

MATH 413 READING ASSIGNMENT 2

Nov 27, 2007

Answer the following questions. Your answer to each question should be at least a paragraph and no more than about a page. In particular, one-sentence answers are not sufficient. In grading your answers, I am primarily interested in seeing that you have carefully read the handout by Dr. Ma and you have spent some time thinking about how it relates to your understanding of your career as a teacher.

This assignment counts for 10% of your grade in this class. It is due at 7 PM on 12/4 in the envelope on my office door.

1. You have read Dr. Ma's comparison of Chinese and U.S. elementary school teachers. She contends that the two groups of teachers differ both in their content knowledge of math and their attitudes toward the subject. What substantial differences did Dr. Ma find between the two groups?
2. For each difference, discuss how (and if) that particular difference sets the two groups of teachers apart in terms of their effectiveness as elementary school educators. Do you think it makes the Chinese teachers more effective? Or the U.S. teachers? Or is it irrelevant to elementary education? In particular, does it serve to make Chinese or American students more successful mathematical thinkers and why?
3. In my experience, some (many) U.S. teachers and prospective teachers will argue that understanding the rationale behind procedures and algorithms they teach is irrelevant to their jobs if that rationale is not included in the curriculum they are expected to cover. They feel similarly about knowing mathematical content beyond the grade level they teach. Contrast this with Dr. Ma's Profound Understanding of Fundamental Mathematics. Whose point of view is more compelling to you?
4. International surveys of mathematical ability in K-12 consistently show Chinese students as some of the strongest and U.S. students as some of the weakest among developed nations. Chinese people are well represented among graduate students and faculty in technical fields at U.S. universities and among the employees of high-tech firms. There are obviously many social, economic, and cultural differences between China and U.S.A. Do you think that the difference between the skills of Chinese and U.S. elementary teachers is significant in the success of Chinese students? Or are the reasons to be found largely elsewhere?
5. Dr. Ma is Chinese and used to be a teacher and an educational administrator in China. She currently works for the Carnegie Foundation for Advancement of Teaching. Do you think that she is biased in favor of the Chinese teachers as a result of her background? If you do, can you find evidence of this in her writing?
6. How did this reading influence your view of your own future profession? Did it give you any ideas that you plan to incorporate into your practice and philosophy of teaching?