision in your studio.

- Functionality: Consider how you'll use your space. Do you need a space-saving futon for sleeping and lounging? A Murphy bed that folds up into the wall?

- Lighting: Include images of lamps, overhead lighting, and any string lights or fairy lights you might like.

- If your sleeping area is separate from the living space, gather images of bed frames, bedding, pillows, and throws.

- Consider incorporating a room divider or curtain to create a sense of separation.

Step 4: Storage and Organisation

- Studio apartments often lack built-in storage. Find images of bookshelves, ottomans with built-in storage, under-bed containers, and any other storage solutions that appeal to you.

Step 6: Finishing Touches

- Include images of rugs, artwork, plants, throw pillows, and any other decorative items that add personality and warmth to your space.

Step 7: Putting it Together

- Arrange your images on your physical mood board or organize them digitally.

- Take a step back and see how the elements come together. Gather feedback from peers and family.

- Feel free to adjust and refine your ideas until you're happy with the overall look and feel. This is a great way to iterate your design. This will be an ongoing process over the next few weeks.

5. Think – pair – share: (Formative Assessment Check in)
   a. Have students pair up to complete this task on their Mood Board. It is a great opportunity to have students gather data to add to their journal. This can be a great opportunity to segway into the Reflective Journal Writing.

6. **Artefact 3: Reflective Journal Week 1**

Provide students with time to gain feedback on their Mood Board. Ask them to reflect on what they have learned. How has the feedback assisted with their design process?

It is good practice to scaffold a reflective journal. For most students, it may be the first time they have used a tool like this to improve their work. Guide students through the process. It is also important to give them time in the lesson to make entries into the journal. It means that, as a teacher, you value the process and can assist students who find reflective practices hard. Bain et al., 2002 is a great reference to why teachers should encourage reflective journal writing. "Journal writing can be a powerful tool to stimulate and enhance reflection on practice" (Bain et al., 2002) The paper highlights the value of journals in prompting students to critical analyse their experiences and consider different perspectives. Journal writing works best when paired with constructive feedback that prompts students to analyse their work and identify areas for growth.

Journal Template

Date	Guiding Questions	Who provided feedback?
Week 1	1. What were the key strengths identified in your portfolio by the feedback you received? (Focus on specific comments) 2. Were there any areas for improvement mentioned in the feedback? If so, what were they? (Ensure understanding of the feedback) 3. Considering the feedback, what aspect of your portfolio design do you feel most confident about? Why? (Self-assessment and justification) 4. Which area of the portfolio design do you think would benefit most from improvement based on the feedback? How will you approach making these improvements? (Action plan based on feedback) 5. Did the feedback prompt you to consider any new ideas or design elements you hadn't thought of before? How might you incorporate these new ideas? (Encourages reflection and innovation)	Have you acted on the feedback? Explain.
Week 2	Continue each week and encourage students to read back over pervious weeks to see their own progression and growth.	

Week 3: Studio Apartment Program @ KIOSC

Lesson Content Overview:

In this week lessons:

(1) At KIOSC: Students will begin the CAD Design Process and Excel Spreadsheet Budget.
   a. One Day Program: 9.30am-2.30pm
(2) Adding to their Portfolio: Students will add the resources from the KIOSC program into their portfolio – CAD, Excel and any photos from their lesson to document the process.
(3) Reflection Journal: Students will add to their portfolio and reflect on the process.

Lesson Resources:

1. **At KIOSC**

Student Materials required at KIOSC to add to the Portfolio:

- Student Phone: To capture screen shot and record video of their Extended Reality (XR) model.
- USB Drive: To take any screen shots from the computer and save their Excel Budgeting Sheet for extended work back at school.

Session 1: Project Brief & Money and Maths Matters in Excel

Artefact 4: **Excel**

- Foundations (concrete slab) –measuring and calculating the volume of a rectangular prims, percentage calculations, budgeting and financial calculations.

- External walling with bricks –measuring and calculating the area of a rectangle, percentage calculations, budgeting and financial calculations.

- Internal walling with plaster –unit conversions (mm, cm, m), measuring and calculating the area of a rectangle, budgeting and financial calculations.

- Flooring –measuring and calculating the area of a rectangle, measuring and calculating total perimeter of a complex shape, budgeting and financial calculations

- Internal furnishings – percentage calculations, budgeting and financial calculations (e.g. best buys).

Session 2: Designing in CAD

Artefact 2: **CAD Design Images**

Learners use TinkerCAD, a free online tool to create 3D design. Students learn how to navigate and begin creating their design concept of their own studio apartment. This work can be saved easily, and they can continue to work on this back at school, refining the process.

Session 3a: 3D Design to Extended Reality (Merge Cube)

Learners can export their CAD files to view in the Merge Cube. Merge Cube is a digital learning platform that brings science and STEM concepts to life through 3D simulations. Through this process, students

can view their designs in 3D offering a new perspective and re-iterate their designs. They will create **Artefact 5:** XR Video recording the merge cube scene. This will later be inserted into their Portfolio.

Session 3b: The Keys to the Apartment

In the final session, students can create their own keyring for their house. They are lead through a design phase to create and print their own key rings. This activity offers students a fun way to finish their designs.

Back @ School

2. **Adding to their Portfolio**

Students should take the content created during the KIOSC sessions and add to their Portfolio.

This is building Artefact 1 and 2.

Artefact 3: Reflective Journal Week 3:

- Add to your journal the weeks reflections.

Week 4: Preparing students to give Peer Feedback/Feedforward

Rationale:

Peer evaluation is a valuable learning tool. By incorporating peer evaluation into the Teenage Studio program, you can create a rich learning experience that fosters critical thinking, communication, and self-reflection while preparing students for future success. An example of its effectiveness can be demonstrated in the application of math's concepts. When students use math's to create their designs, the peer review process can strengthen their own understanding and application by seeing how others have completed the task.

Lesson Content:

I suggest that the students provide the feedback on the 3-5 minute presentation, while the classroom teacher assesses the Digital Portfolio. Student feedback can be collated and added into the teachers notes.

Introduce students to the concept of evaluating peer work. Their task will be to evaluate the portfolio's effectiveness in communicating the learning journey and design process. Consider clarity, organisation, and the use of visuals to showcase the student's understanding of mathematical concepts and design choices. To help students focus on the core skill of evaluation in Bloom's Taxonomy, use the rubric to scaffold their responses.

Blooms' breaks down the evaluation into 4 specific criteria.

- Clarity: Is the information presented clearly and easy to understand?
- Organisation: Does the portfolio flow logically and guide the viewer through the learning process?
- Visuals: Are visuals (photos and videos) used effectively to support the text and enhance understanding of the mathematical concepts and design decisions?
- Learning Journey: Portfolio effectively demonstrates the students learning process in mathematical concepts and design decisions.

How to give peer feedback

Lesson resources:

1. Evaluating Oral Presentations Video. This can be helpful in explaining to students how to evaluate peer work, and I like the idea of a Google doc, so the work can be compiled back to the student over a day. https://www.youtube.com/watch?v=3-WXW3sBKKY (6 minutes)
2. A worked example gathered from Google Gemini can be used as a prompt for students to see how they might respond to feedback

Worked Example: Student Feedback on a Portfolio (Studio Apartment Design)

Student: Alex (12th grade, Interior Design)

Portfolio Focus: Design portfolio showcasing a studio apartment renovation project.

Teacher: Ms. Garcia

Feedback Strengths:

- **Ms. Garcia:** Alex, your portfolio presentation of the studio apartment renovation is visually appealing and well-organized. The floor plan is clear and easy to understand, and the mood board effectively conveys the overall design concept. (**Specific and positive feedback**)
- **Ms. Garcia:** I particularly liked the space-saving solutions you incorporated, like the Murphy bed and the built-in storage units. These demonstrate a thoughtful approach to maximizing functionality in a small space. (**Highlights specific strengths in the design**)

Areas for Improvement:

- **Ms. Garcia:** The portfolio would benefit from including some technical details about the materials you plan to use.
    - **Prompt question:** Would adding information about flooring options, paint colors, or specific furniture pieces enhance the overall picture for potential clients? (**Prompts reflection on improvement**)
- **Ms. Garcia:** While the mood board provides a good starting point, considering including some 3D renderings or before-and-after visualizations could further showcase your design vision.
    - **Suggestion:** Perhaps you could explore software programs like [SketchUp](URL sketchup com) to create basic 3D models. (**Actionable suggestion based on prompt question**)

Feedforward Comment:

Building on your strengths, Alex, consider taking your presentation to the next level by incorporating a brief explanation of the thought process behind your space-saving solutions (like the Murphy bed and built-in storage). This could showcase your design thinking and decision-making skills to potential employers.

Overall:

- **Ms. Garcia:** Overall, Alex, your portfolio demonstrates a strong understanding of space planning and functionality in studio apartment design. By incorporating the suggestions above, you can create a more comprehensive and professional presentation.

Additional Notes:

- **Ms. Garcia:** Did you consider including a budget breakdown or cost estimates for the project? This could be valuable information for potential clients. (**Encourages student reflection on additional considerations**)

This example adapts the structure to focus on a design portfolio for a studio apartment renovation. It highlights the importance of technical details and visual representations while maintaining a positive and encouraging tone   (Gemini - chat to supercharge your ideas. (n.d.).)

3. Peer Rubric: Use this as a guide for students. Add or remove what is relevant for your students.

PEER ASSESSMENT RUBRIC ON STUDENT PRESENTATION

Criteria	0	1	2	3	4
Clarity	Not Shown	Information is unclear or poorly presented.	Information can be confusing or difficult to understand in some areas.	Information is mostly clear but may have some minor ambiguities.	Information is clear, concise, and easy to understand.
Organisation	Not Shown	Portfolio is disorganized and confusing.	Portfolio lacks clear organisation and may be difficult to follow.	Portfolio structure is generally clear but may lack a smooth flow in some sections.	Portfolio flows logically and guides the viewer through the learning process.
Visuals (Photos and Videos)	Not Shown	Portfolio lacks visuals or visuals are unhelpful.	Visuals are limited, unclear, or do not complement the text well.	Visuals are mostly relevant but may lack quality or could be used more effectively.	Visuals (images, diagrams, etc.) are well-chosen, engaging, and effectively support the text.
Learning Journey	Not Shown	Portfolio does not demonstrate the student's learning journey or design decisions.	Portfolio lacks clear evidence of how the student connected math concepts to the design process.	Portfolio somewhat demonstrates the student's learning, but details or explanations may be lacking.	Portfolio effectively demonstrates the student's application of mathematical concepts and design choices throughout the project.

Additional Feedforward Prompts for students to use:

1. "To build on your strengths, what additional information could you include to make your work even more impactful?"
2. "Considering the goals of this project, how could you further refine your approach to achieve an even better outcome?"
3. "Thinking ahead, what are some next steps you could take to continue developing your skills in this area?"

Artefact 3: Reflective Journal Week 3:

- Add to your journal the weeks reflections.

Week 5: How to use and respond to feedback

Rationale:

This may be a good week to pause and see how students are working in the portfolios. They will have a lot of information and so it is a good time for them to get some feedback from the teacher and other students more formally. We want to encourage that a portfolio is a prototype process and that showing an unfinished piece of work is great to understand the direction and make alterations to the process.

Describe the process to develop students understanding and ability to respond to expert feedback.

- "What resonated most with you in the feedback?"
- "How can you apply this feedback to improve your work?"
- "Are there any areas of the feedback that are unclear?"

Lesson Content Overview:

(1) Individual Feedback
(2) Group Discussions
(3) Expert Feedback
(4) Portfolio Reiteration

Lesson Resources:

Feedback Session – This can be done in short 20-30 minute blocks

1. **Individual Feedback**

- Conduct individual meetings with students or small groups.
- Provide feedback on their designs, focusing on how their choices support or hinder the communication of the chosen theme.
- Utilize the prompts:
    - "What resonated most with you in the feedback?"
    - "How can you apply this feedback to improve your work?"
    - "Are there any areas of the feedback that are unclear?"

2. **Group Discussion**

- Facilitate a class discussion about the feedback received.
- Use student examples to illustrate common strengths and weaknesses related to theme communication.
- Encourage students to share their experiences with receiving feedback and how they plan to apply it.
- You could use a triad review process, where a group of 3 students reviews each others work to give feedback.

3. **Expert Feedback**
   - Organise to have an expert visit the class to provide feedback to the students. The expert could be teachers from within the schools. Specific subject area teachers will be a great asset for feedback. They have qualifications in areas that you could utilise:
     - The Design Teacher – assist with mood board ideas and linking to practical building concepts.
     - Mathematics Teacher – maybe the students would like to add visual graphs and tables to their portfolio, rather than the data sheets.
     - KIOSC Staff: KIOSC is happy to provide students with feedback on their portfolio – especially in the CAD design artefact. They might want to re-iterate parts of this.
     - Real estate agents: They look at properties all the time, they would have great insight into the apartment.
     - Builder: Can offer a practical element into the design.
     - Interior Designer: An interior designer can provide professional insight on space planning, furniture selection, functionality, and aesthetics. They'll ensure the design maximizes the limited space and creates a comfortable, stylish living environment. They might have expertise in small spaces and can offer insight.

In the expert review process, experienced professionals analyse student portfolios based on industry standards. This ensures valuable feedback on strengths and weaknesses, helping students improve their work. Students then have the opportunity to critically examine this expert feedback and respond by revising their portfolio or clarifying their design choices. This back-and-forth fosters deeper reflection and refines students' presentation for future applications.

Portfolio Re-iteration

- Have students revisit their studio apartment designs in their portfolios after the expert feedback.
- Prompt them to:
- Analyse the feedback received (both individual and group).
  - Identify areas where their designs excel in communicating the theme.
  - Pinpoint areas for improvement based on the feedback.
  - Develop a plan to revise their designs based on the feedback. (Students can sketch revisions, write down notes, etc.)

Differentiation:

1. For students who struggle with receiving feedback, offer additional support during individual meetings.
2. Provide them with a worksheet outlining common design elements related to theme communication and how they might be strengthened.
3. For advanced students, challenge them to analyse the feedback and identify opportunities to push their design concepts further.

Artefact 3: Reflective Journal Week 3:

- Add to your journal the weeks reflections.

Week 6: Creating and Adding Digital Media to a Professional Portfolio using Adobe Express/CANVA and Miro Integration

Rationale:

Teaching students how to create digital content fosters creativity, communication, and digital literacy skills that are essential for success in today's world. Easy-to-use platforms like Adobe Express (AE) and Canva provide a valuable and accessible entry point for students to explore the world of digital content creation.

Lesson Content Overview:

(1) How to use digital content media (choose AE or Canva)
(2) Student Activity – reiteration of their portfolio content.

Lesson Resources:

1. **Guided Tour:** Project the Adobe Express (AE) or Canva interface on the screen and lead students through a tour of its key features. Explain the different templates available for various purposes (e.g., presentations, creating collages and videos)
2. **Exploring Design Elements:** Show students how to access and utilise image and design elements within Canva/AE. Briefly discuss common design principles like composition, color theory, and typography.
3. **Demonstration:** Demonstrate the creation of a simple collage using Canva/AE. Choose a topic relevant to your subject area and show how to select appropriate images, arrange them into a visually appealing composition, and add text for clarity.

Student Activity:

Topic Selection: Have students choose a topic related to studio apartment project:

Artefact 1	Mood Board	**Artefact 4**	Excel Budget/Calculations
Artefact 2	CAD Design	**Artefact 5**	XR Video
		Artefact 7	Portfolio Development

4. Canva/AE in Action: Students will log in to their accounts and begin creating their own digital collages. Encourage them to explore different templates and search for relevant images within the platform. Have students upload their video of the Merge Cube to create good visual and audio content. I suggest with this video that narrate what they are doing. Practice uploading this to the Miro Board through YouTube.
2. Applying Design Principles: Remind students to consider the principles discussed earlier (composition, colour, etc.) while creating their collages. Guide them to strategically arrange their images and text for a clear and engaging message.
3. Adding their Content to Miro: Ask students to add their content to the Miro Board and practice this skill.
4. Muddiest Point Activity: (Formative Assessment Check in)

KIOSC

a. At the end of the lesson, ask students to identify the "muddiest point" – the concept or task they are finding difficult or confusing to complete. Ask them to write it down on a sticky note and then add them to the board. You can then begin clumping into like groups. This helps the teacher to pinpoint areas where further explanation is required and gives students an opportunity to also feedback to each other. A student who is stuck on the excel, can then be helped by the teacher or another student who is confident in the task. It aids in communication also.

Differentiation:

- For advanced students, encourage them to explore animation features to add a dynamic element to their collages/video etc.

- For students who may need additional support, provide a list of pre-selected images related to the chosen topic or offer individual guidance during the creation process. This is easy to set up.

Artefact 3: Reflective Journal Week 3:

- Add to your journal the weeks reflections.

Week 7: How to Present a Portfolio

Rationale:

This lesson is crucial to prepare students for their Teenage Studio digital portfolio presentations. While the portfolios themselves showcase their learning, effective presentation skills ensure clear communication and audience engagement. By planning their talking points, practicing with Miro's features, and receiving peer feedback, students gain confidence in presenting their design journey and solidify their understanding of the Teenage Studio program's concepts.

Lesson Content Overview:

(1) Presentation Expectations
(2) Practicing using Miro
(3) Practicing using visual aids
(4) Peer Practice sessions with feedback

Lesson Resources:

Review: Briefly review the key components of a strong Teenage Studio digital portfolio. Remind students about the different sections they included (e.g., Project Brief, Design Process, Math in Action, 3D Design, Merge Cube Experience, Conclusion).

Presentation Expectations: Explain the presentation format. Each student will have 3-5 minutes to present their portfolio, highlighting the key aspects of their design project and learning journey. Encourage them to use visuals (images, videos) effectively to enhance their presentations.

Remind students that they will hear these presentations many times, so they need to make their presentation engaging for the audience. Provide some advice on a good presentation.

2. Portfolio Storytelling: Discuss the importance of using their portfolio as a tool to tell the story of their Teenage Studio project.

3. Planning Talking Points: Guide students through identifying key points they want to communicate in each section of their portfolio. Brainstorm questions they might anticipate from the audience.

4. Organising for Flow: On the board or using a projector, create a sample presentation structure. Encourage students to think about the order in which they want to showcase their work (e.g., starting with the project brief and ending with their key learnings).

Practicing using Miro

1. Using Miro Presentation Mode: Introduce students to Miro's presentation mode (if available). This allows them to focus on specific sections of their portfolio during their presentations. Demonstrate how to navigate between sections smoothly.

2. Practicing with Visual Aids: Emphasize the importance of using visuals effectively during their presentations. Encourage students to explore how they can zoom in on specific details of their 3D

model images, highlight key calculations within the "Math in Action" section, or use animations (if available) to demonstrate the design process.

3. Peer Practice Sessions and Gallery Walk:

    1. Peer Practice: Divide students into pairs and have them take turns presenting a condensed version of their portfolio to their partner, focusing on key talking points and practicing using Miro's presentation features.

    2. Gallery Walk: Have students open their Miro Boards to one artefact. Have students spend 10 seconds at each station – write on a sticky note something they like and something to improve. This helps students to promote motivation and communication.

Differentiation:

For students who need additional support, offer individual consultations to help them develop their talking points and utilise Miro effectively.

For advanced students, encourage them to consider incorporating interactive elements (if applicable with Miro) into their presentations to further engage the audience.

Artefact 3: Reflective Journal Week 3:

- Add to your journal the weeks reflections.

Lesson 8: Presenting your Portfolio

Rationale:

Students, this week will now formally present their Portfolio. They have had many re-iteration opportunities and practice on presenting their portfolio.

Lesson Content Overview

> (1) Portfolio Presentations

Lesson Resources:

Setting up an preparing to present: Take student through a set up with the Miro template. They should now be able to plug in and be ready to present with minimal effort as this has already been practiced.

1. **Portfolio Storytelling:**
    a. Be organized arrange it in the order that is logical.
    b. Presentation frames, ensure they all fit into the frame of reference to fit the screen when in presentation mode.
    c. Clicker, computer etc
    d. Environment: You can set up additional props if needed
    e. An off line mode – just in case.
    f. 3D Model – Make sure you bring it!
    g. Be enthusiastic!!! Be proud of what you have achieved

Artefact 3: Reflective Journal Week 3:

- Add to your journal the weeks reflections.

Lesson 9: Reflecting on Feedback: A Growth Mindset Essay

Rationale:

This essay encourages students to go beyond completing the portfolio. It will help them to analyse how their work is viewed by others, learning from different perspectives. The aim is to translate that learning into improved design practices for future tasks. Students often see feedback as a negative component of what they 'got wrong'. This task aims to change the mindset to encourage self-assessment, active learning and the development of better communication skills so learners can understand their own metacognition better.

Lesson Content:

This lesson should be completed a few weeks after the portfolio presentations, or even the following term. It is important to give students time to reflect through the process and step away to analyse their own thoughts and have time for the Expert to also give feedback.

Scaffold students to write a growth mindset reflection essay.

STUDENT TASK

The Studio Apartment Portfolio enabled students to design, construct, analyse and reflect. In this task, you received valuable feedback from your peers, teachers (at school and KIOSC) and an expert in design (CAD related). How has this shaped your learning and your own understanding of how you learn.

Complete an essay of 1000 words, reflecting on this feedback in your portfolio journey. The following points should be considered:

b. Analyse specific examples of feedback that you received from your peers, teachers and expert. Explain how this feedback helped you identify areas for improvement or validation of your design choices.

c. Discuss how you incorporated this feedback into your design process. Did it lead you to modify specific design elements? Did it influence your approach to the overall concept?

d. Reflect on your strengths and weaknesses throughout the portfolio process. What did you find helpful and what was frustrating?

e. Explain how you might utlise the learning from this project to help in future projects. What strategies could you implement to be mindful to take on feedback.

REMINDER:

d. Use clear and concise language.

e. Organise the essay to have a clear and logical flow. Use subheadings if necessary.

f. Proofread before submission (or as the process has taught you, have someone read over and seek feedback)

KIOSC

REFLECTION ESSAY: A GROWTH MINDSET (2 PAGES)

Criteria	0	1	2	3
Introduction	Not Shown	Briefly mentions the essay topic but lacks context.	Introduces the essay topic but lacks clarity on the project context.	Clearly introduces the essay topic and the project for which feedback was received.
Analysis of Peer Feedback	Not Shown	Briefly mentions receiving peer feedback but provides no details.	Mentions peer feedback but lacks specific details or analysis of its impact.	Provides specific examples of peer feedback and explains how it impacted the design process.
Analysis of Teacher Feedback	Not Shown	Briefly mentions receiving teacher feedback but provides no details.	Mentions teacher feedback but lacks in-depth analysis or connection to design improvements	Provides detailed analysis of teacher feedback, explaining how it helped improve specific design elements or address challenges.
Analysis of Expert Feedback	Not Shown	Briefly mentions receiving expert feedback but provides no details.	Mentions expert feedback but lacks in-depth analysis or reflection on its significance.	Provides insightful analysis of expert feedback, highlighting both positive reinforcement and areas for improvement. Demonstrates understanding of the expert's perspective.
Reflection on Growth	Not Shown	Mentions the idea of growth but lacks specifics or connection to feedback received.	Reflects on strengths and weaknesses but lacks specifics. Provides some ideas for future improvement.	Demonstrates a clear understanding of personal strengths and weaknesses identified through feedback. Articulates specific strategies for incorporating feedback into future projects. Shows a growth mindset.
Clarity and Organisation	Essay is poorly organized and difficult to understand. Grammar and mechanics are problematic.	Essay lacks clear organization or flow. Grammar and mechanics hinder understanding.	Essay is mostly organised but may lack transitions or clarity in some sections. Grammar and mechanics are acceptable.	Essay is well-organised with a clear and logical flow. Uses strong academic language and avoids grammatical errors

Criteria	0	1	2	3
Conclusion	Not Shown	Briefly concludes the essay but lacks substance	Provides a conclusion but lacks a strong final thought or connection to the main points.	Effectively summarises the key takeaways from the feedback experience and reiterates the importance of feedback in the design process.

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