

ABSTRACT

Towards Understanding Science Culture Nexus (SCN) among Primary Teachers and Students: Implications for School Science in Jamaica.

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The main purpose of this study was to obtain, analyze and interpret primary teachers' and students' views about science and culture nexus in order to identify socio-cultural barriers and borders to science instruction at the primary level in Jamaica. A cultural perspective to science education research in a sequential QUAN-QUAL mixed method research design was utilized. The quantitative phase served to explore teachers' and students' views on science and society (VOSS) using an open-ended instrument as well as two Science Culture Nexus instruments (SCN) for teachers and students. A randomly selected cross-section of 1,481 primary school teachers and 3,569 primary school upper school students participated in the Science and Culture Nexus Survey. The qualitative data were gathered by in-depth semi-structured interviews of twenty-teachers, purposely selected based on their responses on the SCN instrument. Mixed-Method analysis procedures were used to analyse and interpret the data from the SCN survey and the semi-structured interviews. The data collected in both phases of the study were merged to explicate the findings. The results from the SCN surveys indicate that teachers and students were not aware of science and culture nexus and were not sure how Jamaican culture might influence teaching and learning science at the primary level. Several barriers and one border to the meaningful instruction of science in primary schools were hypothesized from the study. These barriers and or borders are: Teacher-related; student-related; curriculum related; socio-cultural barriers and the border between science and religion. Implied, therefore, is that there is a need for a science education policy which gives attention to the inclusion of a more explicit focus on culture in the science education curricula used in teachers' colleges and schools. Such a policy would enable teacher training colleges to equip teacher trainees to act as culture-brokers better able to engage students in negotiating the cultural barriers and borders that students bring with them to school and so, enhance meaningful learning of science. Recommendations for the reviews of the science education offered in teachers' training colleges and of school science instruction in primary schools are suggested.

Keywords: cultural perspective; views; cultural transmission; western science; barriers and borders; culture-brokers; school science; science and culture nexus; science culture; science instruction; socio-cultural; mixed-method research design; mixed- method analysis.