

Kanokwan Pangjai 2012: The Development of Grade 6 Students' Conception and Scientific Inquiry Ability in Geohazard Learning Unit Using Science Project Activity. Master of Education (Science Education), Major Field: Science Education, Department of Education. Thesis Advisor: Assistant Professor Pongprapan Pongsophon, Ph.D. 224 pages.

This research aimed to 1) study and develop of grade 6 students' conception and scientific inquiry ability in Geohazard Learning Unit Using Science Project Ability and 2) to study and propose an effective the ways to implement science project in a particular educational setting. Research design is a classroom action research. The participants were a classroom of grade 6 students (N=31) from a private school in Bangkok. The research tools included Geohazard Concept Test, Inquiry Ability Scale, student journals, teacher reflective journals and work sheets. To analyze, the student's conception, their written responses were thoroughly read and categorized into five groups, based on degree of congruence with expected answers. To determine the success of the approach, frequencies and percentages of each group before and after the intervention were compared. Then, the total scores of an individual student over pre and post intervention are calculated and evaluated using 70 percent criteria of 50 percent for posttest and relative growth scores. As for the development of Students' Scientific Inquiry Ability the frequencies and percentages of the responses were worked out and evaluated using 70 percent criterion. To synthesize the best practice, the critical points in teacher reflective and student journals were identified and generalized using inductive analysis. The research were summarized as follows:

1. The findings indicated that Science Project developed all concepts of Geohazard. Out of 31 students, 28 and 23 students passed criteria of 50 percent for the posttest and relative growth scores respectively, with average posttest score at 56.58 and relative growth score at 51.43 %. As for Students' Scientific Inquiry Ability all the students passed at Excellent Level by 14 students (45.2 percent); Good by 16 students (51.6 percent) and Fair by one student (3.2 percent).

2. To help inexperienced students create good science projects, science teachers should organize his or her learning unit in these steps 1) the orientation 2) the attention 3) the actions and to 4) the presentation.

3. Researcher have suggested the following tips for the effective implementation of Science Project : 1) To attract the students, teachers have to use the proper touchable medias to their age; 2) Get the students to ask as many as questions after watching news about environmental disasters and exchange their thoughts, this can develop scientific conception and higher order thinking; 3) Let the students fully participate in conducting science project in every single step with the teacher acting as a facilitator, this can improve scientific Inquiry Ability and the sense of the ownership to the projects; 4) Teachers need to prepare the place and get it ready for scientific test e.g., laboratory, ICT center.

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Student's signature

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Thesis Advisor's signature