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This book probably was not as much a bestseller as is Amy Chua’s *Battle Hymn of the Tiger Mother* (2011). Yet both publications respond to the same stereotypical idea of an authoritarian style of Chinese education and high achieving kids, the “paradox of the Chinese learner”. They both analyze the social, cultural, and educational factors affecting Chinese children’s intellectual development and their role in producing many math whizzes or prodigies in other fields of learning. The collection of papers in the book under review is nevertheless much less of a personal account of a strict regimen imposed by a Chinese mother upon her children at home, but a critical review and analysis of the teaching and learning of mathematics in educational institutions and the performance of Chinese students in international comparison. Based on a special session of the Ninth International Congress on Mathematical Education held in Kyoto in the year 2000, it is written by a group of educators and researchers specializing mainly on the cultural and empirical aspects and to a fewer extent on the cognitive, psychological and historical explanations of a culture-specific kind of mathematics education in China today.

*How Chinese Learn Mathematics* is divided into four sections. The first gives an overview of the existing studies on the performance of Chinese students and puts into international perspectives the ‘Chinese way’, or the cultural specificities of the mathematical curriculum and the learning practices of Chinese students in the classroom, not only in China but also in the
US. Although the papers often refer to achievement standards, much emphasis is also put upon cognitive learning processes and the purposes of mathematical training, as for example in problem solving. In the first section we can also find the only historical paper in this book: Siu Man Keung discusses the official curriculum designed for the state examination system since the Tang dynasty. He argues against a popular historiography, claiming that traditional mathematical learning in China was merely based on rote learning in order to successfully earn an official degree. Instead, Siu believes, repetitive learning and examinations had and still have a beneficial effect in the learning process.

Section two on Context and Teaching Materials starts off with a plea for striking a balance between the emphasis on learning the fundamentals (the “Two Basics”: basic knowledge and basic skills) in China, and the fostering of creative mathematical thinking in certain educational systems elsewhere. The article is followed by papers relating to textbooks more specifically: a statistical comparison of government approved manuals before and after the setting of a new National Mathematics Curriculum Standard in 2001, an empirical survey of text-book use in 12 secondary schools in two provincial capitals, Kunming and Fuzhou provinces, and an analysis of the interplay between a student and teacher manual based upon the example of multi-digit number multiplication. Finally an article on the very popular cram schools (buxiban 補習班) for extra-curricular educational support in Taiwan elaborates on their positive impact upon computation skills but their negative influence on students’ understanding of mathematical concepts.

The third part is a collection of case studies focusing on various pedagogical aspects and learning processes, often asking the question of how to improve existing instructional models and teaching methods or harmonize approaches in rural and urban settings. A final section of the book entitled ‘Inspiration and Future Directions’ goes beyond contemporary China and its mathematical education in two ways: the first contribution draws on “Confucian Heritage Culture” (CHC), looking in particular at how educational practices in the traditional fields of calligraphy, martial arts and seal carving might have implications upon mathematics. In the concluding chapter Cai Jinfu, Lin Fou-Lai and Fan Lianghuo give directions for further research and provide us with three good reasons why we should be inte-

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1 Much comparative research has been done between Chinese and American education and students’ performance. See for example Geary et al. 1996, An, Kulm & Wu 2004, Sun 2001 and a special issue of Psychology in Schools which was the outcome of a research trip to China by a Fulbright Commission of American psychologists and teachers. See the introduction in Zhou & Peverly 2005a and the articles concerning mathematics Moy & Peverly 2005 and Zhou & Peverly 2005b.
rested in how Chinese learn mathematics. First, it “would broaden our experience and provide different perspectives for addressing practical issues related to the teaching and learning of mathematics” (p. 536). Second, it “may provide a unique opportunity for people to reflect on theories and conceptions of teaching and learning mathematics in their own culture” (p. 537)—without assuming that ideas from a culturally relevant approach to mathematics pedagogy can innovate models of mathematics teaching outside the Chinese cultural realm. Finally we should be interested because the book “can foster Chinese ‘insiders’ to reflect on and systematically synthesize the current practices for the purpose of building theories about the teaching and learning of mathematics” (p. 538).

In a context of revolving reforms of the mathematical curricula in the West, the research presented in How Chinese Learn Mathematics certainly gives a lot of food for thought about effectively combining a problem-oriented approach to basic mathematical knowledge and skills with a conceptual and abstract representation of mathematical objects. But can the book also be read as a how-to guide for teachers, as its title may suggest? First, studying and improving one’s teaching also depends on appropriate evaluation methods measuring student mathematical achievement, a critical point that has not really been addressed in the book. Second, if Western mathematics educators wished to apply directly the teaching methods discussed here, wouldn’t they lack of some preliminary conditions, in particular the “obedient and attentive students sitting properly listening to the teacher”? This common feature identified on p. 524 for the CHC classroom environment is certainly rarely observed elsewhere, at least as far as I can judge from my personal teaching experiences in France and the US. I also assume that this can only be an idealized scenario of the Chinese classroom setting, which needs to be revised in light of more realistic behavioral patterns. By 2000, the time when the present papers were presented at the Kyoto conference, attention deficit-hyperactivity disorder (ADHD) in Chinese children was a syndrome already reported in a large number of articles, and its prevalence was probably in the same range as that in the USA and many other countries.

References

An, Shuhua, Gerald Kulm & Zhonghe Wu (2004), “The Pedagogical Content Knowledge of Middle School, Mathematics Teachers in China

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2 See the literature survey in Sing 1996 Chapter 9 by Jin-pang Leung.
3 Available comparative data can be found in Faraone 2003.
and the U.S.”, *Journal of Mathematics Teacher Education* 7 (2) (June 2004), pp. 145-172.


