臺中市惠文高中國中部 視覺藝術雙語教學教案

主題/ 單元名稱 Topic/ Unit	第二課- 感受生活玩設計 第五堂-何謂設計思考 – 面紙設計 <u>Unit 2</u> Design <u>Lesson 5</u> What is "Design Thinking"? – Facial Tissue

教案設計者/教學者 Teacher	洪千琪 老師	教材來源 Teaching Materials	1. 自編 2. 參考翰林版藝術與人文 (八上，第二單元) 3. 網路資源
實施年級 Target Students	八年級 Grade 8	授課時間 Time	2021年 11 月第16週 時間:1堂課 (50 分鐘)

學習目標 Learning Objective	第二單元: 感受生活玩設計 第五堂: 何謂"設計思考"? 案例分享:面紙設計 **Unit 2: Design** **Lesson 5 - Case study: What is "Design Thinking"? 5 stages in "Design Thinking".** 以 "面紙設計" 為課程主軸讓學生逐步瞭解何謂"設計思考"的5個步驟及5個 key questions,透過案例讓學生理解產品設計的思考流程並藉此學會批判性思考。 Stage 1: What is the problem?　— Empathize (v.) Stage 2: Why is it important?　— Define (v.) Stage 3: How do we solve it?　— Ideate (v.) Stage 4: How do we create it?　— Prototype (v.) Stage 5: Does it work?　　　— Test (v.) Use case study "Tear-Ring" as a main idea to help students understand the meanings of design thinking, and how to take the design thinking into practice.
核心素養 Core Competency	藝-J-A2嘗試設計思考,探索藝術實踐解決問題的途徑。 藝-J-B1應用藝術符號,以表達觀點與風格。 藝-J-B3善用多元感官,探索理解藝術與生活的關聯,以展現美感意識。 藝-J-C1探討藝術活動中社會議題的意義。
學習內容 Learning Content	視E-IV-1色彩理論、造形表現、符號意涵。 視A-IV-2傳統藝術、當代藝術、視覺文化。 視P-IV-3設計思考、生活美感。
學習表現 Student Performance	視1-IV-4能透過議題創作,表達對生活環境及社會文化的理解。 視2-IV-3能理解藝術產物的功能與價值,以拓展多元視野。 視3-IV-3能應用設計式思考及藝術知能,因應生活情境尋求解決方案。
教學資源 Teaching Resources	使用"IPAD"作為主要學習工具,以Peardeck 網站的Live lesson方式進行線上簡報教學,此教學方式可以及時得到學生的回答,並根據學生的即時回饋作為評量依據。這些回饋也是接下來一堂課的課程內容之一。

學科先備知識 Subject Prior Knowledge	1、學生瞭解視覺設計的基本元素與原則。 Students understand the elements and principles of Visual Design. 2、學生認識不同領域的設計並瞭解其差別。 Students know the categories of Design and understand the differences. 3、學生已有色彩學的基本概念並且能夠使用水彩進行創作。 Students understand the theory of color, and have had watercolor painting experiences.

Rationale for this Lesson	This lesson, Design Thinking, is part of student's passion project. The project-based learning activity gives students the freedom to learn what they want and how they want through self-inquiry. This project requires students to design and create a solution to a real-world problem.
	   Design thinking is an iterative process in which designers creatively solve complex problem with focus on a human-centered approach. The solution is purpose-built where the end user/ consumer's needs and desires are taken into consideration as the key element of the entire process. This solution-thinking method is ideal for project-based learning.
	   Five stages in design thinking in this lesson are: Empathize, Define (the problem), Ideate, Prototype, and Test. Great questions lead to great design. "Great designers help teams and stakeholders make better decisions by using questions to identify opportunities, reveal underlying needs, and understand user context" said by the world top designer Jorge Juan Perales. Therefore, students are expected to learn the meanings of these five words, and will design an interview questionnaire for their passion projects in the next following class.

Bilingual Learning Content 雙語學習內容	Content 內容

1. 設計思考的步驟
There are five stages in the process of "Design Thinking". Each stage corresponds to one appropriate question.
Stage 1: What is the problem?　— Empathize (v.)
Stage 2: Why is it important?　— Define (v.)
Stage 3: How do we solve it?　— Ideate (v.)
Stage 4: How do we create it?　— Prototype (v.)
Stage 5: Does it work?　　— Test (v.)

2. Meaning of each stage / 以 "Tear-Ring"面紙設計為範例。
Stage 1 : How to Empathize — Observe/ think / watch and listen
Stage 2: How to Define — Research/understand /create a point of view.
Stage 3: How to Ideate — Brainstorm ideas, good or bad is ok.
Stage 4: How to Prototype — Start to create/ experiment your idea.
Stage 5: How to Test — Make the product/ show to people/ start to refine the product.
3. 嘗試使用 "Design Thinking"發展自己的Passion project，請學生針對自己有興趣的題目，運用Design Thinking 完成產品設計的問卷。
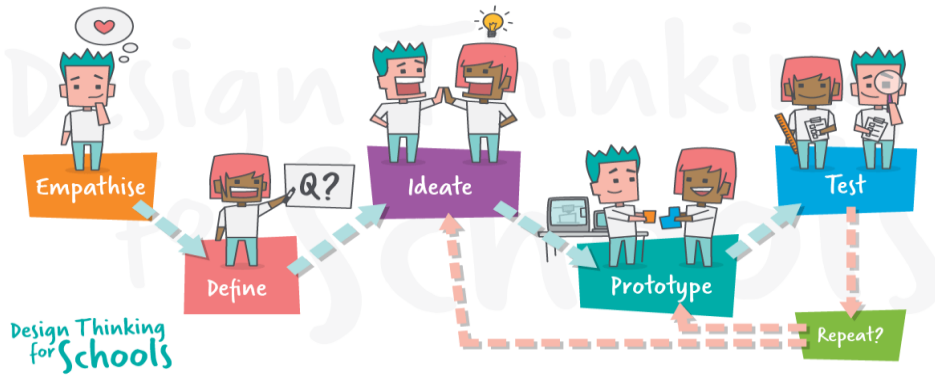
Language for Learning

By the end of this lesson, students will be able to describe the picture prompt; match words to the five questions; identify paragraphs corresponding to each stages; select nouns; identify sentences; analyze paragraphs; check the answers by reading the audio script.

目標字詞:

Design/Design thinking, graphic design, empathize, research, define, ideate, prototype, test, product

目標句型：

1. What do you see? What do they need? What is the problem?

I see /guess/ believe

2. If you are a designer, how do we solve this problem?

If I am a designer, I will design…

3. What is the problem does he want to solve?

He wants to solve the problem that …

4. Which response intrigues you most?

I like (someone)'s response because it …

5. 設計思考的步驟

There are five stages in the process of "Design Thinking". Each stage corresponds to one appropriate question.

Stage 1: What is the problem?　— Empathize (v.)

Stage 2: Why is it important?　　— Define (v.)

Stage 3: How do we solve it?　　— Ideate (v.)

Stage 4: How do we create it?　— Prototype (v.)

Stage 5: Does it work?　　　　— Test (v.)

6. Meaning of each stage/ "Tear-Ring" 面紙設計

Stage 1 : How to Empathize — Observe/ think / watch and listen

Stage 2: How to Define — Research/understand /create a point of view.

Stage 3: How to Ideate — Brainstorm ideas, good or bad is ok.

	Stage 4: How to Prototype — Start to create/ experiment your idea. Stage 5: How to Test — Make the product/ show to people (don't tell) / start to refine the product.	
	Learning Skills	
	By the end of this lesson, students will have developed their abilities to describe, to read, to discuss, to write, to share, to interview, to create their passion project, and to transfer knowledge of the design thinking strategy to their passion project.	
Classroom Language 教室英文用語	Sit tight 坐好 / Clean your desk 清理桌面 Eye on me / Hands on the table 看著我 / 手放桌面 Lower your voice when moving your chair down. 抬椅子下來請放低音量 Raise your hand when you have something to share. 請舉手發言 ►課堂結束打掃工作分配 sweep the floor 掃地/ mop the floor 拖地 / wipe the table擦桌子	
Learning Activity The 1st class 雙語學習活動	**I. Warm up (10 mins)** Preview the last class and ask students: 1. "Design Thinking – Umbrella". 2. What is Passion Project. 讓學生複習上一堂課內容: 何謂設計思考? 何謂Passion Project? 並點幾位學生發表想法 設計是以人為中心解決生活上的問題。 **Ask students:** 1. What is Passion Project? Passion Project is … 2. What is design? 3. What is Design Thinking? 4. What is the problem of this umbrella? If you are a designer, how do you solve it? 	Teaching Resource 教學資源: Projector /"IPAD"

Preview: "Design Thinking" 5 Steps

Stage 1 -- **Empathize (v.)**

Stage 4 --
Stage 5 --

✔ What is the problem?

II. Presentation – Design Thinking "Case Study – Facial Tissue" (5 mins)

Brief summary of "Design Thinking", shortly introduce 5 stages.

Stage 1: Empathize (v.) — Observe/ think / watch and listen

以使用者需求出發，思考生活中有什麼物品或環境是讓人感到不方便，進而設身處地想替對方解決。

Stage 2: Define (v.)— Research/understand /create a point of view.

分析並釐清需要解決的問題何在，並且把問題轉變為"我可以怎麼做?"。

Stage 3: Ideate (v.) — Brainstorm ideas, good or bad is ok.

集思廣益發想出可能解決的方法有哪些。

Stage 4: Prototype (v.) — Start to create/ experiment your idea.

依據發想結果，製作概念性的模型。

Stage 5: Test (v.)— Make the product/ show to people (don't tell) / start to refine the product.

檢視從同理心、定義、創意發想、速做原型，是否有需要調整的地方。

接著以"Facial Tissue" 為例子，逐步說明"Design Thinking"五個步驟。五個步驟分別是 Empathize – Define – Ideate - Prototype – Test。

There are five stages in the process of "Design Thinking". Each stage corresponds to one appropriate key question.

Stage 1: What is the problem?　 — Empathize (v.)
Stage 2: Why is it important?　 — Define (v.)
Stage 3: How do we solve it?　 — Ideate (v.)
Stage 4: How do we create it?　 — Prototype (v.)

Stage 5: Does it work?　　　— Test (v.)

III. Activity 1 – Empathize (10 mins)

這個階段活動設計屬於設計思考的第一個步驟:

Stage 1 : How to Empathize — Observe/ think / watch and listen

Example: Problems about facial tissue which happened in real-life.
Use this example and lead the student with different activities, and guide the students to go through the whole process in Design Thinking.
Image prompt:

Think and listen!
Choose the right descriptions about this image with hand gesture.
I will give three sentences for each question describing the image. If the description is "true", students need to make a "circle" with arms. If the description is "false", students make a "cross".

這個活動設計目的是讓學生練習以英文聽問題，並以手勢來回答問題。若答案是符合圖片情境，則雙手高舉" O"; 若答案不符合圖片情境，則舉"X"。

1. What's going on in these pictures?

(1)　They are so... excited.

(2)　They burst out crying.

(3)　They are playing.

2. * What do they need? (2 answers)

　(key question in design thinking)

　(1)　They need food.

　(2)　They need facial tissue.

　(3)　They need to calm down.

IV. Activity 2 - Reading and checking answers – Define (5 mins)

● **Why is it important?**

　(key question in design thinking)

這個階段活動設計屬於設計思考的第二個步驟:

Stage 2: How to Define — to Research/ to understand / to create a point of view.
Group discussion: share unhappy experience about umbrella with partners. Share your experiences.

We are going to have a poll to understand students' life experiences. The experience will help them to define the problem, and understand why the designer spent time designing a new product about facial tissue.

Stage 2: Define _ Why is it important?
Poll: Do you have the same experience?
(1) When I cried and got a running nose, I could not find any facial tissue!
(2) When I had diarrhea (poo poo), I found that toilet paper was running out!
(3) I never forgot to bring my tissue paper.

V. Lead in –Discussion Stage - Ideate (5 mins)

● **In order to prevent this kind of awkward situation, how do we solve this problem?**

(key question in design thinking)

這個階段活動設計屬於設計思考的第三個步驟:

Stage 3: How to Ideate — Brainstorm ideas, good or bad is ok.

Brainstorm idea:

When you need facial tissue (or toilet paper), but you cannot find it!

How do you solve this problem?

Come up some creative ideas!

Students type in their responses in the boxes. Teacher can see the answers immediately on the screen and will discuss the responses in the next following class.

教師螢幕會及時出現學生輸入的答案，讓學生閱讀其他人的回答，互相激盪想法、刺激思考，詢問學生:

Which response intrigues you most?

I like (someone)'s response because it …

並向學生預告後面單元課程會針對學生輸入的回答進行討論。

Briefly introduce the inventor Matt Benedetto who build a company "Unnecessary Inventions". All the products are the brainchild of inventor and evil genius Matt Benedetto. Over the past two years, he has designed and fully prototyped over 280 new inventions that solve problems that don't exist.

Stage 3： Ideate _ How do we solve it?

Matt Benedetto

Unnecessary Inventions is the brainchild of inventor and evil genius Matt Benedetto.

Over the past two years, he has designed and fully prototyped over 280 new inventions that solve problems that don't exist.

Stage 3： Ideate _ How do we solve it?

▶ What problem did he want to solve?

VI. Activity 3 –Listening and checking answers (5 mins)

● **How do we create this new idea?** (You can change material, shape, etc…)

 (key question in design thinking)

這個階段活動設計屬於設計思考的第四個步驟:

Stage 4: How to Prototype — Start to create/ experiment your idea.

Students watch the video and learn to listen what he said. Students will understand how this inventor Matt Benedetto prototype his idea.

Stage 4 : Prototype _ How do we create it?

► How did he create this product?

Stage 4 : Prototype _ How do we create it?

► How did he create this product?

VII. Activity 4 –Listening and checking answers (5 mins)

● **Does your idea work?**

 (key question in design thinking)

這個階段活動設計屬於設計思考的第五個步驟:

Stage 5: How to Test — Make the product/ show to people (don't tell) / start to refine the product.

Stage 5 : Test _ Does it work?

Ask 2 questions.

Students choose the answer to express their feelings.

1.   Does this product really solve the problem?

2.   Do you want to buy it?

Students choose the answer which corresponds to their feelings. Teacher can see the answers immediately on the screen and will discuss the responses in the next following class.

Teacher share the comments about this product.

Stage 5 : Test _ Does it work?

▶ Do you want to buy it?

The Tear-Rings™ - Unnecessary Inv...

Kyle Westhorpe
How can I buy this? FYI - an unbelievable gift to be used in bets with friends. I am hoping to get one for my buddy to settle up our wager to take an embarrassing video with these on.
Like · Reply · Mark as spam · 22w · Edited

Janet Calang
I want a pair too
Like · Reply · Mark as spam · 2y

Theresa E. Pope
I want to buy a pair!
Like · Reply · Mark as spam · 2y

Yuan Jian Wang
$$$??
Like · Reply · Mark as spam · 2y

Mari Lupe
I really want these!!! Please start selling these in your shop! I will buy!
Like · Reply · Mark as spam · 1y

Facebook Comments Plugin

UNNECESSARY INVENTIONS
SHOP   INVENTIONS   ABOUT   CONTACT
Privacy Policy
Products that solves problems that don't exist

Make a conclusion of the activity they have learned:

Stage 1: What is the problem? — Empathize (v.)

Stage 2: Why is it important?   — Define (v.)

Stage 3: How do we solve it?   — Ideate (v.)

Stage 4: How do we create it? — Prototype (v.)

Stage 5: Does it work?   — Test (v.)

	Each stage has one key question. **VIII. Wrap-up (5 mins) / End of the class** 發下Passion Project 學習單(附件一)，說明學習單撰寫內容及方式。請學生回去思考自己Passion Project 預計想要做什麼主題，並完成學習單第一頁 教師做出結論呼應課堂主題"Design"。 Design　=　Beautiful Solutions 用最簡單、最漂亮的解決最複雜的 教師做出總結，重新複習Design Thinking 5個步驟，預告下一堂課分組完成worksheets for their passion projects。 ~The End~	
	1. 課堂即時回饋：理解「設計思考」的5個步驟。 2. 學習單：歸納、摘要「設計思考」的內容，並以雙語描述臺灣設計師姚彥慈案例觀後心情感想。 3. 視覺資訊圖表成果發表：透過小組合作，思考生活中可以重新設計的物品，製作「設計思考」之視覺資訊圖表及問卷，並以雙語發表自己設計的草圖概念。 4. 學生互評：能聆聽同儕口頭報告並欣賞其作品發表。	Ipad Peardeck.com
Evaluation 雙語學習評量	1. 課堂即時回饋：理解「設計思考」的5個步驟。 2. 學習單：歸納、摘要「設計思考」的內容，並以雙語描述臺灣設計師姚彥慈案例觀後心情感想。 3. 視覺資訊圖表成果發表：透過小組合作，思考生活中可以重新設計的物品，製作「設計思考」之視覺資訊圖表及問卷，並以雙語發表自己設計的草圖概念。 4. 學生互評：能聆聽同儕口頭報告並欣賞其作品發表。	

附件一: Passion Project 學習單

Passion Project with Design Thinking

Understand (Empathize)

List your passions! What do you LOVE to do in your spare time? What activity gives you a strong, exciting feeling?

1. _____ 2. _____
3. _____ 4. _____
5. _____ 6. _____
7. _____ 8. _____
9. _____ 10. _____

Choose one of your passions you would like to work on and think of a way you can use your passion to help people.

_____

Teacher Approval Signature	

What do I need to **know and learn** to be able to complete my passion project?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Interview your end user(s)! Learn as much as you can about them that can help you with your design!

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Describe your **problem sentence**.

Describe (Define)

_____ (*person or end user*) needs _____ (*product*) that _____ (*needs and insights*).

Sketches

Imagine (Ideate)

Sketch some ideas you have for your passion project. Remember we want a lot of ideas. Even wild ideas are okay!

Sketches

Imagine (Ideate)

Sketch some ideas you have for your passion project. Remember we want a lot of ideas. Even wild ideas are okay!

Imagine
(Ideate)

Blueprint #1: My Solution

Imagine
(Ideate)

Blueprint #2: My Solution

TEST

Have your end user **test out your product!** Find out what works well and what can be improved.

Test #	What worked well? (Ask end user)	What can be improved? Can you "plus" my idea? (Ask end user)	How will I improve my solution for the next test?
1			
2			
3			
4			
5			

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