



804/F

Prospective teachers' beliefs and perceptions about science teaching

M V K Mallawa* and S Karunaratne

Postgraduate Institute of Science, University of Peradeniya, Peradeniya

Prospective teachers entering National Colleges of Education (NCoE) for the pre-service training programmes already have many beliefs about teaching. The purpose of this study was to investigate how prospective science teachers' beliefs and perceptions about science teaching change as they complete the two year institutional training period. 58 English medium prospective science teachers were purposively selected from a population in the academic year 2010/2012. Data were collected by using informal discussions and by administering a questionnaire at three phases.

Initially, the prospective teachers brought different ideas about teaching. A majority of them (66%) were unable to give a clear definition for 'teaching'. At the beginning of the second phase there were no observable changes in their beliefs and perception of science teaching. During phase II and phase III, the prospective teachers were further equipped with a good knowledge and the practicalities of implementing student-centered lessons. Teaching practice at different phases helped prospective teachers to use these in their teaching. These experiences facilitated a gradual change in their views: science teaching is complex and difficult; it requires an in depth knowledge and skills (70%). At the end of the institutional training period, their responses illustrated the comprehensive knowledge they have acquired throughout the training. Nearly all prospective teachers believed teaching science means facilitating students to discover and explore the interrelated concepts and construct their own knowledge of the new concepts by themselves.

These findings indicated that course work and the experiences they gained from the practice teaching, provided them the opportunity to change their beliefs and perceptions. Positive changes occurred in prospective teachers' initial beliefs and perceptions related to teaching science in the following areas: Concept of teaching, self concept as a teacher, knowledge and skills necessary for science teaching and learning, instructional role of the teacher, learning process of the students, self assurance and personal interest in for teaching.