

# EFFECTS AND DIFFICULTIES OF "INQUIRY MENTOR" PROGRAM FOR IMPROVEMENT OF PRE-SERVICE SCIENCE TEACHER'S INQUIRY TEACHING ABILITY

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## **Abstract**

*The purpose of this study is to investigate the effect of 'Inquiry Mentor' program for improvement of pre-service science teacher's inquiry teaching ability in Korea. The 'Inquiry Mentor' program was designed in order to improve pre-service science teachers' inquiry ability and inquiry teaching ability. Especially, we focused the effects and difficulties of 'Inquiry Mentor' program. In 'Inquiry Mentor' program, pre-service science teachers have chance to teach high school students. 'Inquiry mentor' program was adapted for 2.5 months. 45 pre-service science teachers participated in this program and taught 44 high school students. During this program, pre-service science teachers wrote 'mentor diaries' and 'mentor reports' in the end of this program. We had interviews with all pre-service science teachers.*

*The results are composed of three parts. First part is effects of 'Inquiry Mentor' program. They presented 135 good points of 'Inquiry Mentor' program. We analyzed these in PCK, chance of experience, understanding, affective ability and job-relation categories. They thought that the best effect of 'Inquiry Mentor' program was related to PCK. Many pre-service science teachers told that their ability as a teacher was increased by this program. They thought that their scientific knowledge, scientific inquiry ability, scientific thinking ability and inquiry teaching ability were increased. Second part is pre-service science teachers' difficulties in 'Inquiry Mentor' program. Pre-service science teachers thought that the difficulties in 'Inquiry Mentor' program was resulted from their inadequacy (mentor factor) than students' inadequacy(mentee factor). Pre-service science teachers perceived their lack of cognitive ability, inquiry ability and teaching ability as a mentor factor. Pre-service science teachers thought that they had difficulties in students' difference and lack of activeness as a mentee factor. They described difficulties caused by emotional distance as well as physical distance as an interaction factor. They also mentioned the difficulties related to teaching range and online interaction. Lastly, pre-service science teachers expressed a sense of frustration at inquiry environment.*

**Key words:** pre-service science teacher; inquiry mentor inquiry teaching ability;