BRIEF ABSTRACT OF PEDAGOGICAL RESEARCHES CONDUCTED AT UNIVERSITÉ DE SHERBROOKE

CEEÀ 4th Annual Conference, Montreal June 2013.

The USherbrooke Faculty of Engineering is recognized as a leader in innovation and research in engineering education. The Université de Sherbrooke was the second university in Canada to offer co-op programs for its students in 1966 and is now among the top 10 higher education institutions in North America for the significance of its co-op system.

The faculty of engineering was the first in Canada to offer an undergraduate mechanical engineering program based on professional competencies with design as the ultimate competency integration activity - the backbone of the entire program.

In 2001, we introduced completely redesigned electrical and computer engineering programs based on two complementary frameworks. The first one is a competency-based framework used to have a better alignment between teaching/learning activities, program objectives and competences development. The second one, called the learning framework, introduces a paradigm shift from passive to active learning methodologies with the deployment of problem and project based learning situations.

Over the years, the faculty of engineering has developed many original approaches to both design of curriculum and faculty organisation. We also developed considerable expertise to improve teaching and learning especially integration of curriculum elements, the development of team skills and of a professional culture, the use of design projects extending over more than one year with links to industry, the use of portfolio to track competencies development, active learning environment such as problem and project-based learning and in utilising novel assessment techniques to improve learning.

All these initiatives have been made possible by creating winning conditions to involve faculty members in pedagogical research activities and implementation methodologies. To do that we provided institutional financial support (faculty, university), encouragement, teaching load relief, recognition of faculty involvement in tenure and promotion, professional support for CEAB accreditation requirements, etc.