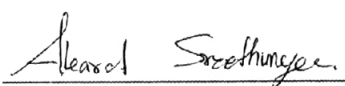
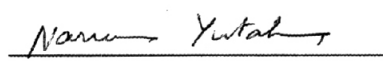


Akarat Sreethunyoo 2008: A Case Study of the Development of Curriculum to Teach Matter at the Lower Elementary Level Using Culturally Relevant, Inquiry-Based Approach. Doctor of Philosophy (Science Education) Major Field: Science Education, Department of Education. Thesis Advisor: Assistant Professor Naruemon Yutakom, Ph.D. 313 pages.

This educational ethnographic study aims to examine the use of students' funds of knowledge about toys and utensils as a basis for co-constructing an instructional unit about material concepts with science educators, scientist and experienced elementary science teachers. This study had four phases which included a) exploring students' funds of knowledge about toys and utensils, b) developing a culturally relevant/inquiry-based instructional unit, c) implementing the unit with participant teachers, and d) evaluating the factors influencing the unit implementation. The grade 1-3 instructional unit drew on student informal experiences with toys and utensils, followed by negotiating the design of curriculum with the research team, and then ran pilot study was implemented by three elementary science teachers in academic year 2007. The data on how the unit was implemented by the three teachers were collected using data sources such as participant observations, teacher journals, teacher interviews, student interviews, and field notes.

The findings indicate that the development of inquiry based curriculum that drew on students' funds of knowledge about toys and utensils promoted students' understanding and application of concepts about materials, fostered students' self confidence and enhanced students' attention and involvement in learning activities. However, the success of the design and implementation of the inquiry/culturally relevant curriculum by each teacher was based on teachers' beliefs and understanding about inquiry and culturally relevant practice, level of content knowledge, ability in conducting scientific inquiry, teacher preparation, teachers' perception of students' ability, and students' abilities. It was found that teachers who believed and held understanding about these teaching approaches, had ability to conduct inquiry, strong content background, perceived on all ability students and showed good preparation in teaching tended to implement the curriculum effectively. Additionally, students' ability in conducting inquiry and using vocabulary affected implementation of the curriculum.


Student's signature


Thesis Advisor's signature

20 / 05 / 08