Students conceptualize knowing (knowledge) and information in different ways. However, in some cases they talk about "knowing" and "understanding." Knowing something can be achieved through memorization, understanding something (meaning) is often achieved through laboratory work. Elements of synergism & constructivism can be read from the texts--text in the sense of Geertz (1973) and the hermeneutic tradition

Tentative titles: "Knowing and learning: A student perspective." "Making sense of knowledge and learning from students' perspective."

Students reflect the culture in which they grew up. The expectations of Chinese students are different from those of western students. Canadian born students adjust more easily to the open approach, non-directive. Asian-born students are more likely to favor a teacher-directed authoritative; they prefer a classroom dominated by technical interests (Tobin, 1991b). Their epistemology is definitively objectivist, knowledge as something "piped" into the head of students.

Trichotomy of knowledge & learning

- 1. Text book problems ------ practice
- 2. Concepts ------ memorize
- 3. Practical (Lab) ----- understand

Changes in the learning environment are function of students' acceptance. There should be negotiations? Practical and emancipatory interests.