Conceptual Understanding of Science Process Skills and Gender Stereotyping: A Critical Component for Inquiry Teaching of Science in Kenya’s Primary Schools

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Abstract

This paper examined Kenya’s Strengthening of Mathematics and Science Education (SMASE) In-service Education Training (INSET) trainers’ conceptual understanding of basic science process skills (BSPS) and their gender based stereotypes regarding pupils’ ability in BSPS. Teachers Process Skills Questionnaire (TPSQ) was used to collect data from 187 trainers. Data analysis included tabulation of percentages and Chi-square test of relationship. The findings of this study revealed that (i) SMASE trainers had very poor conceptual understanding of basic science process skills, (ii) SMASE trainers held gender based stereotypes about boys’ and girls’ ability in BSPS and (iii) there was a statistically significant relationship between the gender of the SMASE trainers and their gender stereotypes. The authors recommended that (i) SMASE trainers be inducted in science process skills and be subjected to a science process skill proficiency test before being recommended as INSET trainers, (ii) Primary Teacher Education for pre-service teachers to ensure trainees develops conceptual understanding of science process skills as outlined in the Kenya’s Primary Teacher Education Science Syllabus and (iii) awareness on gender issues in terms of instruction and assessment be created among primary school teacher and pre-service training of primary school teachers.

Keywords: Inquiry Teaching, ASEI Approach, Basic Science Process Skills, Gender Stereotype