

Sangduan Kongnavang 2010: Model for Teaching Competency Development Using Knowledge Management for Grade Range II Science Teachers. Doctor of Philosophy (Curriculum and Instruction), Major Field: Curriculum and Instruction, Department of Education.
Thesis Advisor: Associate Professor Pranee Potisook, Ph.D. 484 pages.

The objectives of research were: 1) study and develop a model for teaching competency development using knowledge management (KM) for grade range II science teachers; 2) study the application of knowledge and experience enhanced by knowledge management into their teaching and; 3) study the opinion of science teachers regarding the model.

The research was conducted in two cycles. The first cycle was conducted with a pilot group of 30 science teachers and 341 students. The second cycle from the expand group consisted of 60 science teachers and 345 students. Both groups were studied in 2007 and 2008 academic years consecutively. The research tools were: the model and manuals, teachers' and students' evaluating forms; Competency of teachers, knowledge and understanding content science, teachers' and experts' opinion on the model and manual and monitoring teachers' teaching evaluating forms and students' opinion, scientific habits of mind and behaviors of learning evaluating forms. The data were analyzed by mean standard deviation and percent. The research findings were as follow: -

1. The model for teaching competency development using knowledge management for grade range II science teachers consisted of four steps: 1) Knowledge Vision and Goal; 2) Knowledge Principle and Sharing; 3) Knowledge Assets and Creating a Community of Practices; and 4) Knowledge Monitor. This model had index of concurrence (IOC) 0.84 and means of post-development of teachers higher than pre-development and have significant level at .01

2. Means of teachers' opinion on the model and manual implemented in the first and second cycle are 3.90 and 3.95 respectively.

3. Means of monitoring teaching competency development teaching practice of both cycles are 4.00 and 4.04 respectively.

4. The post means of their knowledge and understanding about teaching and content of both cycles are 4.29 and 4.34 respectively.

5. The post means of students' characteristic behaviors after development of both cycles are 3.64 and 3.67 respectively.

6. The post means of the students' opinion on the teachers' performance of both cycles are 3.44 and 3.52 respectively and the post means of students' scientific of mind after development of both cycles are 3.64 and 3.70 respectively.

Student's signature

Thesis Advisor's signature