

Science Anxiety Levels in Emirati Pre-Service Teachers

Authors : Martina Dickson, Hanadi Kadbey, Melissa Mcminn

Abstract : Research has shown that anxiety and trepidation towards learning about science is prevalent among elementary school teachers in Western countries. It has also been shown repeatedly that pre-service and in-service teachers who show signs of anxiety towards science are; a) less likely to teach it at all, where they have some autonomy over this, b) less likely to teach it effectively c) ultimately that their students have lower attainment scores in science. It is therefore critically important to gauge pre-service teachers' science anxiety levels early on whilst there are still possibilities to overturn some of the reasons behind these fears and avert these serious issues occurring later on. This study takes place in the capital of the United Arab Emirates (U.A.E.) in the context of training local elementary school teachers. In the U.A.E., where Emirati teachers are already in the vast minority and attrition rates are high, it is important to offer as much support to pre-service teachers as possible. If pre-service teachers are graduating with high levels of science anxiety unabated, according to the research there is a very real concern that as generalist primary school teachers, their science teaching will be far from optimal. The aims of this research study were to ascertain the science anxiety levels of pre-service elementary teachers and to identify particular areas of their science anxiety, if appropriate. We surveyed 200 Emirati pre-service teachers and found that levels of science anxiety were directly related to their perceptions of performance in science exams, laboratory experiments and inquiry approaches to science learning. Whilst some studies have shown that science anxiety can decrease as students gain confidence in science knowledge by studying courses, we did not see this effect in our study. This is based upon a theoretical framework which holds that in some cases, science anxiety is related to lack of exposure to, or insecurity with science content itself which in some cases is alleviated by the students' covering of material and greater confidence in the subject. Exploring this variable allowed us to explore whether students educated in schools influenced by the educational reform in Abu Dhabi have differing science anxiety levels from those who were educated prior to the reforms. We discuss the possible implications of these findings to the future teaching of science in Abu Dhabi public schools.

Keywords : pre-service teachers, science anxiety, United Arab Emirates, educational reform

Conference Title : ICERI 2015 : International Conference on Education, Research and Innovation

Conference Location : Kuala Lumpur, Malaysia

Conference Dates : August 24-25, 2015