

Changing Behaviours of Prospective Science Teachers

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Prospective teachers have many beliefs and unique behaviours about teaching and learning Science at the beginning of the pre-service training programme. These beliefs and behaviours may result from their experiences as students in their schooling period. Similarly, prospective teachers' experiences acquired during the pre-service training period are also influential in developing their perceptions and behaviours about teaching and learning Science. The purpose of this study was to find out the prospective teachers' perception of Science teaching, and how their behaviours changed over the two-year institutional training period.

The sample consisted of 58 Science English medium prospective teachers, both male and female, who were recruited for the academic year 2010/ 2012. Ten prospective teachers out of the above number were randomly selected for lesson observation. Data were collected by conducting random informal discussions and administering a questionnaire for the whole group at the beginning, middle and by the end of the programme; and by interviewing and observing teaching of ten prospective teachers during the four blocks of teaching practice.

Data gathered from various sources were analysed by triangulation and grounded theory. At the beginning, prospective teachers were not aware of current learning-teaching techniques, approaches and methodology used in the field of teaching Science. In addition, due to inadequacy of practical experience and laboratory skills prospective teachers failed to use effective classroom techniques to help students construct their own knowledge. The prospective teachers had planned lessons to be done under the student-centred approach, but there were no plans of providing opportunities for the students to build up their knowledge about the concept. Most of the lessons, which were observed, reflect that teachers have to get themselves equipped with the theoretical and methodical aspects related to teaching Science.

In order to change their perceptions and behaviours of teaching Science, reflective and counselling methods, workshops on teaching through constructivism, model lessons and micro-teaching sessions were employed during the first year. The data gathered showed that prospective teachers faced problems about lesson planning, organization, classroom management, assessment and evaluation, giving feedback and feed-forward. A special workshop on designing activities and practical lessons was conducted to show how to use assessment and evaluation followed by informal discussions with individual prospective teachers. As a result, a gradual change in their perceptions and behaviours of teaching Science was observed. Even after six months, there was no significant behavioural change in their understanding and applying the student-centered lessons. At the end of the institutional training programme, majority of them were inclined to implement student-centered lessons and have changed their thoughts gradually toward the profession. It is recommended that the professional development programmes include more student-centred learning activities to develop a community of good Science teachers in our country.