

This study was an investigation into the classroom interaction patterns of teachers of Physics in secondary schools in Nairobi Province. The objectives of this study were: to observe, record and analyze interactions between the teacher and learners in Physics classrooms; to study the relationship between the type of behavior patterns and the students' participation in learning activities and finally to determine the ratio of the teachers' indirect to direct behavior based on the interactions in Physics classrooms. A total of six teachers of Physics from six stratified randomly selected schools were involved in this study. A modified version of Flanders' Interaction Analysis Category (FIAC) System was used in form two Physics classes. Literature review revealed that interactions affect the learners' attitude towards learning and their participation in class activities. Overall, previous studies indicated that teacher interaction behaviors were an important aspect of the learning environment and that are strongly related to student outcomes. Descriptive statistics and the Chi-square were used to analyze the data collected. This study revealed that 51.98% of communication in Physics classrooms was sustained. That Physics teachers were autocratic and dominated their classrooms by use of talk only and talk with illustrations/aids. This study recommends seminars and/or in-service courses emphasizing on teaching skills and observation of the same. Moreover, an initiative involving teachers of Physics in action research in the area of classroom interaction will go a long way in helping the teachers improve their teaching behaviors.