

附件四：

新北市112年度教師跨領域全英語授課教案設計
(參考範例-課程實施後)

設計者 / 服務學校	李筱珊、盧冠臻、張婉逸 / 新北市新莊區昌平國小		
教案名稱	長條圖派對	領域	英語跨數學領域
教學年級：國小四年級	課程上使用之英語比例：75 % (本比例係指教師以英語授課之時間佔總授課時間之比率)		
學生人數：26人	教學總節數：3 節	公開授課內容為第 2 節	
公開授課之時間： 112 年 11 月 14 日 14 時 20 分至 15 時 00 分 (第3節課)	公開授課之地點： 新北市新莊區昌平國小 四年七班教室	公開授課之教師： 姓名：盧冠臻、李筱珊 服務學校：昌平國小 專長領域：英語、數學	

核心素養	總 綱	A2 系統思考與解決問題 A3 規劃執行與創新應變 B1 符號運用與溝通表達 B2 科技資訊與媒體素養 C2 人際關係與團隊合作
	領 綱	英-E-A2 具備理解簡易英語文訊息的能力，能運用基本邏輯思考策略提升學習效能。 英-E-B1 具備入門的聽、說、讀、寫英語文能力。在引導下，能運用所學、字詞及句型進行簡易日常溝通。 英-E-C2 積極參與課內英語文小組學習活動，培養團隊合作精神。 數-E-A2 具備基本的算術操作能力、並能指認基本的形體與相對關係，在日常生活情境中，用數學表述與解決問題。

		<p>數-E-A3 能觀察出日常生活問題和數學的關聯，並能嘗試與擬訂解決問題的計畫。在解決問題之後，能轉化數學解答於日常生活的應用。</p> <p>數-E-B1 具備日常語言與數字及算術符號之間的轉換能力，並能熟練操作日常使用之度量衡及時間，認識日常經驗中的幾何形體，並能以符號表示公式。</p> <p>數-E-B2 具備報讀、製作基本統計圖表之能力。</p> <p>數-E-C2 樂於與他人合作解決問題並尊重不同的問題解決想法。</p>						
學習重點	學習表現	<p>英語領域</p> <p>◎1-II-7能聽懂課堂中所學的字詞。 ◎1-II-10能聽懂簡易句型的句子。 ◎2-II-3能說出課堂中所學的字詞。 ◎2-II-6能以正確的發音及適切的語調說出簡易句型的句子。 ◎3-II-2能辨識課堂中所學的字詞。 4-II-3能臨摹抄寫課堂中所學的字詞。 4-II-4能臨摹抄寫課堂中所學的句子。 6-II-1能專注於教師的說明與演示。 6-II-2積極參與各種課堂練習活動。 7-II-2能妥善運用情境中的非語言訊息以幫助學習。</p> <p>數學領域 r-II-2 認識一維及二維之數量模式，並能說明與簡單推理。</p>						
	學習內容	<p>英語領域 Ac-II-3 第二學習階段所學字詞。 B-II-1 第二學習階段所學字詞及句型的生活溝通。</p> <p>數學領域 D-4-1 報讀長條圖與折線圖以及製作長條圖：報讀與說明生活中的長條圖與折線圖。配合其他領域課程，學習製作長條圖。</p>						
具體學習目標	英語領域	<table border="1"> <tr> <td>Teaching Goals</td> <td>Students are able to use the target vocabulary and target sentence to name out the elements of a bar chart.</td> </tr> <tr> <td>Target Vocabulary</td> <td>Vertical axis, horizontal axis, total, longer, shorter, bigger, smaller, bar chart, bar, label.</td> </tr> <tr> <td>Target Sentence</td> <td>1. What's this? It's a _____. 2. The bar of _____ is longer, the total is bigger. 3. The bar of _____ is shorter, the total is smaller.</td> </tr> </table>	Teaching Goals	Students are able to use the target vocabulary and target sentence to name out the elements of a bar chart.	Target Vocabulary	Vertical axis, horizontal axis, total, longer, shorter, bigger, smaller, bar chart, bar, label.	Target Sentence	1. What's this? It's a _____. 2. The bar of _____ is longer, the total is bigger. 3. The bar of _____ is shorter, the total is smaller.
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數學領域	<p>透過從原始資料先轉換成一維表格，再轉換成長條圖的活動，認識長條圖的常見元件，例如：橫軸、縱軸、各項目與名稱、長條圖名標題，並了解各長條所表示的數量。</p> <p>透過長條圖繪製活動，觀察不同的長條圖(包含橫式和直式)，理解不同軸的意義，項目類別之間的順序區別，以及數量軸間距的意義。</p>							

Christmas party. Have students share their answer. Teacher shows students the photo.

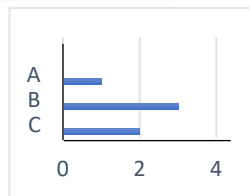
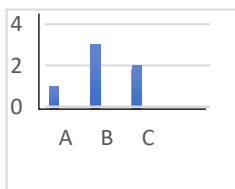
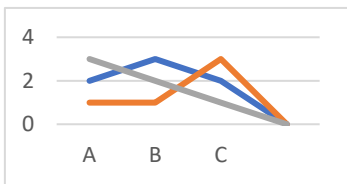


2. Let's go shopping!

- Teacher tells students that the class is going to throw a Christmas party. Have the students discuss the colors of the balloons for decorating.
- Teacher asks students what colors do they want and make a table for the survey.
- Teacher asks students about the elements of a one-dimensional table and fill out the table with students. (colors, total)

3. Make numbers visualized

- Teacher introduces two-dimensional tables to students. Ask students which chart can be used to make the total easier to read.



4. Let's using "bar chart" to make it clear!

- Teacher shows the flash card to have students knowing

25'

PPT,
flash cards

PPT,
flash cards

see the color red, green and white.

- We will throw a party in our classroom. We can buy some balloons to decorate our classroom.
- Let's pick three colors of the balloons here in the table.
- Look at this table. Which word should I write here?
- Who wants the color _____?
- Now we have a table here. But everything here are in numbers. Can someone tells me which chart can be used to make the total easier to read?
- Yes. Let's call this chart as " bar chart".
- What do we see in a bar chart?
- Can you name this?

	<p>about what we have in a bar chart. (horizontal axis, vertical axis, bars, labels, total)</p> <ul style="list-style-type: none"> Teacher draws a horizontal axis and vertical axis on the blackboard. Ask students to come to the stage and put the elements on the bar chart according to the table which made in class previously. (The colors of the balloons the students want to throw a Christmas party) <p>【統整與總結】</p> <p>Post-task</p> <ul style="list-style-type: none"> Review the words Teacher has students go through the chart they made and asks the students to read the words out by putting the flash cards next to the elements. 	5'	<p>teaching aids: bars, labels(colors, numbers), flash cards</p> <p>flash cards</p>	<ul style="list-style-type: none"> We have a table here about the colors of the balloons. Can someone come to the front and put these things into the bar chart. Let's read together.
第二節	<p>【引起動機】</p> <p>Pre-task</p> <ul style="list-style-type: none"> Get Ready Teacher greets the students. Teacher draws a vertical and horizontal axis on the black board and make a bar chart that we did in last class. Asks students to read out the words on the flash cards and put it next to the elements of a bar chart. Teacher asks students what is this bar chart talking about. Then shows the options on the PPT. <ol style="list-style-type: none"> How many colored balloons do we need for the Christmas party? How many people are there in our class? What are the sizes of the balloons in the Christmas party? 	10'	<p>flash cards, bars, labels</p> <p>PPT</p>	<ul style="list-style-type: none"> Good morning, everyone! Let's review something about the bar chart. What's this? It's a _____. We did a survey last time and then we made a bar chart here. Can someone tell me which sentence could be the name of this bar chart? Every bar chart needs a name. And the name can tell us what information we have in the chart. For example, I would know the colors of the

	<ul style="list-style-type: none"> ■ Teacher tells students that we need a name for the bar chart. We can understand the information according to its name. <p style="text-align: center;">【發展活動】</p> <p>Main-task</p> <p>1. Survey time</p> <ul style="list-style-type: none"> ■ Teacher asks students about the up-coming fair in school. And do the survey of how much they're going to spend in the fair. (Less than 100, 100-500, more than 500) ■ Teacher hands out the interactive whiteboard to each group and asks students to take notes with teacher. <ul style="list-style-type: none"> - Let's draw 3 vertical lines here. - Let's draw 5 horizontal lines here. - Who can tell me where I can put the word "total"? - Where can I put the dollar sign? - Now, let's count how many people here. ■ Teacher does survey and asks students write down the total together. <p>2. Can you make out a bar chart?</p> <ul style="list-style-type: none"> ■ Teacher gives out a bigger interactive whiteboard to each group. ■ Teacher demonstrates how to draw a horizontal axis and vertical axis on the whiteboard. ■ Have students draw a bar chart according to the survey. ■ Teacher shows students' works on the board. ■ Teacher has students compare the works from groups A and B. (Choose the 	<p>10'</p> <p>15'</p>	<p>PPT, interactive whiteboard, flash cards</p> <p>interactive whiteboard, flash cards, PPT</p>	<p>balloons, the total of the balloons and this bar chart is for our Christmas party.</p> <ul style="list-style-type: none"> ■ Now, I have one challenge for you. ■ Do you know the up-coming Christmas fair in our school? ■ Are you going to buy something there? If you are, how much will you spend in the fair? ■ Let's take a look at the name of this table one more time. ■ Repeat after me. How much will the students in 407 spend in the school fair. ■ Now, teacher hands out a white board to each group. And I give you a number. ■ Number 1, draw a table with me. ■ Number 2, write down the word "total" and draw a dollar sign. ■ Now, let's count how many people here. ■ Number 3 and 4, put the numbers in the table. ■ We have a table now. Can you draw a bar chart out of the table in groups? ■ First, let's draw a horizontal axis and vertical axis on the whiteboard together. ■ You have 5 minutes to discuss and draw a bar
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	<p>用。</p> <ul style="list-style-type: none"> - Can I have different size of a unit to show “one” in the bar chart? - How about in the same bar chart? Can I have different size of a unit to show “one” here? <ul style="list-style-type: none"> ■ 提問：同樣的資料數量，在不同的長條圖中，縱軸刻度不一樣，會不會影響資料的判讀呢？ ■ 歸納：繪製長條圖時，縱軸的間距只要能正確表達資料數量，都是適合的。 <p style="text-align: center;">【統整與總結】</p> <p>Post-task</p> <ul style="list-style-type: none"> ■ Try Again! ■ Teacher reviews the key points of how to make a bar chart by asking and answering questions. ■ Teacher points to the bar chart and asks students about the names of the element in the chart. ■ Asks students about the total of the balloons on the chart. ■ Reminds students that it’s okay to have different orders of the labels and size of the bars in the same chart. 			<ul style="list-style-type: none"> ■ Teacher draws four lines on the bar. ■ In chart A, This is a bar that shows 4 people are here. And in chart B, this one is also shows 4 people. ■ Please tell me, is this “one” unit bigger than that “one” unit? ■ Can I have different size of a unit to show “one” in the bar chart? ■ How about in the same bar chart? Can I have different size of a unit to show “one” here? ■ Remember, we need to have the same size of a unit in the same bar chart. Or it doesn’t make sense. <p>Post-task</p> <ul style="list-style-type: none"> ■ Let’s review what we learned today. I have some questions for you. ■ What’s this? (elements) ■ The longer bars shows bigger or smaller total? ■ The shorter bars shows bigger or smaller total? ■ Is it okay to have different orders of the labels here? ■ Is it okay to have different size of the bars in two different
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				charts? <ul style="list-style-type: none"> How about exchange the bars with these two bar charts? Can I do this?
第三節	<p style="text-align: center;">【引起動機】</p> <p>Pre-task</p> <p>1. Review the concept.</p> <ul style="list-style-type: none"> Teacher greets the students. Teacher shows a bar chart without the numeric labels. Teacher asks students what are the names of the elements in the bar chart. Teacher asks students what's missing here on the vertical axis. Teacher asks students to put the numbers beside the vertical axis, and reminds them that the longer bars we have, the bigger total here. Teacher draws horizontal lines on the bars, and asks students about the size of a unit. Teacher reminds students the chart must use the same size of the unit to represent "one." If we want to make the bar has the same unit. We have to use the same length to show "one." <p style="text-align: center;">【發展活動】</p> <p>Main-task</p> <p>1. What to do in our fair?</p> <ul style="list-style-type: none"> Teacher gives out the worksheets, asks students to be in paired and finish the part A in the worksheet together. Teacher asks students to read the name of the chart. 	10'	PPT, flash cards	<p>Pre-task</p> <ul style="list-style-type: none"> Good morning, everyone. Teacher has a bar chart on the blackboard. Can everyone say the names together? This is _____. Can somebody tells me, what's missing here? I need a student to put the numbers on the vertical axis. Are these right answers? The longer bars we have, the bigger total here. We know this bar have 8 people here. Can I present one unit with different size like this? Remember, we have to make a unit in a bar the same. <p>Main-task</p> <ul style="list-style-type: none"> Now, two people in a group. Teacher is going to give you a worksheet. Let's look at part A together. This data shows what
		25'	PPT Worksheet (see appendix)	

	<ul style="list-style-type: none"> ■ Have students to put the labels and count the numbers of themselves to finish the table. ■ Teacher asks students to check their answers pairs to pairs. Then asks students to share what they have found. ■ Teacher reminds students of the procedure to make a chart and also the elements that they would use. ■ Teacher tells students to make a bar chart according to the table. ■ Asks students to do a gallery walk in class and share their findings. <p style="text-align: center;">【統整與總結】</p> <p>Post-task</p> <ul style="list-style-type: none"> ■ Teachers asks students to conclude the information from the bar chart. - Which one has bigger total in the bar chart? - Which one has smaller total in the bar chart? - After reading this chart, what do you know? What should we do in the fair? 	<p style="text-align: center;">5'</p> <p style="text-align: center;">3'</p>	<p style="text-align: center;">PPT</p>	<p>fourth graders sold in the fair last year. Before we make a bar chart, let's put some information into the table.</p> <ul style="list-style-type: none"> ■ First, let's read the name of this chart one more time. Can you tell me what should I write here? (point to the table) ■ Where can I put the word "total"? ■ Let's write down the labels and count for each one first. ■ Teacher gives you 5 minutes to do it. Let's go. ■ Now, put down your pencil. Let's check our answers with your friends in group. ■ What do you see? ■ How many labels are there? Is your total same with each other? ■ In part B, can you draw a bar chart according to the table up here? ■ Teacher gives you 10 minutes to finish it. ■ Now, stop and put down your pencil. ■ Let's walk around and check everyone's works in the class. ■ Can someone shares what do you see? <p>Post-task</p> <ul style="list-style-type: none"> ■ Now, I have some questions for you.
<p>附錄（學習單或其他教學相關資料）</p>				

圖片資料來源：

[Untitled picture of balloons in different colors]

<https://www.indiamart.com/proddetail/birthday-party-latex-balloon-22931340512.html>

[Untitled picture of Christmas balloon decoration]

<https://vocal.media/lifehack/top-13-balloon-decoration-ideas-for-upcoming-christmas>

Appendix
Worksheet in lesson 3:

Class _____ Numbers _____ and _____ Names _____ and _____

昌平國小四年級販賣項目及售出總數									
班級	項目			班級	項目				
401	玩具、食物、飲料	20	10	20	405	文具、玩具、遊戲	15	20	20
402	食物、文具、遊戲	30	10	20	406	文具、遊戲、飲料	5	30	20
403	玩具、飲料、遊戲	10	25	20	407	食物、飲料、文具	20	20	25
404	食物、飲料、文具	30	20	15	408	食物、飲料、遊戲	20	15	20

Table A

Bar chart

Name _____

