ABSTRACT

Emerging evidence indicates that culture influences pupils learning of science. However, the influence of culture on science learning is usually not considered when developing science curricular for both primary and secondary schools. This study investigated the extent to which primary and secondary school pupils believe in cultural interpretations of the physical phenomenon of 'heat' associated with anger and the influence of education level, ethnic communities and gender on cultural beliefs. Cross-sectional survey research design was used. The target population was Standard Seven, Form one and Form Three pupils in ten districts selected from Nyanza, Rift Valley, Central, Eastern and Coast Provinces in Kenya. The ten districts were selected purposively to represent 10 different ethnic communities from the five provinces. A total of 2837 secondary and 625 primary school pupils participated. The pupils were drawn from 15 primary and 31 secondary schools .A questionnaire was used to gather information from pupils. Both qualitative and quantitative techniques were used in analyzing data. Hypotheses were tested using the chi square (χ 2) statistic at $\alpha = 0.05$ level of significance. Some of the results obtained give statistically significant relationship between pupils' beliefs in cultural interpretations of scientific phenomenon of heat associated with anger and the communities where they come from. This implies that such beliefs are confined to specific communities studied. There appears to be no significant association between pupils' beliefs in cultural interpretations of the scientific phenomenon of heat and level of education in some of the communities. The implication is that education reduces beliefs in cultural interpretations in such communities but does not eradicate such beliefs. There was also no statistically significant association between pupils' beliefs in cultural interpretations of the scientific phenomenon of heat and gender, implying that both boys and girls equally believe in cultural interpretations. The findings from this study inform curriculum developers of some of the cultural beliefs that are likely to influence the learning of science. It is recommended that teachers discuss cultural interpretations of scientific concepts before introducing them in their lessons.

Key words: science, culture, beliefs