

Training as a Teacher of Science at the University of Zambia: Boons and Challenges as Perceived by Students in the Science Teacher Education Programme

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Abstract

Since inception, the University of Zambia ((UNZA) has been offering training to school leavers and serving teachers in the area of science teaching. Specifically, UNZA has been training teachers of biology, chemistry and physics for senior secondary school level through the Bachelor of Science with Education Programme. Recently, agricultural science was added to this list under a new programme known as Bachelor of Agricultural Science with Education.

These programmes are of four year duration. During this period, students take science content courses from the School of Natural Science and/or Agricultural Sciences and education courses from the School of Education. Students take four full courses normally in each academic year. Learning experiences used comprises mainly lectures, tutorials and laboratory activities. Students also undertake school experience during the vacation at the end of third year. The programme is hosted by the Department of Mathematics and Science Education in the School of Education.

Although this programme has been in existence for a number of years, no study to our knowledge has been undertaken to acquire understanding of experiences of students during their training. The purpose of the study was to acquire understanding of students' experiences during

their training as teachers of biology, chemistry or physics. The study was guided by the following research questions: What positive aspects of training as a teacher of science at the University of Zambia have you experienced? How has the positive aspects changed your knowledge, skills and values? What challenges have you experienced while training as a science teacher at UNZA? How have the challenges that you have experienced affected your training? How are you coping with the challenges that you are experiencing as you train as a teacher of science?

Data was collected from both third and fourth year (female and male) students pursuing the bachelor of science with education and bachelor of agricultural science with education programmes during the 2018/2019 academic year of the University of Zambia. A questionnaire consisting of open-ended questions was administered to students and they were requested to respond to these questions. Data analysis was done using the content analysis approach and various categories were generated.

The major findings are that the science teacher education programme students were pursuing at UNZA enabled them to acquire knowledge and understanding of a number of issues related to teaching and learning of science. Some of these are understanding of the different ways by which pupils learn; the value of using a variety of teaching strategies to cater for individual differences; better understanding of the science content compared to when they embarked on this programme. Others were opportunities to participate and acquire skills in practical work which is an important aspect in science as well as opportunity to engage in research or to search for information from different sources; opportunity to learn how to manage time.

Some of the challenges that students encountered during the period they were training were as follows: too much work/things to do; some lecturers not helpful; inadequate laboratory equipment; difficulties in following power point presentation because in some cases, the presenters were too fast; too much content to be covered within a short period of time as well as being subjected to advanced content they were required to learn. Some of the ways in which they were coping with some of the challenges they were experiencing included the following: studying in groups, sourcing for information on internet and consulting lecturers.