ABSTRACT. This paper reports a classroom observation study which intends to characterise the instructional practices in junior secondary mathematics classrooms in Beijing, Hong Kong and London, focusing on the different cultural beliefs pertaining to mathematics and mathematics teaching and learning between the Chinese and Western cultures. The results show that there are striking differences in classroom practices between the three places, and the differences seem to be related to the differences in attitudes towards mathematics and mathematics teaching and learning. The findings point to the potential of the cultural perspective in interpreting results of comparative curriculum studies.

1. INTRODUCTION

Researchers in comparative curriculum studies are increasingly aware of the need to look at instructional practices in the classroom as a characterisation of the curriculum and as the basis for interpreting data on student outcomes. The IEA Second International Mathematics Study (SIMS) and Third International Mathematics and Science Study (TIMSS), for example, depict the curriculum as consisting of three levels, the intended, implemented and attained levels (Travers and Westbury, 1989, pp. 5–8; Robitaille, 1991, pp. 4–6), and stress the “need for extensive and detailed information on the teaching of mathematics” (Travers and Westbury, 1989, p. 5). However, in studying instructional practice, many comparative studies rely on student report or teacher self-report of the teaching process (SIMS, TIMSS; Chang, 1984) and very few studies include a component of classroom observation. But “to critique or appraise the operational curriculum requires one to be in a position to observe what classroom activities actually unfold” (Eisner, 1985:47), and no matter how well the questionnaires concerning instructional practices were set, the data collected could not substitute for the information gathered through classroom observation.

Among the few comparative studies on the mathematics curriculum that include a component of classroom observation in the past are a series of studies based at the Centre for Human Growth and Development of the University of Michigan (see for example Stigler and Perry, 1988b;
Stevenson and Stigler, 1992). Stevenson (1987), in discussing the results of the classroom practice component of the study, reported that there were marked differences in practice between the Asian countries of Taiwan and Japan in the study and the US. For example, the study found that in Taiwanese and Japanese classrooms, more time was devoted to mathematics teaching, there was more direct instruction during mathematics lessons, and teachers were required to be in charge of the classroom for fewer hours when compared with the American classrooms. Stevenson suggested that many of the differences might be reflections of the differences in the cultural beliefs in the countries concerned.

This study intends to characterise the instructional practices in junior secondary mathematics classrooms in Beijing, Hong Kong and London based on classroom observations in the three cities. Different cultural beliefs pertaining to mathematics and mathematics teaching and learning between the Chinese and Western cultures from the literature were identified and used as the focus for the classroom observation, and attempts were made to relate the differences in classroom practice to these differences in beliefs.

The choice of the three places for study is significant. Hong Kong has been a British colony for more than one and a half centuries. However, because of her origin from and proximity with China, Hong Kong has never lost her cultural link with the motherland. On the contrary, being the most homogeneously ethnic Chinese community outside Mainland China and Taiwan, most of the Chinese traditions and values are still retained. Hong Kong's dramatic prosperity under the British rule and the consequent development into one of the world's major communication and financial centres have however made it a city prone to influence by Western cultures. It is this particular cultural location of Hong Kong with respect to both China and England that allows us to examine the possible influence of cultural beliefs on classroom practice.

2. THE CHINESE CULTURE IN CONTRAST WITH WESTERN CULTURES

A review of the relevant literature showed that the following characteristics of the Chinese culture were used to explain different practices in education and mathematics learning between the Chinese and the Westerners.

2.1. The 'Social Orientation' of the Chinese

Compared with Western cultures which stress independence and individualism (Taylor, 1987:235), the Chinese emphasize integration and harmony (Sun, 1983). Yang (1981:161) uses the term 'social orientation' (as opposed