

加拿大—中国教师教育和学校教育互惠学习项目

Reciprocal Learning in Teacher Education and School
Education between Canada and China

西南大学数学教育子课题组

Mathematics Education Research Team at Southwest University

会议简报



University
of Windsor

Newsletter

估算

Estimation

2019年3月7日早上7:30（重庆时间），3月6日晚上6:30（温莎时间）。在重庆人和街小学（天地人和校区）4楼会议室召开了人和街小学和 Talbot Trail 小学的数学组视频会议。会议主题是“估算”。 Talbot Trail 团队有：Baker 校长, Pottie 副校长, Tremaine 老师, Ms. Hall 老师, Lamb 老师 and Hickman 老师。温莎大学许世静教授以及邱亦欣博士；重庆人和街小学团队：金主任、张力老师、朱文静老师等数学组教师；西南大学于波教授及研究生杜婷婷、胡嘉瑜、郑宇航、李淑彦。

On March 6, 2019 at 6:30 pm. (Windsor time), a Skype meeting took place between Chongqing Ren He Jie Primary School (Tiandirenhe campus) and Windsor Talbot Trail Public school. The theme of the Skype meeting is “estimation.” Talbot Trail Public School attendees included: Mr. Baker, Mrs. Pottie, Ms. Tremaine, Ms. Hall, Mrs. Lamb and Mr. Hickman. University of Windsor attendees included: Dr. Shijing Xu (Project Director) Ms. Yishin Khoo (Post-Doctoral Fellow) . SWU Team included: Ms. Jin, Ms. Zhang, Ms. Zhu and other math teachers. Professor Yu Bo and her graduate students from SWU Math Education Team.

此次视频会议交流主题如下：

Meeting highlights are as follows:

第一阶段：中方的张力老师首先介绍估计、估测和估算，并以例题的形式分

别解释三个概念，明确本次会议重点交流估计。

Firstly, Ms. Zhang from Ren He Jie Primary School introduced how estimation is approached in Chinese math curriculum. She also mentioned a few challenges teachers faced when teaching estimation. Ms. Zhang shared that in Ren He Jie, teachers realized that in order to help students see the value of estimation and use estimation in solving math problems, they need to design appropriate math problems that would actually require the use of estimation.

第二阶段：进入课堂教学，朱文静老师首先创造出一个教学情境“曹冲称象”，学生尝试用 6 种方法进行估算，方法一是估小 round up；方法二是估大 down；方法三是大小估法，接近 500 的数估成 500 接近 400 的估成 400；方法四是中估法，400-500 的估成 450；方法五是四舍五入法，找整十数；方法六是凑估法。然后，老师带领学生进入两个估算情景（图一所示），场景一是让学生估算座位： 56×7 。方法一学生估算成 50×7 ，方法二 60×7 ，老师引导学生对两种估算进行比较，结果是估小的方法好。场景二是让学生估算重量： 285×6 。采用估大的方法结果是 1800，估小就是 1200，比较的结果是估大的方法好。然后，通过两个场景的比较，最终的结论是不同的情景采用不同的方法。最后回到第一个教学情景“曹冲称象”，朱老师让学生把估算的结果与精确结果进行比较，比较的价值在于让学生体会不同的方法，进而体会估算的价值

Next, a math teacher from Ren He Jie Ms. Zhu, illustrated how estimation is taught in one of her math lessons. In her lesson, she first created a math problem on estimation using the Chinese folklore "曹冲称象" (Caochong Weighing an Elephant). Then she had her students generate different estimation strategies in groups. Students came up with six estimation strategies but she did not tell the students which strategy was the best. She moved on and asked her students to explore two other estimation problems that occur in real life. The problems were specifically designed to help students understand that different problems require different estimation strategies. Once students had grasped the idea, Ms. Zhu returned to the first math problem and asked students to compare their estimation strategies and find out which strategies are more appropriate in solving the math problem. The goal is to help students see that different estimation methods have

different values in different situations.

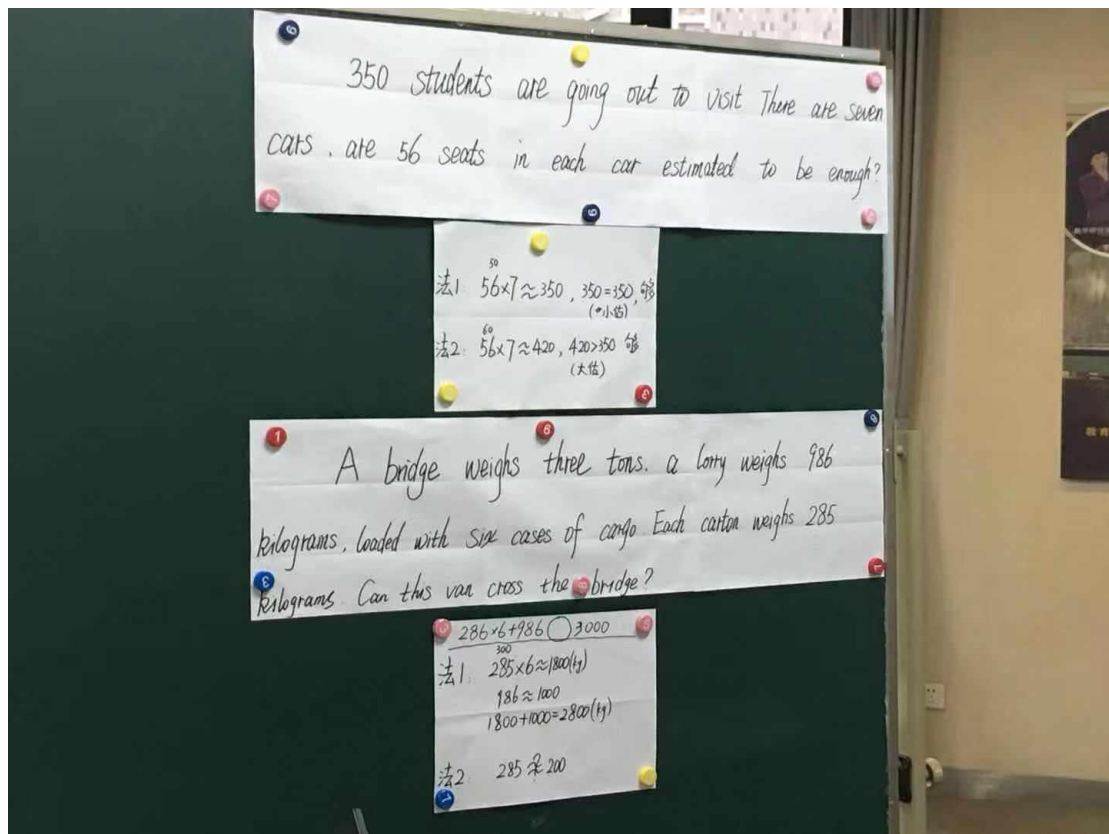


图 1 中方例题的展示 (the show of Chinese example)



图 2 中方参会人员 (Participants in China)



图 3 加方参会人员 (Participants in Canada)

第三阶段：会后，Talbot Trail 团队的老师们说，朱老师的教学方法拓宽了他们对如何在课堂上讲授“估算”的视野，并且很欣赏这次学习的机会。

After the meeting, Professor Yu concludes that when teaching, teacher should guide the students to find out the patterns and to find the essence of the estimation. Different methods should be adopted for different types of problems.

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