Title: **Prospective Teachers' Preparedness to Facilitate Chemistry Instruction at Secondary School Level in Nairobi Teaching Practice Zone- Kenya**

Author: **Miheso, Josephat Machina**

Abstract: Teacher preparation institutions in Kenya are currently facing challenges in science education that are emanating from low levels of student performance at secondary school level. The poor student achievement in Chemistry is perceived to be partially resulting from poor classroom instruction among practicing teachers that may be as a result of teacher preparation programmes offered at the teacher training colleges and Universities. The purpose of this study was to establish the preparedness of Kenyatta University prospective teachers to facilitate Chemistry instruction at secondary school level. The study used Kenyatta University prospective teachers on teaching practice and their Form Two learners in the Nairobi Teaching Practice Zone as the study sample. The target population were all the Kenyatta University Chemistry prospective teachers. And the secondary school Chemistry learners. The study adapted a descriptive cross sectional survey research design. A sample of forty six Chemistry prospective teachers and two hundred and fifty nine form two learners were selected using purposive, stratified and random sampling techniques. Data was collected using a mixed methods approach, where both qualitative and quantitative approaches were used. The reseach instruments used included a teacher‟s and learners‟ questionnaires and a lesson observation protocal. Descriptive statistics were used to present the data in form of frequency tables and charts. A Chi-square test was used to present the level of relationship between the male and female‟s prospective teachers‟s intention to stay on in the teaching profession. The Statistical Package for Social Sciences SPSS version 14 software computer package was used to analyse the collected data. The main findings showed that; most of the TP teachers (67.4%) felt that the Chemistry course content taught at the university does not reflect the expectations of the secondary school Chemistry syllabus and that some of the topics/concepts required at secondary school level were not well addressed at the University. The findings further indicated that most of prospective teachers (64.5. %) felt that the three months TP period was not sufficient for the course and were of the opinion that two terms or a six months duration would be sufficient. As regards their career choices, 30.5% of the respondents chose medicine as their first choice course of study at the university, with education coming in second with 21.7%. This could be an indication that education is becoming a career of choice for many students joining higher education. Although, most of the trainee teachers had the required basic skills to handle secondary school Chemistry instruction, they did not expose learners to a variety of suitable methods of instruction and appeared to lack confidence to engage learners in thought provoking student experimental laboratory work. Majority of the prospective teachers had well organised Schemes of work and lesson plans with relevant information but these teaching tools were not followed during classroom instruction. Use of e-learning, field work and projects as methods of instruction were missing altogether. The most common methods of instruction applied were question and answer and teacher demonstration. The highest modes of classroom assessment methods applied were observation and oral questioning with assignments being the rarest. Learners have a very high positive attitude towards Chemistry instruction.eighty two point one percent (84.1%) of the learners indicating they liked the subject. It is hoped that the findings

and recommendations from this study will be used to inform education stakeholders and policy makers in reforming teacher training programs in line with the dictates of Kenya‟s vision 2030. The findings will also help enhance learner‟s achievement and classroom performance outcomes as well as improve on teacher proficiency for quality Chemistry instruction at the Kenya Certificate of Secondary Education (KCSE) level of education.