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ABSTRACT

This study attempted to determine the impact of a sustained community-based in-service training (SCBINSET) on the teaching competency of secondary school chemistry teachers. The in-service training was done by conducting seminar workshops for four Saturdays, followed by collaboration among the trained teachers and researchers to sustain the application of new learning to their classrooms. The topics covered were Chemical Change and Energy, Solutions, Solutions at Work, and Carbon Compounds.

The impact of the in-service training in improving the teachers' competency in knowledge content was determined by comparing the pretest and posttest scores of 21 chemistry teacher-participants and by analysis of mastery of the subject matter through classroom observations of six case teachers. The influence of the teachers' characteristics on their content knowledge was analyzed by comparing the gain scores and classroom performances of teachers grouped according to characteristics. The influence of the training in improving the teachers' competency in employing teaching strategies, asking different types of questions, constructing evaluation items, and giving of assignments was analyzed by observing six case teachers in the classroom, interview, and documentary analysis of lesson plans and quarterly examinations.

The instruments used were the chemistry test, survey questionnaire on teacher's profile, questionnaire on chemistry teaching efficacy belief, questionnaire on attitudes toward teaching chemistry and in-service training, classroom observation form, and post-training interview form. The pretest and posttest results in the chemistry test were compared by t-test for dependent samples. Comparison in gain scores of teachers grouped according to characteristics was analyzed by using Wilcoxon Mann-Whitney test for two groups and Kruskal Wallis for three groups.

Findings show that the SCBINSET improved the content knowledge of the teacher-participants. Comparison of gain scores and performance in the classrooms between teachers grouped according to characteristics reveal the content knowledge gained by the teachers from the training is not influenced by age, number of years of teaching, educational background, Chemistry units earned, Chemistry teaching efficacy beliefs and attitude toward teaching Chemistry but influenced by the number of years of teaching Chemistry and attitude of teachers towards in-service training.

The SCBINSET enriched the teachers' repertoire of teaching strategies which in turn increased the students' science process skills observed in the classrooms. The training also

improved the types of questions asked in the classroom and they teachers' competency in constructing evaluation items in terms of increased number of items on the topics covered by the training and higher level of learning outcome.

The pronounced effects of the mentoring and cooperative learning provided to the teacher-participants after the seminar-workshop enabled them to explain unexpected results from the class experiments, facilitated the used improvised apparatus, provided ideas on how to teach a certain lesson, and corrected their misconception and errors. The knowledge and teaching strategies learned from the in-service training continued to be applied even in the school year following the in-service training program. There was an increase in teacher-participants' motivation to attend training and/or pursue higher studies to update their teaching capability. By and large, a sustained community-based in-service training improves the teachers' competency in teaching chemistry.