

## Concept Maps, Reflexive Practice and Learning Style in Teacher Education

Our research looked at the development of reflexive practice through the use of concept maps in future language teachers. Our analysis examined the degree of complexity of concept maps created by student teachers and the link with their learning styles. Student teachers (n = 18) had to reflect on their vision of learning and teaching a language and create a concept map to illustrate this vision. Our conclusion will demonstrate the effectiveness of concept maps for student teachers of varied learning styles as a tool to develop their reflexive practice skills.

Our research program has been looking for the past two years at the learning styles of university students. Romainville (1993) presents two important conclusions looking at present research on the learning process. Firstly, it would seem that the learning style of a student is a determining factor in his success. Secondly, taking into account that one learning strategy can be useful for a student but not necessarily for another, a good learner would be characterised by the reflection on his learning process and the capacity to adapt his strategies accordingly. Adaptation means being successful and being able to work with different learning styles (Kolb, 1984 ; Honey & Mumford, 1992). The overall objective for our research project was to identify ways to help students reflect on their learning process. In order to do so, different learning tools were used, one of which was the concept map.

In our teacher education program, pre-service teachers are required by our Ministry of Education to develop reflective skills. Researchers have determined three stages of reflection (Van Manen, 1977; York-Barr et al., 2001; Hatton and Smith, 1995; Yost, et al., 2000): technical rationality, reflection as practical action, and critical reflection. Reflective activities encourage pre-service teachers to articulate their thoughts and to become aware of their values and beliefs. One activity through which they develop these skills is the creation of a conceptual map on their teaching philosophy. Novak and Gowin (1993) discuss how concept maps can develop reflective skills through the manipulation, division and reorganization of concepts. Kinchin, Hay et Adams (2000) discuss three types of architectures for concept maps from a simpler type, the spoke architecture, to a more linear type, the chain framework to the most complex, the net architecture. In order to create their concept maps, the pre-service teachers write two short essays during the course of a semester, about their perceptions of good teaching procedures following various readings and discussions done in class. At the end of the semester, students must conceptualize their vision of teaching in a conceptual map using the software Inspiration.

Our quantitative and qualitative analysis examined the degree of complexity of the concept maps created by student teachers and the link with their learning styles. More precisely, the concepts chosen and their numbers as well as the type of architecture used for the concept maps by the pre-service teachers were analysed. Our conclusion will demonstrate the effectiveness of concept maps for student teachers of varied learning styles as a tool to develop their reflexive practice skills.

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