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Thomas W Judson* (judson@up.edu), University of Portland, 5000 North Willamette Blvd, Portland, OR 97203, and **Toshiyuki Nishimori** (nisimori@math.sci.hokudai.ac.jp), Center for Research and Development in Higher Education, Hokkaido University, 060-0817 Sapporo, Japan. *Are students learning the necessary concepts of calculus? A comparative study of Japanese and American High School Students.*

In this study we examined and interviewed American and Japanese high school students to determine their conceptual understanding of calculus. We selected 18 students from an above average high school in the United States and 26 students from an above average high school in Japan for our study. During the spring and summer of 2000, we gave two written examinations to the students. The purpose of the first examination was to determine each student's conceptual understanding of calculus. For this examination we used problems like one might encounter in many reform calculus textbooks. The problems on the second examination were of a more traditional nature, much like one might expect on the university entrance examinations in Japan or the BC version of the AP Calculus Exam in America. We then conducted individual interviews with each student in order to determine their conceptual understanding of calculus, their career goals, their mathematical background, and their thinking on the examination. We will present the findings of our research in this talk. (Received August 25, 2000)