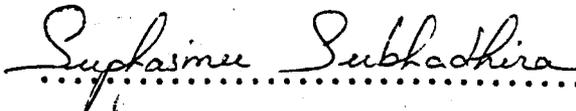
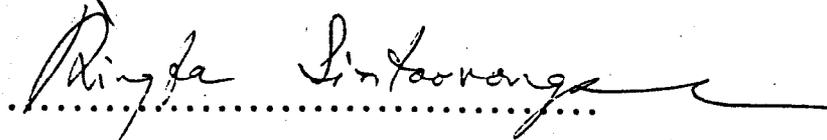


THESIS TITLE : A SYNTHESIS OF RESEARCH STUDIES IN SCIENCE EDUCATION
AT THE PRIMARY SCHOOL LEVEL.

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ABSTRACT

The main purpose of this study was to synthesize the science education research, completed in 1972-1991, on the primary school level. The study covered 271 topics from a total number of 169 research pieces selected by utilizing the self-evaluative measure. There were 30.77 percent of this research analyzed by the quantitative synthesis method and all of 169 studies were analyzed by the content synthesis method. The findings were as follows:

1. By utilizing the quantitative synthesis method, the findings showed that the science teaching approaches using Instructional Package, Programmed Instruction, and Inquiry Method enhanced the student achievement significantly higher than the conventional method. Instructional packages focused on students' practice of

science process skills improved their achievement. There were 13 factors attributed to the improvement of students' ability in learning science. And the percentage of the variance accounted for these factors was 27.88.

2. The results from the content synthesis method were as follows:

2.1 In the instructional preparation phase, it was found that the majority of science teachers had problems with science curriculum implementation regarding content, instructional activities and media, and evaluation. Supplementary books for science teaching in Life Experience Group for Prathom Suksa 5 and 6 were difficult. The instructional media produced was efficient with regard to the set criteria and could help students gain higher achievement. In addition, the instructional media which were deliberately developed enhanced students' learning achievement.

2.2 In the instructional process phase, it was found that the use of new teaching approaches increased students' level of performance. The questions mostly used by science teachers in their teaching activities were at the knowledge level of cognition.

2.3 In the instructional outcome phase, the findings displayed significant relationships among students' science process skills, scientific attitudes, scientific creativity, scientific method in problem solving process and science achievement. And the results also indicated that those factors influenced students' achievement were the students themselves, their teachers, their parents and