## PBLL Repository at NFLRC

*Climate Change and Me*

Megan M. Ferry, Union College (Schenectady, NY)

Directed at College-level, Chinese Intermediate-mid-high/Advanced-mid learners (mixed levels group)

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**PREPARING FOR THE PROJECT**

Why do learners care?

Students are aware of the real effects of climate change but can often feel paralyzed as to what they can do as individuals. Seeing that they can make an individual contribution to a collective problem alleviates anxiety and empowers students to work together. In addition, students are interested in other cultures, and will be interested in learning about the role culture plays in the political, economic, and personal decisions we make that affect our earth.

**Big Idea (Driving Question):**

What role can I play to combat climate change and how does my cultural background influence that role?

**Essential Questions (Guiding Questions):**

How can we get individuals in the community to actively combat climate change?

This 7-8 week project is designed for Chinese Intermediate learners with intermediate- mid/high to advanced-low proficiency.

Learners will investigate the human effects of climate change in collaboration with the Union College U-Sustain Committee and Chinese students (college or middle school) in order to compare, analyze and address the cultural differences in approaching actions to combat climate change.

Academically, learners will engage in sustained inquiry about the environment and ecology in Chinese based on data and the learners’ interests. As the project unfolds, learners will use the target language to describe, inquire, state an opinion, hypothesize about the future state of our planet due to human-induced climate change brought about by economic growth, and articulate a personal plan of action as well as suggestions for actions other individuals can take to reduce their carbon footprint, using grammatical structures and language patterns related to opinion-making, hypotheses, comparisons, and suggestions, and vocabulary related to the topic of climate change, energy consumption and conservation, economic development and growth.

Culturally, learners will engage in:

* observing different values, opinions, actions while interacting with Union College’s U-Sustain Committee and Chinese student populations on campus or at a local middle school
* learning about sustainability actions by individuals in China through interviews with Chinese classmates, a video on an action college students took to draw attention to disposable chopsticks, government PSAs, and a documentary
* comparing and contrasting US and Chinese government and individual responses to and solutions for combating climate change and the ideologies behind those actions through close observation of linguistic and visual content and descriptions
* critically interpreting the cultural responses of both governments and a variety of individuals, as well as their own assumptions and actions toward the subject.

Major activities include: interviewing on-campus individuals and groups about steps already taken at Union College for sustainability and Chinese student understanding and reactions to the problem of climate change, as well as inquiry as to their plans for involvement in sustainability at Union, analysing texts, including video, song, and social media, creating a final project product to share with the target audience. Students will work in teams to anticipate, brainstorm, create, negotiate, and revise knowledge about their target audience and final project to share with the target audience.

The project product is two-fold: 1) will be a personal plan of action which can be in written, an infographic, or oral video format, as well as 2) a team-designed product which will be shared with the audience target listed above. The team will determine the final product in consultation with the instructor (such as a presentation, class hour, or roundtable discussion, a welcoming newsletter or other product to incoming first-year students from China, a product that can be sent to a Chinese university counterpart, or a middle school ESL community in a nearby county. The final product must demonstrate the important role culture plays in determining actions and desired outcomes as a means to encourage more students of color to participate in climate action on campus and in our communities.

**LAUNCHING THE PROJECT**

Entry Event/Introduction

**Part 1 The Mission and the Issues**

1. Students use the [GooseChase](https://www.goosechase.com/) [scavenger hunt] app to begin their mission. Mission: “Scientists say time is running out for humans to change their behavior in order to diminish the effects of climate change. Your job is to find a solution.” Students take pictures of the form of transportation they use the most, where they recycle their waste, a recycled object they use most frequently, register and conduct the [Stanford ISA Carbon](http://web.stanford.edu/group/inquiry2insight/cgi-bin/i2sea-r3a/i2s.php?page=calculate) Footprint survey, and show they are ready for the mission! Opening class discussion centers on the results and observations of the hunt.

✔ (During the first part of this mission, and before being divided into project groups, they are required to attend one of the many sustainability and climate change student clubs on campus and report to the class about their agendas and programs for the term.) This ✔ symbol indicates where students are scaffolding the project throughout the sequence of activities.

1. Read the following English-language articles on the class webpage related to disappearing cities.
2. [What Could Disappear](http://www.nytimes.com/interactive/2012/11/24/opinion/sunday/what-could-disappear.html) (NYT 4/24/2016)  sea level rise in US
3. [14 US Cities that Could Disappear Over the Next Century, Thanks to Global Warming](https://www.huffingtonpost.com/2013/08/26/global-warming-flooding_n_3799019.html) (Huffingtonpost 8/26/2013)
4. The following NYTimes article is written in both English and Chinese. Identify the words you think may be related to discussing climate change in the Chinese article.
5. [Rising Waters Threatens Chinese Cities](https://www.nytimes.com/interactive/2017/04/07/world/asia/climate-change-china.html) (NYT 4/7/2017)
6. 洪水围城：气候变化威胁中国大都市[Rising Waters Threatens Chinese Cities](https://www.nytimes.com/interactive/2017/04/07/world/asia/climate-change-china.html) (NYT 4/7/2017)

**Pre-Discussion activity 1:** The GooseChase and carbon footprint results are shared with the students. Scaffold and discussion of the GooseChase findings in class. The purpose is to bridge their individual habits and actions with the larger social issues of climate change.

**Discussion activity:** Think-pair-share: Identify the similarities and differences between students’ photographs and their carbon footprint results. What do you notice? Come up with your own Chinese definition of what is a carbon footprint. State why it is important to have as small a footprint as possible.

1. Scaffold and discussion the English readings, which help set the stage for future class discussion. Identify the relevant vocabulary students found in the Chinese version of the 3rd article.

**Pre-Discussion activity 2:** Students are provided a handout with the new words related to recycling and carbon footprint to help guide the discussion of the reading activity and to introduce a definition of climate change and some of the linguistic terms to be learned in the course.

**Discussion activity:** Think-Pair-Share: What is happening to the US and Chinese cities?

1. Students produce individual presentations on their carbon footprint analysis. Think-pair-share: 1. What have you learned about yourself and your classmates through your photos and carbon footprint results? 2. What is your reaction to the articles on the future disappearance of US and Chinese cities? Describe how you yourself have witnessed climate change. Is climate change an important issue for us to tackle?

**Part 2 The causes and effects of climate change**

7. **Activity 3:** Cause and Effects of Climate Change

Students are given a handout with the term “climate change” in Chinese and asked to discuss in pairs what the expression means in their own words and provide a definition to the class. Next, they are given a series of questions if they have been influenced by climate change.

1. **Activity 3.1:** Students consult the new vocabulary words on the handout, identify the pinyin and meaning with the corresponding English translation. Some words will already be familiar. The instructor points out the new, unfamiliar words.
2. **Pre-reading Activity 3.2:** Students are provided another handout with an illustration of climate change effects in [Chinese](https://skepticalscience.com/docs/Guide_Skepticism_Chinese.pdf). The instructor takes students through the illustration that describes greenhouse effect.
3. **Pre-reading Activity 3.3:** Students look at a list of vocabulary that describe the effects of climate change and find their synonyms in the second column. Students are asked to describe what changes occur as a result of climate change (as in, rise in sea level, increased CO2, etc.).
4. **Pre-reading Activity 3.4:** Students look at another illustration to learn about the effects of CO2 emissions, using the word “leads to 导致.” Students work in pairs to describe the effects of greenhouse gas emissions.
5. **Reading Activity 3.5:** Students read about what human factors influence temperature rising more at night than during the day. They are asked to underline the relevant sentence to a question.
6. **Pre-Reading Activity 3.6:** Students look at an illustration of climate change effects (melting ice caps and glaciers, rising sea levels, etc.) as a means to learn new vocabulary and to practice the expression “to increase, rise, decrease” from Activity 3.3. They answer questions related to the diagram.
7. **Reading and Discussion Activity 3.7:** Students look at a science graph that explains the increase of thermal heat over the last 50 years and use Think-Pair-Share to answer questions, and explain what climate change is and how we can prevent it.
8. **Independent Activity 3.8:**  Students conduct a second Carbon Footprint calculation, this time in [Chinese](http://www.dotree.com/CarbonFootprint/) (metric measurements in Chinese provided as handout for students’ independent consultation). They self-examine their energy consumption and record discoveries about their carbon footprint. (using [VoiceThread](https://voicethread.com/) or other recording program.)
9. **Pair Activity 3.9:** Students in small groups write a definition of climate change and submit to class for consultation, comparison, correction.
10. **Activity 4 Action Against Climate Change** Public Service Announcements. Students follow a link to study [mainland Chinese PSAs](https://sites.google.com/union.edu/18chn-301/home/%E5%B9%BF%E5%91%8A) about energy conservation. Specific vocabulary used in these ads is included with the link.
11. **Activity 4.1:** Students present in class their favorite PSAs and state why. The class discusses the effectiveness of these ads. Students view [Oxfam PSA](https://youtu.be/qZAegLIDtp4) on how climate change affects poorer people first.
12. **Pre-Listening/Viewing Activity 4.2:** Students discuss pre-modern life and human’s carbon footprint, and learn relevant vocabulary and expressions prior to viewing.
13. **Listening/Viewing Activity 4.3:** Students watch a [CCTV program](https://www.youtube.com/watch?v=ZQOd1CeLh4E) about how climate change affects people.
14. **Independent Activity 4.4:** Students read about carbon footprint of wealthy Chinese households. [China: Carbon dioxide footprint of wealthy households](https://www.sciencedaily.com/releases/2016/12/161220093943.htm) article. Then they ask their Chinese friends or classmates to conduct the brief Carbon Footprint calculator (Chinese version) and students record a discussion of their conversation about comparing and contrasting individual and national carbon footprints in the US and China. They submit these recordings for their classmates to hear and comment on in class discussion. Also, students document the results by taking screenshots.

**Part 3 College campus actions to combat climate change**

1. **Pre-Reading/Listening Activity 4.6:** Students are introduced the vocabulary by reporting on what kinds of sustainability efforts are happening on their campus, and considering what kinds of efforts they might see on other campuses in Taiwan and China based on the title of the reading and the listening activities.

✔Students will also have met with the sustainability officer at their college, who will talk with them about what efforts the college has taken towards combating climate change.

1. **Reading Activity and Discussion 4.7:** Students use the reading app [Perusall](perusall.com) to read an article on Taiwanese college students’ environmental activities (“台大学生的环保活动”) . Students can annotate the text, see each other’s annotations and highlight where they have questions. This is a slow news item "[台大学生摆摊回收塑料袋换环保筷](http://www.cctv.com/english/special/chinese/20091211/103209.shtml)" *2nd news item* (“慢速新闻汉语” 20091211 [Scripts for Special Chinese](http://www.cctv.com/english/special/chinese/20091211/103209.shtml)): Includes links to vocab list and audio, as well as video.
2. **Listening Activity and Discussion 4.7.1:** Students watch a video on an effort by mainland Chinese students to draw awareness to climate change and what individuals can do to mitigate it. [筷子树](http://news.cctv.com/society/20070608/112713.shtml)  (video with text-first 8 lines only)

**OR**

**Reacting Activity and Discussion (alternate):** Read and listen to a [report](https://www.chinadialogue.net/article/show/single/ch/1447-Campus-action-Chinese-students-take-a-stand) on what PRC students at different universities are doing on their campuses. (校园行动: 环保渐成中国大学生关注重点)

1. **Post-Reading/Listening Activity 4.8:** Using Venn diagram, students compare sustainability efforts on campuses and reflect on how cultural habits and traditions play a role in these efforts. Students consider the effects of the efforts if they were used in different cultures.
2. **Post-Reading Activity 4.9:** Students individually fill in a “mad lib” using the grammatical structures in the news item, yet they will use their own nouns and adjectives to have the text make sense. These are shared in class.

✔Small student groups inquire about additional sustainability culture on the campus or in the community. They devise a series of questions to ask Chinese students, share with the class, and ask for peer feedback. Students arrange to meet with the instructor in their separate groups to to talk about this --help revise questions, etc.

✔Project groups: After empathy mapping, determine information needed, interviews to conduct, start working on gathering data and information about the target audience and final product, submit project for feedback and peer review.

1. **Pre-Reading Activity 5.0:** Students use jigsaw, scaffolding and skimming to break down the reading, examining the linguistic structures to define what kind of essay it is (argumentative, persuasive, etc.) and what students expect to find (a variety of viewpoints, examples, etc.).
2. **Reading Activity 5.1:** Students read and comment on an article on [Perusall](perusall.com) regarding air pollution and what the PRC is doing to combat it. ["大气污染引重视 多国合作共治理"](http://language.globaltimes.cn/%E7%AC%AC%E5%85%AB%E5%8D%81%E4%B9%9D%E8%AF%BE-%E5%A4%A7%E6%B0%94%E6%B1%A1%E6%9F%93%E5%BC%95%E9%87%8D%E8%A7%86-%E5%A4%9A%E5%9B%BD%E5%90%88%E4%BD%9C%E5%85%B1%E6%B2%BB%E7%90%86/) (Global Times 11/23/2016) (includes vocab).
3. **Post-Reading Activity 5.2.:** Students use the quiz words to write a summary of the article.
4. **Pre-Viewing Activity 6:** Students conduct pre-listening worksheet about a CCTV program [*Green China*](This%20is%20a%20multi-part%20television%20show%20produced%20by%20CCTV.%20While%20you%20are%20not%20expected%20to%20understand%20everything%20the%20voiceover%20is%20saying%20%28he%20sometimes%20includes%20florid%20and%20descriptive%20language%29%2C%20you%20can%20get%20a%20lot%20of%20information%20from%20the%20images%20and%20presentation%20of%20what%20is%20green%20about%20China.)《綠色中國》. This is a multi-part television show produced by CCTV. Students are not expected to understand everything the voiceover is saying (he sometimes includes florid and descriptive language), but should get a lot of information from the images and presentation of what is green about China. Review Chinese geography and national minorities.
5. **Viewing Activity 6.1:** Pay attention to: the regions and national minorities covered in the first episode, and reflect on the different representations between the ethnic/minorities.
6. **Post-viewing Activity 6.2:** Review what students observed, answer and ask questions related to the show, consider what is the video telling us about Chinese people? What is it implicitly telling us (implicit: or 不言明的 or implication)?
7. **Pre-Listening/Viewing activity 7.0:** Students work on a handout based off of information about energy consumption statistics in China and the US. to notice the comparative difference in energy consumption between China and the US per capita and per land mass. Consider the difference in population and other factors that might affect each country’s consumption habits. Write down a few ideas about this and prepare to share with a partner.
8. **Pre-Listening/Viewing activity 7.1:** Students review vocabulary for different types of energy consumption and work on a handout with exercises that reintroduce the expression “leads to” 導致 as well as “creates/brings about” 造成.
9. **Independent activity 7.2:** Students work in pairs to discuss the difference consumption habits between the two cultures, and the projected forecast for future consumption growth. What kinds of insights can you and your partner find?
10. With your partner, return to the 2nd handout, pages 5 and 6 (in English) and discuss with your partner various changes in US consumption and energy reductions in household appliances (设备)Students also record themselves discussing strategies one can use individually to reduce energy consumption. Discuss how many strategies you already use, why such strategies are useful, and what you think you could do more of.
11. **Viewing/Listening activity 7.3:** Students watch [*Under the Dome*](https://sites.google.com/union.edu/18chn-301/home/%E8%A7%86%E9%A2%91) 《穹頂之下》using specific guidelines and time stamps to follow from the handout.
12. **Post-Viewing activity 7.4:** Students discuss the film and compare the roles globalization (in class or with invited Chinese exchange students) and specific cultural beliefs/habits/traditions play a role in climate change effects and mitigation efforts.
13. ✔The student group that will target the Chinese college student population will have by now worked out their interview questions, conducted independent interviews, and invited participants to view and discuss climate change issues on campus. Those who are working with middle school students will have read *Languages and Children: Making the Match* by Helena Curtin (chapter on characteristics of middle school students), and devise an appropriate interaction with them.
14. **Pre-reading Activity 8.0**
15. **Reading Activity 8.1** Read a news article about the US pulling out of the Paris Accords. [美国推出《巴黎協定》的阴雾难散](http://xmwb.xinmin.cn/html/2017-06/24/content_19_1.htm)（新民晚報 6/1/2017) (includes audio)
16. **Post-reading Activity 8.2:** Students compare and contrast US and Chinese government and individual responses to, and solutions for, combating climate change and the ideologies behind those actions through close observation of linguistic and visual content and descriptions critically interpreting the cultural responses of both governments and a variety of individuals, as well as their own assumptions and actions toward the subject.
17. Re-introduce the project.

**MANAGING THE PROJECT**

**Part 4 Inquiry**

✔ **Inquiring about Sustainability Culture on Campus/Community 分**小组

**9.** Brainstorm how to survey Chinese students on campus/community to find out their awareness of climate change and their actions

**9.1.** Devise appropriate interview questions activity

**9.2.** Peer review and feedback on questions

**9.3.** Interview Chinese peers/community

**9.4.** Document and report on interview/feedback from both clubs and Chinese students/community.

**9.5.** Write up a reflection.

**Analysis**

✔ Analyze data gathered from previous activities

**10**. Strategize what would be effective ways to introduce Chinese students to sustainability culture in the US, come up with ideas [what kind of information do you need to come up with a final project?]

**10.1**. Share ideas with class, peer feedback

**10.2.** Revise ideas based on feedback

**10.3.** Seek input from Chinese students for feedback and revision

**10.4.** Show and tell project in progress. Refine project as needed.

**Think and Act**

✔ **11.** Think about target audience, how, purpose, time/duration to complete project by completing an empathy map

**11.1.** Finalize idea as small group (of 4)

**11.2.** Share ideas with class (google docs)

**11.3.** List necessary tasks for this project and distribute each task to all class members

**11.4.** Create a timeline for the project

**11.5.** Work on individual tasks: keep a log to share with the class

**11.6.** Check the progress of the project

**11.7.** Check the final product in class

Students will design final team product and personal reflection using the rubrics for final projects.

**12.8.** **Final write-up** Write a reflective essay about what you learned in this course about yourself in regards to climate change, and how culture plays a role in your actions. Was there anything that surprised you in this process? What would you like to see or do more of for your environment? Write about what you learned about yourself, working in a group, and designing a project for others. What did you find easy? What was difficult? How would you do it differently if there was a second time? What is your overall takeaway from the project? How does this project inform your (current) future career path?

**ASSESSMENT**

Checklist and peer evaluations and final written and oral presentations

Handouts, reflections

Final Write-up

Rubrics

* Oral and written communication rubrics will follow standard Chinese program
* Self and peer feedback will follow standard Chinese program formats
* Collaboration Rubric
* Critical Thinking Rubric
* Idea Rating Sheet Design
* Management Log
* PBLL Group Reporting Sheet
* Project Ideas Launch
* Project Launch Guide
* Project Design Rubric

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| * Small Group Responsibilities
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**Resources:**

Project Audio, Visual, and Reading Materials on [Project Website](https://sites.google.com/union.edu/18chn-301/home), pre- and post-listening and reading activities sheets.