

INQUIRY-BASED TEACHING OF CONCEPT OF UNCERTAINTY IN CO-LEARNING OF KINDERGARTEN TEACHER

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The purpose of this study was to explore the development of kindergarten teachers' knowledge and teaching practice of the concept of uncertainty and to develop a model for the inquiry-based teaching of the concept of uncertainty. In this case study, data on 20 teachers from a kindergarten, including video and audio recordings and interviews, were collected. These teachers learned together in a 3-month professional development community for 2 hours per week.

Teachers' professional development in co-learning

The teachers underwent 3 stages of professional development. Stage one, the teachers formed a co-learning community to learn theory of inquiry-based teaching and knowledge of the concept of uncertainty. Stage two, the teachers identified the differences between conventional teaching models and the inquiry-based teaching model. Stage three, a model for the inquiry-based teaching of the concept of uncertainty was developed, applied in class teaching, and modified accordingly.

Reflection on the practicing of inquiry-based teaching

Inquiry-based teaching was to help young children learn the concept of uncertainty and reasoning skills. However, the teachers did not fully understand the concept of uncertainty; they considered the concept too abstract to apply directly in teaching. Through their discussions in co-learning community, the teachers interpreted this concept as a variable; that is, the children had a various of views on the events they encounter in life. This increased the interactions between the teachers and the children, and enabling the teachers to develop the model for the inquiry-based teaching of the concept of uncertainty for their children.

Teaching effectiveness

Through co-learning, the teachers had their knowledge and teaching skills on the concept of uncertainty improved. The results revealed that after the teachers participated in the co-learning and action research, they expressed their intentions to conduct child-centred inquiry-based teaching. And built a teaching model on the concept of uncertainty was developed, comprising the steps of speculation, discussion, verification, and conclusion.

References

Smith, B. (2007). Promoting inquiry-based instruction and collaboration in a teacher preparation program. *The Mathematics Teacher*, 100(8), 559-564.