1023-97-56 **Kazuko Ito West*** (westc-k@post.harvard.edu), 2900 Purchase Street, Purchase, NY 10577.
Japanese High School Mathematics Teacher Competence in Real World Problem Solving and its Implication for the Use of Modeling to Improve Japanese Mathematics Education.

Purpose of this qualitative study is to obtain evidence of the competence of high school mathematics teachers in Japan to implement activities involving mathematical modeling in high school mathematics. Information is obtained through clinical interviews and self reported problem solving. Problems of mathematical modeling were taken from American pre-calculus and calculus textbooks. All seven mathematics teachers of a Japanese public high school returned answers to the problems and four of them participated in the group interview. The problem answers and the interview revealed these teachers to be competent in dealing with modeling problems even though they were not familiar with the concept of modeling. As a possible tool to foster creativity, mathematical modeling is recommended. PISA study shows that Japanese fifteen year olds are highly capable of applying mathematics to real-life situations. In addition to the students' readiness for the introduction of mathematical modeling indicated in the study, this study indicates that teachers have the mathematical competence to learn and to teach mathematical modeling. Although the sample is small, the uniformity of preparations of Japanese high school teachers may allow findings to be indicative of a large population. (Received July 21, 2006)