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Teaching Innovation by Using a Chinese Traditional Structure

Effectively teaching innovation is a challenging task. Higher education institutes mainly use courses that were designed for business administration classes to teach STEM students. Many of the programs lack a contextual component that makes any teaching more successful. This work shows how to use local traditions and cultures, such as the traditional Chinese structures of yin-yang and an antithetical couplet, to foster innovative traits in higher education students.

We present an innovative teaching method (innovation language™), a Project Based Learning (PBL) that is used in our University's courses "The Structure of Scientific Innovation," and "Innovation Management". The most creative part of this course is to allow students to choose their own favourite Chinese "Structure" or "Philosophy" for learning both innovation and science.

All students are engaged in finding the best local traditional design that can help explain innovations.

Through this approach, students learn:

1. Classical Scientific structures.
2. Application of theoretical knowledge.
3. Learning how to use innovative thinking in life.
4. Exchange practices and discuss challenges with other students.
5. Merge previously acquired knowledge with new knowledge.

We will show how the characteristics and content used in innovation with the help of yin and yang theory and Poetry Antithetical Couplet enable students to increase their creativity and understand the idea of contrasts and unity. And for example, explain a Physics class. At the end of the course, students cultivate innovative thinking, curiosity, creativity, and they demonstrate an increased ability to explain structures of past scientific discoveries. This method can be used in primary and secondary schools in addition to higher education.