

Conditions for Implementation of the Science Curriculum in Early Childhood Development and Education Centers in Kenya

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Abstract

Cognitive development and teaching have highlighted the importance of learning based on the relationship among individuals and the learning environment. Teaching and learning of science in early childhood development and education (ECDE) can only be effective if adequate facilities, materials, equipment and activities are put in place. Teaching of science in ECDE centers in Kenya is faced with numerous challenges, hence the negative influence on children's learning of the subject. This raised the question of whether we have appropriate conditions for implementation of the science curriculum in ECDE centers. This study investigated conditions for implementation of science in 115 ECDE centers managed by 230 teachers in Kakamega Municipality, Kenya. It used the ECDE facilities checklist, the ECDE classroom science materials/equipment checklist, the ECDE classroom science activities checklist, and the ECDE teacher classroom science questionnaire to analyze the availability of science materials, equipment, class size and activities for ECDE children in the classroom. Each teacher was videotaped for two consecutive days during science activities. Their attitude towards science curriculum was measured by the use of an attitude scale. The findings of the study indicated that three quarters of the ECDE centers had appropriate general facilities. However, a majority (91.2%) of ECDE centers lacked adequate and quality classroom science materials/equipment. The activities that the ECDE teachers engaged in were mostly unrelated to science activities (85.7%), even though they had a favorable attitude towards the science curriculum. This study is significant because the resulting findings will influence practice in early childhood education by informing policy makers on prevailing conditions for implementation of the science curriculum. On the theoretical side, the findings will contribute to the development of teaching and learning science materials, science equipment and a children's science curriculum tool kit.