

跨領域師培生教案

名稱：海洋污染

領域：英語、環保



胡心滢、吳佳蓁、徐郁婷



國立臺中教育大學



108 年教育部高教深耕計畫—
扎根英語文領域教學研究計畫方案

師資培育之大學外語領域教學研究中心(小學組)設置計畫

Center for Research on Foreign Language Teaching for Elementary Schools
Department of English, National Taichung University of Education

【附件 4】

108 年教育部高教深耕計畫—扎根英語文領域教學研究計畫方案

國民小學教育階段素養導向英語教學教案

壹、設計理念

近年來，國內的雙語教育盛行，學校也開始重視第二外語學科的能力。而在十二年國民基本教育的願景中提到「適性揚才」，在英語語文領域中，更強調語言溝通互動的功能性、自主與終身學習的能力與習慣，因此，也需引導學生自主思考、訊息處理的能力，進而培養學生社會參與。有鑑於此，在此教案設計中，我們以海洋汙染為主題。然而，傳統的英語學習只以特定情境的單字、句型為課程內容，學生以被動的方式接受教學內容，使其缺乏關心周遭的人事物。因此，本次的教案設計主要旨在擺脫傳統講述式的教學方式，結合翻轉學習的理念，讓學生從被動的訊息接收者轉變為主動汲取知識的學習者，反覆引導出學生腦中的想法，透過學生口語發表，並結合合作學習法，透過同儕間的討論，探究環境汙染的問題、成因及解決辦法，喚起學生對於自身社會的現況之關心，並培養其問題解決的能力，透過具結構性的教學編排，使學生對於海洋汙染議題更加深入瞭解。

貳、教學分析

一、教材分析（若使用教科書，請寫明版本）

此教案為自編課程。

二、學生分析（請敘明為小學階段之年級別、學生背景，正式英語學習大約幾年）

此教案設計對象為第三學習階段，在自然科課程中，學生已對環境汙染有基本的認識。正式英語學習從國小三年級開始學習，也有每週進行一次英語日，每個月都有英語主題課程，此外，每位學生的英語程度相當，然而在書寫能力部分稍弱。

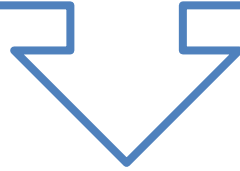
三、教學方法分析

首先，先以兩張海報呈現給學生看連結其生活經驗，將環境議題為主軸融入教學之中，讓學生瞭解因為人類的行為，環境被破壞、汙染，在眾多汙染中，本單元將以海洋汙染為主。接著，讓學生以合作學習方式學習海洋汙染的因素、海洋汙染的影響有哪些、有哪些解決海洋汙染的方法，每堂課將以不同的活動呈現該堂課的教學重點。最後，學生將統整前四堂課所學的知識，在第五節小組上台呈現他們所學的海洋汙染全部內容。

四、課程概念架構圖（指標/單元名稱/活動/策略/評量方式）

第一節課：

以海報方式張貼給學生看，讓學生思考，我們的海洋發生什麼事情，以 ORID 焦點討論方法讓學生討論並分享，透過口語評量方式了解學生的想法，最後介紹其他環境汙染相關知識內容。



第二節課：

先請學生思考海洋汙染的發生原因，並舉手發表；接著老師介紹主要的汙染源頭-陸源汙染及海洋汙染，詳細說明並進行口語練習，最後小組報告使用的片語，讓學生能運用指定語句描述現狀；接著以比手畫腳的活動，讓學生以表演汙染情境並猜測，加深學生對於汙染緣由的印象；最後，請學生完成小組活動學習單的「汙染原因」部分，替最後一節課的上台報告做準備。



第三節課：

請學生思考並發表海洋被汙染後可能會產生的影響，接著教學本節課重點單字，包括學生先前有提到或沒提到的單字，先以圖片讓學生猜想是什麼樣的影響，再公布意思，老師完整教過單字後，學生複述。活動部分為老師唸單字，請學生上台輪流拼出字母，增加學生對於單字的書寫能力，而片語及句型的教學，套用老師指定的句型，讓學生大量作口語練習。最後，統整並帶領學生完成學習單上影響的部分。



第四節課：

在第四節，教授的內容為海洋汙染的解決方法，以 We can _____ 為該堂課的重點句型，學生的解決方法可以用中文或英文表示，各小組合作討論，集思廣益人們可行的解決方案寫在小黑板上，並推舉一位同學上台報告，報告結束後老師講評及補充資料，並請台下同學可以補充意見。



第五節課：

老師修正學生學習單上的錯誤部分並發還給學生訂正並提出問題。接著，給學生 15 分鐘的時間準備上台展示學習成果。學生可以使用各種先前學習過材料、知識，透過報告、心智圖或是演戲方式呈現。報告前老師會複習之前所學過的報告用語，並給每組 3 分鐘的時間簡單報告。最後發下檢核表，由老師統整並總結。

參、教學活動設計

單元主題	海洋汙染	課程時間	共 5 節 200 分鐘
學生年級	第三學習階段	學生人數	25 人
核心素養			
<input type="checkbox"/> A1 身心素質與自我精進 <input type="checkbox"/> B1 符號運用與溝通表達 <input type="checkbox"/> 道德實踐與公民意識 <input checked="" type="checkbox"/> A2 系統思考與解決問題 <input type="checkbox"/> B2 科技資訊與媒體素養 <input type="checkbox"/> 人際關係與團隊合作 <input checked="" type="checkbox"/> A3 規劃執行與創新應變 <input type="checkbox"/> B3 藝術涵養與美感素養 <input type="checkbox"/> 多元文化與國際理解			
學科核心素養對應內容			
總綱		領綱	
A2 系統思考與解決問題 B2 科技資訊與媒體素養		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-B2 具備使用各種資訊科技媒材進行自我學習的能力，以增進英語文聽說讀寫綜合應用能力及文化習俗之理解。	
本單元學習重點			
學習表現		學習內容	
(聽) 1-III-6 能聽懂課堂中所學的字詞。 1-III-7 能聽懂簡易的教室用語。 1-III-9 能聽懂簡易句型的句子。 (說) 2-III-7 能作簡易的回答和描述。 2-III-8 能作簡易的提問。 2-III-9 能以正確的發音及適切的語調說出簡易句型的句子。 (讀) 3-III-1 能辨識課堂中所學的字詞。 3-III-4 能看懂課堂中所學的句子。 3-III-6 能看懂課堂中所學的簡易短文之主要內容。 (寫) 4-III-1 能抄寫課堂中所學的字詞。 4-III-2 能抄寫課堂中所學的句子。 (學習態度) 6-III-1 具有好奇心，主動向教師或同學提出問題。 6-III-2 樂於參與課堂中各類練習活動，不畏犯錯。		Ac-III-2 簡易的教室用語。 Ac-III-3 簡易的生活用語。 Ad-III-2 簡易、常用的句型結構。 D-III-1 所學字詞的簡易歸類。	
融入之議題 / 整合之領域			

環 E5 覺知人類的生活型態對其他生物與生態系的衝擊。
 環 E6 覺知人類過度的物質需求會對未來世代造成衝擊。
 環 E15 覺知能資源過度利用會導致環境汙染與資源耗竭的問題。

學習目標

(請將每一節次之目標以編號標示，例如第一節目標為 1-1、1-2、1-3，第二節目標為 2-1、2-2，依此類推，並於每一教學活動項目之對應目標 (objective#) 處填寫「目標編號」即可)

1-1 Students will be able to express their feelings through observation and thinking.

1-2 Students will be able to discuss with team members and collaborate on specific tasks.

1-3 Students will be able to correctly pronounce and spell the vocabulary and sentence of this lesson.

2-1 Students will be able to say words about kinds of pollution.

2-2 Students will be able to tell the words of marine pollution.

2-3 Students will be able to use sentence to describe the cause.

2-4 Students will be able to use technology machine to search the information.

3-1 Students will be able to say what's the influence of ocean pollution.

3-2 Students will be able to say the main vocabulary.

3-3 Students will be able to write down and spell the vocabulary.

3-4 Students will be able to make a sentence by themselves.

4-1 Students will be able to feel the marine pollution harmful to the environment or marine life and put forward their own ideas.

4-2 Students will be able to cooperate with group members to accomplish learning tasks.

4-3 Students will be able to correctly pronounce and spell the vocabulary and sentence of this lesson.

5-1 Students will be able to express what they learned in this class.

5-2 Students will be able to use the vocabulary and sentence to display their production.

使用教具 / 教學資源 / 網路連結

第一節

海報 1 <https://bit.ly/2Xzlj4z>

海報 2 <https://bit.ly/2K5hESi>

第三節影片：<https://www.youtube.com/watch?v=ZqTTSVM5TC0>

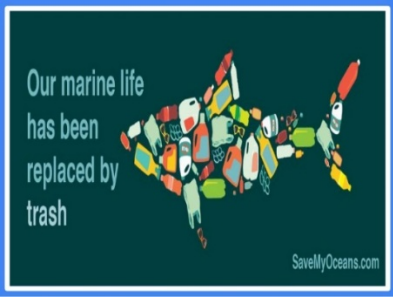

第四節影片：<https://youtu.be/Sp572udnPVg>

本單元所需之學生先備知識

本單元之目標語言內容

<p>1.Student have learned some pollution situation in science.</p> <p>2.Student have learned present tense.</p> <p>3.Student have learned sense organ grammar.</p>	<p>Language of learning vocabulary</p> <p>Ⓛ marine pollution 海洋污染 air pollution 空氣汙染 noise pollution 噪音汙染 soil pollution 土壤汙染 heavy-metal pollution 重金屬汙染</p> <p>Ⓜmarine pollution 海洋汙染 Ⓝdischarge 排放 Ⓞwastewater 汙水 Ⓟdomestic 家庭的、民生的 Ⓠvessel 輪船 Ⓡoil leakage 石油外漏 Ⓢmarine life 海洋生物 Ⓣdeath 死亡 Ⓤpoisonous 有毒的 Ⓥcoral 珊瑚 Ⓦdisease 疾病 Ⓧlead to 造成；導致 Ⓨbring about 造成、導致</p> <p>Language for learning sentence: I see _____. I feel _____ because _____. It wants to tell us _____.</p> <p>Greetings:</p> <ul style="list-style-type: none"> • Thank you all for being here. • It's a pleasure / honor for me to be here. • I'm very happy to have this opportunity to.... <p>Introduction topic: I want to talk about _____.</p> <p>Techniques</p> <ul style="list-style-type: none"> • First of all • Secondly / Thirdly • Next • What's more • Lastly / Finally / Last but not least
--	---

	<p>To sum up</p> <p>⊕land-based pollution 陸源汙染</p> <p>⊕Styrofoam 保麗龍</p> <p>⊕Charade 比手畫腳</p> <p>⊕stand up and shout, “Group____, finishes!” and sit down</p> <p>Language through learning</p> <p>⊕coral bleaching 珊瑚白化</p>
--	--

單元第一節			
教學流程	所需資源及 對應目標	時間	評量方式
<p>【Warm-up】</p> <p>Divide the class into 5 groups.</p> <p>Show the posters to students.</p> <p>Marine pollution Poster 1</p>  <p>Marine pollution Poster 2</p>  <p>(1) Show marine themed posters and display different posters.</p> <p>(2) Ask the students to observe the poster first 5-10 seconds</p> <p>【Practice & Presentation】</p> <p>Activity 1</p> <p>Students have already learned ORID focus discussion method.</p>	<p>Materials:</p> <p>ppt</p>	2'	

<p>Teacher reviews the key points of this method.</p> <p>Objective 客觀與事實 Reflective 感受與反應 Interpretive 意義與價值 Decisional 決定與行動</p> <p>Randomly send different posters to each group. Each team discuss the following ORID questions in order. Students need to</p> <p>Write down their answers on the learning sheet. (Appendix1)</p> <p>a O What do you see? I see _____.</p> <p>b R What is your intuitive response after seeing the poster? (very interesting, very surprised, very touched, very encouraged, or what make you feel very depressed)? I feel _____ because _____.</p> <p>c I What does this poster want to express? It wants to tell us _____.</p> <p>d D Please help design a title for this poster. Students design their own title.</p> <p>Groups share discussion results. Each group and teacher will give them feedback.</p>	<p><i>Materials:</i> <i>Learning sheet</i></p> <p><i>Objective #1-1</i> <i>Objective #1-2</i></p>	<p>15'</p>	<p>Writing assessment Oral assessment</p>
<p>Activity2</p> <p>Teacher teaches main vocabulary in this class and introduce other kinds of pollution.</p> <p>First, show the pictures of these pollution on ppt and let students guess what kind of pollution it is. (use Chinese or English)</p> <p><u>Vocabulary</u></p> <p>海洋污染 marine pollution 空氣污染 air pollution 噪音污染 noise pollution 土壤污染 soil pollution 重金屬污染 heavy-metal pollution</p> <p>Teacher teaches sentence to ask students. Let students practice use this sentence and put the vocabulary into the sentence.</p> <p><u>Sentence Pattern</u></p> <p>What is the pollution?</p>	<p><i>Materials:</i> <i>ppt</i></p> <p><i>Objective #1-3</i></p> <p><i>Materials:</i> <i>ppt</i></p>	<p>10'</p>	<p>Oral assessment</p>

<p>It is _____.</p> <p>Practice-Bingo</p> <p>Each group has a form with a total of 9 spaces, allowing students to fill in the words they have just taught (marine pollution, air pollution, noise pollution, soil pollution, heavy-metal pollution) and each word can only be repeated one time.</p> <p>After the completion of the student, all the students need to ask the teacher, “What is the pollution?” The teacher arbitrarily replies, “It is marine pollution.” Straight or horizontal or oblique connected to the two lines to shout Bingo! As a winner.</p> <p style="text-align: center;">【Production】</p> <p>The teacher tells the students that we will learn a series of lessons about marine pollution. In the last class, each group needs to go to the stage report, and must use some common language for the report.</p> <p>Teacher introduces the terms of report in English.</p> <p>Greetings:</p> <ul style="list-style-type: none"> • Thank you all for being here. • It’s a pleasure / honor for me to be here. • I’m very happy to have this opportunity to.... <p>Introduction topic: I want to talk about _____.</p> <p>Techniques</p> <ul style="list-style-type: none"> • First of all • Secondly / Thirdly • Next • What’s more • Lastly / Finally / Last but not least • To sum up <p>Ending:</p> <p>This is the end of my..., and thank you for your attention.</p> <p>(1) Each group practices the presentation.</p> <p>(2) Teacher assists each group.</p>	<p><i>Objective #1-3</i></p>	<p>5’</p> <p>7’</p>	<p>Oral assessment</p>
--	------------------------------	---------------------	------------------------

<p style="text-align: center;">【Wrap-up】</p> <p>The teacher reviews the words and sentences taught in this lesson.</p>		1'	
單元第二節			
教學流程	所需資源及 對應目標	時間	評量方式
<p style="text-align: center;">【Warm-up】</p> <p>Review words about pollution by flash card.</p> <p style="text-align: center;">【Practice & Presentation】</p> <p>1. Let students think about what reason would cause marine pollution, and write down on the whiteboard to share.</p> <p><u>Vocabulary</u></p> <p>2. Introduce causes of marine pollution</p> <p>The single line of the bottom line is the target word of the class</p> <p>(1) land-based pollution :</p> <ul style="list-style-type: none"> • <u>Factories discharge wastewater.</u> • <u>Agriculture and forestry discharge wastewater</u> <p>There are many <u>animals waste</u>, like feces, pesticide some chemical material into the ocean.</p> <ul style="list-style-type: none"> • <u>Domestic Wastewater</u> <p>Like <u>laundry essence</u>, food waste, waste (feces/urine).</p> <ul style="list-style-type: none"> • <u>Garbage pollution</u> <p><u>plastic products</u> (straw/plastic bottle/plastic bag), Styrofoam, Non-recyclable trash</p> <p>(2) <u>sea activities pollution</u></p> <ul style="list-style-type: none"> • <u>vessel waste</u>— trash 、 fishing net 、 sewage • <u>oil leakage</u>—marine oil spill always cause many sea Animals sick, even influence the food source of people. <p><u>Phrase & Sentence Pattern</u></p> <p>Use the phrase to describe the marine pollution.</p> <p>(1) Marine pollution is caused by _____.</p> <p>(2) _____ causes marine pollution.</p> <p style="text-align: center;">【Production】</p> <p>Charade</p>	<p><i>Objective # 2-1</i></p> <p>flash card</p> <p><i>Objective # 2-2</i></p> <p>PPT</p> <p><i>Objective # 2-3</i></p> <p>Sentence pattern</p> <p><i>Objective # 2-4</i></p> <p><i>Objective # 2-2</i></p>	<p>2'</p> <p>3'</p> <p>15'</p> <p>10'</p>	<p>Oral assessment</p> <p>Oral assessment</p> <p>Oral assessment</p> <p>Oral assessment</p>

<p>Choose one person to performance the situation about the pollution taught in the class, then every team need to guess the action meaning, and write down the answer.</p> <p style="text-align: center;">【Wrap-up】</p> <p>1. Give each team one pad and use it to search the cause of marine pollution, and finish the worksheet.</p> <p>2. Review the words in this class.</p>		10'	<p>Writing assessment</p> <p>Oral assessment</p>
--	--	-----	--

單元第三節

教學流程	所需資源及 對應目標	時間	評量方式
------	---------------	----	------

【Warm-up】			
Show the video clip to stimulate students' thinking. https://www.youtube.com/watch?v=ZqTTSVM5TCo Teacher ask, "What would happen if the ocean is polluted?" Student's answer: Fish die/Coral bleached/Dirty ocean/People ate poisonous seafood...	<i>Objective # 3-1</i>	2'	Oral assessment
【Practice & Presentation】			
<u>Vocabulary</u> Teacher teach this class's main vocabulary. First, let students see the pictures and guess (Chinse or English) what's in the pictures. And then teacher read the main vocabulary, student repeat again. Ⓞmarine life 海洋生物 Ⓞdeath 死亡 Ⓞpoisonous 有毒的 Ⓞcoral 珊瑚 coral bleaching 珊瑚白化 Ⓞdisease 疾病	<i>Objective # 3-2</i>	8'	Oral assessment
◎Activity: <u>Easy version</u> Divide students into 5 groups. Give them 5 minutes to remember the words. Then teacher will say the words, each students need to go to write down (spell) one letter on the blackboard and pass to next students. The first team that finish the whole words needs to <u>stand up and shout, "Group _____, finishes!" and sit down.</u>	<i>Objective # 3-3</i>	5'	Writing assessment
<u>Advanced version</u>		5'	

<p>Teacher say all the vocabulary randomly, students need to remember the sequence and one person go to write down one words and pass to next person (group member can help each other). Also, the first team that finish the whole words needs to <u>stand up and shout, “Group _____, finishes!” and sit down.</u></p> <p><u>Phrase & Sentence Pattern</u></p> <p>Teacher teach two phrases can use in sentence to explain what thing would cause what result. Let students practice how to use this sentence and how to put the main vocabulary into the sentence.</p> <p>⊕lead to 造成；導致 ⊕ring about 造成；導致</p> <p>⊕Marine pollution leads to _____. ⊕Marine pollution brings about _____.</p> <p>Reference answer: the death of marine life/coral bleaching/poisonous seafood</p> <p style="text-align: center;">【Production】</p> <p>Teacher give each team a series of little picture cards of the main vocabulary. Student pick one card and use what he or she has learned to make the sentence. (Members can give some hint if the person don't know how to say.)</p> <p style="text-align: center;">【Wrap-up】</p> <p>Teacher give students some guide to finish some part of worksheet. Students of groups can make their discussion to write down things have learned or haven't learned on the sheet.</p>	<p>Objective # 3-4</p> <p>Materials: Flash cards/ little picture cards/sentence strips</p>	<p>8'</p> <p>6'</p> <p>6'</p>	<p>Oral assessment</p>
單元第四節			
教學流程	所需資料及 對應目標	時間	評量方式

<p style="text-align: center;">【Warm-up】</p> <p>Play marine pollution film: https://youtu.be/Sp572udnPVg</p> <p>Think we have already known the cause of marine pollution, marine pollution has a great impact on us, and what the solution of marine pollution do we have?</p>	<p><i>Materials:</i> <i>marine pollution film</i></p>	<p>5'</p>	
<p style="text-align: center;">【Practice & Presentation】</p> <p>(1) After each group discussion, faction representatives to write on the blackboard</p> <p>(2) Teacher circles the repeated opinions and teach English usages.</p> <p>(3) sentence: We can_____.</p> <p>Don't litter. 不亂丟垃圾</p> <p>We can clean beach. 我們可以淨灘</p> <p>We can legislate. 我們可以立法</p> <p>We can selective fishing. 我們可以選擇性捕魚</p> <p>We can establish the marine protected areas. 我們可以成立海洋保護區</p>	<p><i>Materials:</i> <i>ppt</i> <i>Objective # 4-1</i></p>	<p>15'</p>	<p>Oral assessment</p>
<p style="text-align: center;">【Production】</p> <p>You draw We guess</p> <p>The teacher randomly selects one group to the stage and collaborate to draw a picture of the specified sentence pattern. (Everyone can draw for 10 seconds, then change the next person to keep drawing the picture.)</p>	<p><i>Objective # 4-2</i></p>	<p>10'</p>	<p>Oral assessment Writing assessment</p>
<p style="text-align: center;">【Wrap-up】</p> <p>Review the sentence of marine pollution solution.</p> <p>sentence: We can_____.</p> <p>Don't litter. 不亂丟垃圾</p> <p>We can clean beach. 我們可以淨灘</p> <p>We can legislate.</p>	<p><i>Objective # 4-3</i></p>	<p>10'</p>	<p>Oral assessment</p>

<p>Techniques</p> <ul style="list-style-type: none"> • First of all • Secondly / Thirdly • Next • What's more • Lastly / Finally / Last but not least • To sum up <p>◎Show time</p> <p>Each group has 3 minutes to present their performance.</p> <p style="text-align: center;">【Wrap-up】</p> <p>Teacher wrap up students' sharing of ocean pollution. And then give them a checklist to let students check if they do the things to protect the ocean and protect the environment.</p>			<p>15' Performance based assessment</p> <p>5' Paper assessment</p>
---	--	--	--

肆、教學評量

具體目標	評量方式	備註
1-1 Students will be able to express their feelings through observation and thinking.	Oral assessment: Understand the student's mastery of the sentence pattern to confirm whether the student can correctly pronounce and use the words that have been learned.	
1-2 Students will be able to discuss with team members and collaborate on specific tasks.	Writing assessment Student can write down their own opinions and finish the task.	
1-3 Students will be able to correctly pronounce and spell the vocabulary and sentence of this lesson.	Oral assessment: Student can correctly pronounce and use the words that have been learned.	
<i>2-1 Students will be able to say words about kinds of pollution.</i>	Oral assessment: Student can say words of pollution.	
<i>2-2 Students will be able to tell the words of marine pollution.</i>	Oral assessment: Student can use words of marine pollution.	
<i>2-3 Students will be able to use sentence to describe the cause.</i>	Oral assessment: Student can use words to describe the	

	pollution.	
<i>2-4 Students will be able to use technology machine to search the information.</i>	Writing assessment Student can search information and write down the result.	
<i>3-1 Students will be able to say what's the influence of ocean pollution.</i>	Oral assessment: students raise their hands and talk about their thought	
<i>3-2 Students will be able to say the main vocabulary.</i>	Oral assessment: students can say marine life, death, poisonous, coral, and disease in English.	
<i>3-3 Students will be able to write down and spell the vocabulary.</i>	Writing assessment: students can write down the words marine life, death, poisonous, coral, disease in English.	
<i>3-4 Students will be able to make a sentence by themselves.</i>	Oral/ writing assessment: students can say or write down the sentence: Marine pollution leads to _____. Marine pollution brings about_____.	
<i>4-1 Students will be able to feel the marine pollution harmful to the environment or marine life and put forward their own ideas.</i>	Oral assessment: Students can express their opinions after watching the film.	
<i>4-2 Students will be able to discuss with team members and collaborate on specific tasks.</i>	Oral assessment: Student can correctly pronounce and use the words that have been learned.	
<i>4-3 Students will be able to correctly pronounce and spell the vocabulary and sentence of this lesson.</i>	Oral assessment: Student can correctly pronounce and use the words that have been learned.	
<i>5-1 Students will be able to express what they learned in this class.</i>	Oral assessment: students can remember, say and use the sentence, vocabulary they learned before.	
<i>5-2 Students will be able to use the vocabulary and sentence to display their production.</i>	Performance based assessment: students can create a drama, mind mapping, or a report to show their result.	

ORID questions -I see I feel I think

Group number _____ Name: _____

O

What do you see?

I see _____.

R

What is your intuitive response after seeing the poster?

(very interesting, very surprised, very touched, very encouraged, or what make you feel very depressed)?

I feel _____ because _____.

I

What does this poster want to express?

It wants to tell us _____.

D

Please help design a title for this poster.

Students design their own title.
