Bringing Math & Environment into Culture
Rich World Language Curriculum

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NSLI Mission & Goals

• Increase the number of US residents
  – studying critical-need languages
  – starting them at an earlier age
• Increase the number of advanced-level speakers of foreign languages, with an emphasis on mastery of critical-need languages
• Increase the number of teachers of critical-need languages and provide resources for them
STARTALK-Endorsed Principles for Language Learning & Teaching

- Implementing a Standards-Based and Thematically Organized Curriculum
- Facilitating a Learner-Centered Classroom
- Using the Target Language and Providing Comprehensible Input for Instruction
- Integrating Culture, Content, and Language in a World Language Classroom
- Adapting and Using Age-Appropriate Authentic Materials
- Conducting Performance-Based Assessment
Share Two Examples

• Springfield Public School (Mass) STARTALK Program—Dr. Mei-Ju Hwang

• Cape Henlopen School District (Delaware) STARTALK Program—Ms. Chiachyi Chiu
Springfield Chinese Dragon’s Math Maze

Learning Math through STARTALK Chinese Immersion Summer Program

Mei-Ju Hwang, Ed. D
Springfield Public Schools, MA
Introduction

• Chinese Language and Culture Immersion Program
• Grades 1-8 (K-1; 2-3; 4-5; and 6-8), 98 students completed
• 60% from SPS and 40% from neighboring communities
• Non-residential
• 11 days, 6 hours per day
• Teachers, junior aides, technology specialist, martial artist & volunteers
Building & Facilities
Program’s Goal

To create an unique learning environment for students in urban Springfield, MA and neighboring communities to learn math and Chinese, important key skills for the 21st century global economy.
Objectives

• Create a learning environment where a diverse group of students will generate interest in Chinese language and culture

• Provide a unique experiential, culturally enriched, age-appropriate and standard-based learning program for students in urban Springfield, MA and neighboring communities

• Improve students’ math skills through meaningful activities in a carefully planned Chinese environment

• Encourage the neighboring communities where Chinese may not be currently available to students to offer Chinese
Program Theme: Chinese Dragon's Math Maze

• It is a mathematics content based curriculum that fosters interdisciplinary connections
Thematic Planning

• Provide meaningful contexts
• Student-centered
• Connects content, language and culture
Sample of Can Do Statements

• I can count and write the numbers 1-20 in Chinese.
• I can use abacus to add and subtract using numbers up to 25.
• I can tell what time I come to the camp
• I can measure objects around us and record the measurement in Chinese.
• I can make quantity/size /temperature comparisons in Chinese.
• I can name simple geometric shapes in Chinese.
Curriculum

- Unit 1: Let’s discover numbers around us: numbers, size, age, dates and time
- Unit 2: Let’s measure things around us: length, weight, capacity and temperature
- Unit 3: Let’s go shopping: monetary units, value & currency exchange
- Unit 4: Let’s enjoy the beautiful world: shapes and colors
The curriculum units and lesson plans follow:

• Massachusetts Mathematics Learning Standards

• Springfield (MA) Public Schools Mathematics Instructional Guides

• National Foreign Language Standards: 5 Cs and 3 communication modes
Unit 1: Let’s Discover Numbers Around Us

• Lesson 1: Greetings, Class routines, Introduce yourself
• Lesson 2: Number Senses and Operations
• Lesson 3: Dates, Time and Days of the week
Can Do Statements

• I can count and write the numbers in Chinese.
• I can use abacus to operate numbers
• I can calculate fraction and interpret in Chinese
• I can tell what day is today and today’s date
• I can tell what time I come to the camp
My Chinese Numbers
Anias Lewis

<table>
<thead>
<tr>
<th>一</th>
<th>二</th>
<th>三</th>
<th>四</th>
<th>五</th>
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<td>bā</td>
<td>jiǔ</td>
<td>shí</td>
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</tbody>
</table>
A Sidewalk Writer

Math operations
Smart board practice
Unit 2: Let’s Measure Things Around Us

• Lesson 1: Introducing the measuring tools around us: thermometer, rulers, measuring tapes, measuring cups, scales, .....  
• Lesson 2: Measuring things around us: length, weight, capacity & temperature  
• Lesson 3: Create a group project
Can Do Statements

• I can measure objects around us and record the measurement in Chinese.
• I can make quantity/size/height/temperature/speed comparisons in Chinese.
Measurement & Fractions
Unit 3: Let’s go shopping

- Lesson 1: Monetary units and value in China, Taiwan & US; currency exchange
- Lesson 2: Let’s go shopping: Interact with the cashier, clerk, or waiter; Simulate shopping through role play
- Lesson 3: Let’s create a menu for a restaurant
Can Do Statements

• I can tell Chinese monetary units
• I can ask and tell price
• I can calculate how much I spent
• I can make a comment on the price with “tai gui le”
Unit 4: Let’s enjoy the beautiful world: shapes and colors

• Lesson 1: There are beautiful colors everywhere
• Lesson 2: There are different shapes around you
• Lesson 3: Let’s enjoy the beautiful world: shapes, colors and math (sort, count, make a chart, graph....)
Can Do Statements

• I can name different colors in Chinese.
• I can name simple geometric shapes in Chinese.
• I can use tangram shapes to create and name a bird, fish, a house or a picture.
Assessment

• Pre-test & post-test assessment
• I can statements
• Performance based assessment
• LinguaFolio online assessment
Pre & Post Test

• Listening comprehension on greetings, classroom expression, etc.
• Math concepts for numbers, colors, shapes, measurement and etc.
1. 你好！

2. 再见！

3. 你叫什么名字？

4. 谢谢！

1. 哪一个是正方形？

2. 哪一个是三角形？

3. 哪一个是圆形？
III. Match the numbers by drawing lines:

五 十 二十 三 十二 十七 二十五 八

10 12 5 20

IV. Math Concepts:
1. 现在三点。

V. Math at work:
1. 一加七等于 ______ 十五加三等于 ______
2. 二十减五等于 ______ 九十六减四十等于 ______
3. 二乘三等于 ______ 三十除五等于 ______
4. 十元加五元等于 ______ 八斤减四斤等于 ______
<table>
<thead>
<tr>
<th>I Can Statements</th>
<th>On my own</th>
<th>With help</th>
<th>Not yet</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can make quantity/size comparisons in Chinese.</td>
<td></td>
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<tr>
<td>I can use an abacus to add and subtract using numbers up to 25.</td>
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<td>I can measure objects around us and record the measurements in Chinese.</td>
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</table>
Springfield STARTALK Website

http://www.sps.springfield.ma.us/startalk

Springfield Startalk Blog

springfieldstartalk.wordpress.com
Thank you
谢谢！谢谢！

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Fact Sheet of the program

- A collaborative effort
- Combo: teacher training prior and during the student program;
- how long
- Cape Henlopen, state of Del, U of D,
The Location and Community

• Beach
• Community support: restaurant
• Nature center, museum
Special features of the program

• I-Pad
• Field trip to the nature center and beach
Program goals and Objectives
Theme: The Ocean is the place that we all need to protect

• The theme “Life at the Seashore” will capitalize on the local surroundings and will facilitate connections to target language learning.

• Through instruction delivered only in Chinese, students will learn that the ocean is a place we all must protect, both in Delaware and in China.
<table>
<thead>
<tr>
<th>Unit 1</th>
<th>Unit 2</th>
<th>Unit 3</th>
<th>Unit 4</th>
<th>Unit 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>What can I learn about the ocean through myths and legends?</td>
<td>What’s in the Ocean?</td>
<td>What do people do at the beach? What can I find at the beach? Why is water important in our life?</td>
<td>How does the ocean affect our lives both in Delaware and in China?</td>
<td>What can I do to protect the ocean?</td>
</tr>
</tbody>
</table>
Give bubbles to show how each unit is about
<table>
<thead>
<tr>
<th><strong>I CAN...</strong></th>
<th>Yes</th>
<th>Not Yet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand and follow basic classroom expressions</td>
<td></td>
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<td>Say my favorite sea animal</td>
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<td>Say my favorite color</td>
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<tr>
<td>Say my favorite beach activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>I CAN...</strong></td>
<td>Yes</td>
<td>Not Yet</td>
</tr>
<tr>
<td>---------------</td>
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<tr>
<td>Suggest 3 things that can be reduced, reused, or recycled</td>
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<tr>
<td>Suggest 1 way to protect the ocean</td>
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<tr>
<td>Sing 3 Chinese songs (greeting song, weekday song, color song, the way we wash our faces)</td>
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<tr>
<td>Use iPad to make my little book</td>
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</tbody>
</table>
shàng hǎi
上海
Lewes 有 马蹄蟹

Shanghai 没有 马蹄蟹
Lewes and Shanghai both have whales.
Měi guó rén xǐ huān diào yú.

美国人 喜欢 钓鱼。

Zhōng guó rén xǐ huān diào yú.

中国人 喜欢 钓鱼。
huí shōu
回收
再用纸袋

玩具

书，杂志
回收

纸

纸盒

报纸

RECYCLE
lā jī wū rǎn hǎi yáng

垃圾污染海洋。
Hăi guī chī sù liào dài, tā bù shū fú
海龟吃塑料袋，它不舒服。
Qīng jié hǎi yáng
清洁海洋
Bảo hộ hải yáng

保护海洋
Shǎoyòng sù liào píng
少用塑料瓶

Duō yòng shuǐ píng
多用水瓶
Culminating Event
Thank you

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