Exploring Primary Science Teachers' Creativity and Attitudes through Responses to Creative Questions in University Physics Lessons.

Abstract

To investigate the levels of primary science teachers' creativity through their responses in creativequestions carried out in university physics lessons; 2. To find out the primary science teachers' creative attitudes towards the use of creative questions in learning physics. Study design: Case study researchdesign. Place and Duration of Study: The study took place at the University of Malaysia Sabah for aperiod oftwohours. Methodology: The sample consisted of 74 in-service primary scienceteachers (age range 25-40 years) who tookMechanic, Matter and Heat as a core course towards Bachelor of Science Education.Simple creative questionswere infused into normal Physics lessons.The taskswerecontent-oriented, and the goalwasto yield a deeperunderstanding of whatwasbeing taught. The appropriate responses given to each creative question wereevaluated as to theirdivergent thinking:fluency, flexibility andoriginality (Torrance, 1974[32]).Questionnaires with closed and open-ended auestions wereadministered to explore in what ways learners found their learning with creative questions was different from ordinaryphysicslessons. Results: The results showed that a majority of primary science teachers attained different levels of creativity when assessed through creative guestions-moderate level (65.8%), low level (31.5%) and only 2.7% were deemed tobe at an acceptable level.Results also revealed that creative questionsenable primary school teachers todevelop an increased level offluent and flexible thinking.Neverthelessthe originality dimensionof creative abilitiesofscience teacherswas at a low level. Conclusion: The primary science teachers who participated in the study were mostly moderate creativeand onlya few of themweredeemed to becreative. This study reveals that physics knowledge is a necessary condition for creativity development.The findingsof this studycouldimplythat either primary scienceteachersarenot so muchimpressed by theuse ofcreativequestioningas part of theirclassroomteachingpractice, or teachers havenotimplementedthe creativity elements of primarysciencecurriculum effectively, or both.Onthe whole,

primaryschool teachers havepositive creative attitudes towards the use ofcreative questions in learning and teachingphysics