

KANG CHIAO SPOTLIGHT

Issue 5

Kang Chiao Future Skills Critical Skills for a Modern Education

~ Gary Niemandt

Kang Chiao Future Skills Teacher, International Department

The Kang Chiao Future Skills program is based on the idea of educating students in four specific disciplines — science, technology, engineering and mathematics — in an interdisciplinary and applied approach. Rather than teach the four disciplines as separate and discrete subjects, KCFS integrates them into a cohesive learning paradigm based on real-world applications. In a world that's becoming increasingly complex, where success is driven not only by what you know, but by what you can do with what you know, it's more important than ever for our students to be equipped with the knowledge and skills to solve tough problems, gather and evaluate evidence, and make sense of information. These are the types of skills that students learn by studying science, technology, engineering, and math—subjects collectively known as STEM. Problem solving is really the heart of Kang Chiao Future Skills investigations. By asking students to brainstorm solutions, it brings their higher order thinking skills into play when we use the design process of ASK, IMAGINE, PLAN, CREATE, IMPROVE and COMMUNICATE.

In the "Ask" phase, students are presented with a real world problem. Students "Imagine" how they will solve this problem by researching solutions that already exist, and by looking into technologies that might be adaptable to their needs. Students work with a team to brainstorm ideas and develop as many solutions as possible. Revisiting the needs, constraints and research from the earlier steps, students then compare their best ideas, select one solution and make a "Plan" to move forward with it. Building a prototype in the "Create" phase makes their ideas real! These early versions of the design solution help each team verify whether the design meets the original challenge objectives. When it's time to "Improve", students discuss how they could improve on their solution. They make revisions and draw new designs. They iterate their design to make their product the best it can be. Then, students "Communicate" their results and get feedback. They analyze and talk about what worked, what didn't and what could still be improved.

KCFS Grade 6 - Building for Erosion Control

ASK

- What problem will your reinforcement help solve?
- Why is there a need to solve erosion problems?



IMAGINE

- Research different kinds of riverbank reinforcements.
- What do all riverbank reinforcements have in common?

CREATE

- Design, build and test a riverbank reinforcement prototype.

IMPROVE

- What changes made your riverbank reinforcement prototype better?
- What new materials did you choose for your improved reinforcement prototype?

COMMUNICATE

- Communicate your results and share with other groups.
- Compare how effective your riverbank reinforcement worked and how well it would work on a real river.

PLAN

- List the materials you will use to create your prototype.
- Describe your riverbank reinforcement and how you will build it.



Kang Chiao Future Skills education focuses on the introductory level of STEM courses, as well as awareness of the STEM fields and occupations. This initial step provides standards-based structured inquiry-based and real world problem-based learning, connecting all four of the STEM subjects. The goal is to pique students' interest into them wanting to pursue the courses, not because they have to. To quote the National Science Foundation: "In the 21st century, scientific and technological innovations have become increasingly important as we face the benefits and challenges of both globalization and a knowledge-based economy. To succeed in this new information-based and highly technological society, students need to develop their capabilities in STEM to levels much beyond what was considered acceptable in the past."

From the Editor

Enjoy the Winter Break!

國際處主任 賴國宜

This semester we started a new program, Kang Chiao Future Skills, which has real-life situations and provides students opportunities to explore the study of science, technology, engineering and mathematics. It's exciting to see our grade 5 and 6 students engaging in the hands-on lessons which make math and science more fun to learn. Today, scientific and technological innovations have become more and more important. The goal of our KCFS curriculum is to spark student interest in the study of STEM fields in order to better succeed in the highly technological society of the future.

We are coming to the end of the semester. I would like to wish all of our families a wonderful winter vacation with lots of quality time together.

根據美國商業部的報告，近來STEM相關領域的工作成長17%，培育STEM領域的人才攸關國家未來的經濟競爭力。STEM代表科學、科技、工程和數學，這學期五六年級新增Kang Chiao Future Skills 課程，融入STEM精神，設計跨領域的專題，讓孩子動手操作，解決一個實際的問題。這門課受到許多學生喜愛，老師們觀察到課堂的實作，提升孩子的學習參與，小組合作的活動，提供很多人際互動、團隊合作的機會，過程中，還學會運用相關的科學、科技、工程和數學知識，我們希望這樣的課程能讓孩子學會創新思考和解決問題，以面對未來更大的挑戰。

這一期我們還邀請三年級中籍英師Ms. Angel分享How a Kite Changed the World 專題，孩子們閱讀了富蘭克林發現電的故事，開始研究電的用途，歡迎您一起來欣賞孩子們介紹的便利電器用品。

期末考後，令人期待的寒假即將來臨，祝福大家有個愉快、充實的假期。

What's New?

- ★ Chinese New Year is just around the corner. Enjoy your holiday and set a little time aside to complete your winter vacation homework. We wish you endless happiness and much success for the Year of the Dog!





Observing to Become Future Innovators

~ Angel Peng

English Teacher, International Department

How a Kite Changed the World

Have you ever imagined your life without electricity? Have you ever thought about how a random toy like a kite could help change the way people live in modern days? At the beginning of this semester, our grade 3 students read "How a Kite Changed the World". The reading explains why and how a fearless man, Benjamin Franklin, flew a kite in a thunderstorm. Most people thought Benjamin Franklin was a madman then; however, little did they know that this small but crazy act was the key to changing human society.



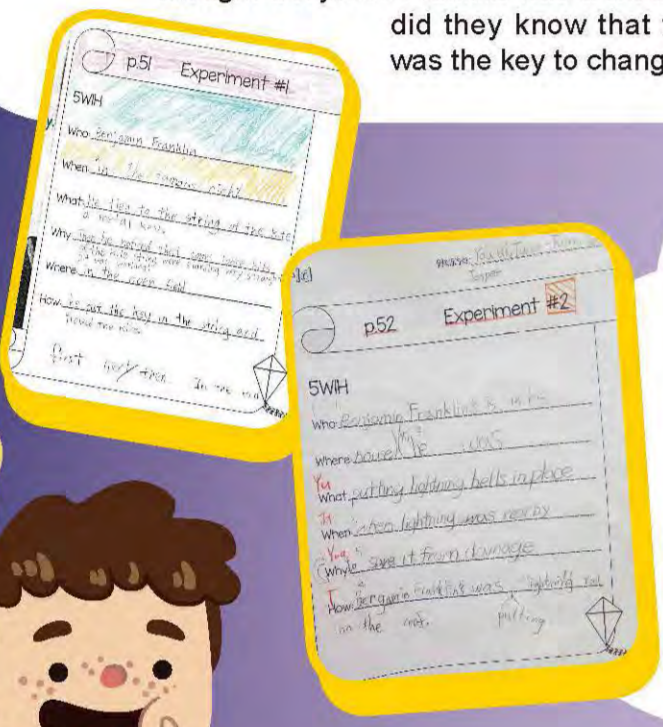
Elicitation from Reading to Writing

Just as the reading mentioned "This was not the end of Benjamin Franklin's test of electricity", this was also not the end of students' learning process. After students came up with their own summary, we asked them to imagine what our world would be like if Benjamin Franklin had not braved the storm, turned his house into a laboratory, and explored the usage of electricity. Our world would be miserable without any doubt! At the same time, students tried to think about what things are powered by electricity in our lives. Being a child born in the 21st century, there is almost nothing that does not require electricity. Then, students brainstormed riddles of some chosen electric appliances to help them understand the usages of these appliances. Our students all enjoyed this riddle activity because it not only helped them get to know the usages of different electric appliances, but also helped them build up to their writing project--- a picture encyclopedia.

After students understood the usages of electric appliances around them, it was effortless for them to produce a picture encyclopedia of their own with beautiful pictures and detailed explanations. Students wrote about the purpose and importance of everyday appliances like washing machines, toasters, and computers. Their pictures provided excellent graphic sources to aid their writing. Last but not least, every student was delighted to share and speak about what they had come up with in front of their fellow students.

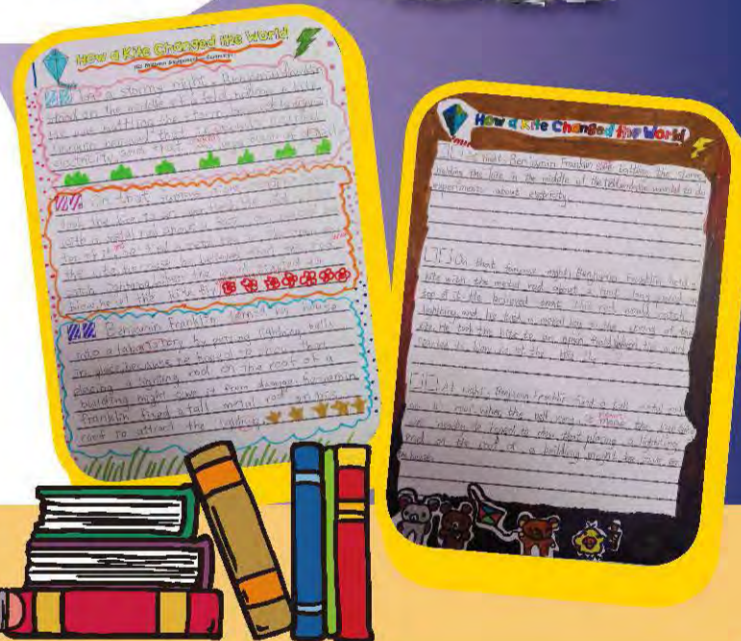
Overcoming the Gap between Grade 2 and Grade 3

To help our just-turned grade 3 students with this difficult piece of Narrative Nonfiction from *Reading Street 3.1*, we developed a series of methods to help students comprehend it. As students read through each paragraph, we helped them divide this more than one-thousand-word article into three main parts, which were, *Introduction*, *Experiment 1*, and *Experiment 2*. Next, we asked students to identify the most crucial information by asking themselves *Who*, *What*, *Why*, *Where*, *When*, and *How* in each part. Last, students were able to screen and scrutinize the most important information in each paragraph to turn a dreadfully long article into a short and reader-friendly summary. During this process, students overcame the word count gap from grade 2 to grade 3 and learned how to filter information. This is a valuable skill for their future reading practices.



The Road to Infinity

As teachers of the *iGeneration* and *Generation Alpha*, we often wrestle with what we can provide to our students other than the information that they already have access to online. One answer is elicitation. With teachers' elicitation, readings from textbooks come to life. After our elicitation, students are able to connect the reading to the world they are actually living in. Students now learn to observe the environment they live in and become active participants in their world. We believe that all the valuable things our students are learning today, will lead them to become the innovators of tomorrow.



G3 Student Work

How Electricity Changed Our Lives

Helen Tsai 蔡艾倫 303

After Benjamin Franklin talked about electricity, many people invented things that were powered by electricity. Here are some examples.

Mixer

We use mixers to mix two things together. The mixer can be used in kitchens. A mixer helps us mix things easier and faster.



Oven

People use ovens to heat or cook food. The oven is used in kitchens. Ovens help people eat hot food.



Electrical Bike

We ride electrical bikes to go from place to place. You can ride it in the park. Electric bikes help us to go to places that are not far away.



Sandy Gou 郭曉如 305

After Benjamin Franklin did his experiments, some people were more interested in electricity. Now I am going to tell you some more examples about using electricity in our lives.

Hair Dryer

We use hair dryers because drying our hair after washing it takes a lot of time. We use it in the bathroom, and it helps us to dry our hair faster.



Washing Machine

We use washing machines because we need to wash the clothes. We use it in the house, and it helps us to wash clothes faster.



Toaster

We use toasters to make our breakfast. We use it in the kitchen, and it helps us to make yummy toast crunchy and warm.



Lucy Chen 陳柔方 304

Electricity is so useful and it changes our world a lot. Here are things we use with electricity in our lives.

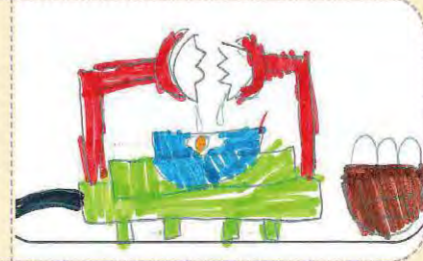
Mixer

We use a mixer because it can mix fruit to juice faster. We use it in kitchens. Mixers can help us to make juice faster and then you can put it in a refrigerator.



Egg Cracker

We use egg crackers because we don't want to crack eggs by ourselves. We use it in the kitchen. Egg crackers can help us to make cakes faster, and we can eat eggs all the time.



Oven

We use ovens because if we don't use ovens, we need to start a fire to bake cookies and cakes. We use an oven in the kitchen. Ovens can help us bake cakes, cookies, and hamburgers faster.



Audrey Wu 吳新煊 308

After Benjamin Franklin's experiments, people know electricity is in our lives. I have some examples to tell you.

Light Bulb

People just need to push a button to turn it on. The light bulb can be used everywhere. The light bulb can light up rooms, so they are not dark, and it can let people see everything at night.



Computer

People put computers in houses or stores. The computer can help you gain knowledge. You can play many fun games on it and even watch the news.



Washing Machine

People put the washing machine in the laundry room. It helps people wash clothes. Washing machines also help people not to be that busy, and it lets the clothes become clean.





Shining a Spotlight on English Village Volunteers!



~ Rita Sung

English Teacher, International Department

"How do I take out 30 dollars for the Lucky Draw?" asked the second grader. "Let me show you where the withdrawal slips are," the English Village volunteer replied. Kang Chiao English Village does not only design classes for students to role-play as bank tellers, news anchors or flight attendants, but also provides real job training to students who wish to serve as volunteers. Every Tuesday and Thursday during the afternoon recess, 12 grade five students help customers to deposit and withdraw money, and hold a fun activity: the Lucky Draw. For the volunteers, their first banking experience features real tasks, such as being punctual, troubleshooting and customer service. Following the principle of serving others: lending an ear, a hand and a voice, our volunteers learn how to lend an ear to listen to problems, lend a hand to overcome obstacles and lend a voice to offer advice and speak for younger ones. We love to know how our volunteers feel about serving at the English Village. Let's take a look at some of their reflections.



Volunteer 1: Alexa Hsiao 502

I like to be an English Village volunteer because I loved the Lucky Draw when I was in grade one. At the English Village, I learned how to serve customers and how to withdraw and deposit money using a computer and an ATM. I feel happy when I can solve problems for younger students. Working in the English Village makes me feel full of confidence.

Volunteer 2: Katherine Chang 505

I loved the English Village classes like Making Bubble Tea, so I wanted to be an English Village volunteer. I learned how to help customers with the Lucky Draw and enjoy watching their excited expressions when they get a big prize. I also learned that helping each other is important. The first time I served at the Lucky Draw, I didn't know any prices, and immediately other volunteers helped me. Overall, it feels great when I see my customers' smile.



Muggles News is organized by a group of KCIS students from the Reporter Club. We provide the latest and most exclusive reports on what is happening at KCIS.

Interviewing Teacher-Mr. Harmon

by Katherine Chang and Adrienne Hsieh



Guess who's the foreign English teacher who works in the ID office and wears tight pants and a colorful tie all the time? You guessed it right. He's Mr. Harmon, a great teacher who comes from San Francisco, a city in California. He has been working in Kang Chiao for 3 years and now he is working in the ID Office.

Mr. Harmon is a great teacher who loves his job. His main duty in the ID Office is to make sure that students learn well at school. He told

us that he really likes his job here. Sometimes he wears colorful pants that some people think is funny, but Mr. Harmon thinks that the world is colorful, so he wants to brighten up his days when he meets everyone. He usually cooks and eats Mexican food and runs for exercise during weekdays. Sometimes he plays guitar after work as well. His wife, Ms. Janet, is working in Kang Chiao, too. He met his wife in his previous job, and he loves his wife a lot. Mr. Harmon says he doesn't want to have a child right now because he works with children everyday, so instead of having a child, he has two cats at home which is all he needs, together with his wife.

You might think that Mr. Harmon is a serious person when you see him in the corridor, but actually he is a funny person. He will joke with you if you get to know him more. So next time you see him, say hi and chat with him. He will surely be glad to talk with you!

Jingle Bells, Jingle Bells

by Jenny Lin and Ethan Yeh



On December 22 and December 25, a special Christmas activity was arranged by the first and second graders. These little ones who wore jingling Santa hats and bells visited different offices and the grade 5 and grade 6 English classes. They were nervous when they walked into the offices and classrooms, but when the music started they sang loudly and beautifully and also danced with some adorable actions. Some grade 5 and grade 6 students even sang along with them. "We wish you a merry Christmas and a Happy New Year" reverberated through the corridors of our school and we really appreciate their hard work!

Exquisite Christmas Posters

by Irene Chen

Every year, KCIS has many interesting activities to celebrate Christmas. My favorite activity was making the Christmas poster. The Christmas poster gave me the chance to show off my art talent. I used my imagination to write a poem about Christmas on the poster and decorated it with beautiful drawings. When I was done with my poster, I gave it to the International Department. I received a small prize for my hard work. The International Department decorated the 5th and 6th floor hallways with the Christmas posters that were done by the students. Students at KCIS have enjoyed looking at the beautiful and colorful posters. The Christmas posters have made KCIS full of Christmas spirit.

