

**AN ASSESSMENT OF THE AVAILABILITY AND
UTILISATION OF ELECTRONIC MEDIA IN ENHANCING
TEACHING OF MATHEMATICS AND SCIENCES IN
SECONDARY SCHOOLS IN MAKUYU DIVISION**

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**A RESEARCH PROJECT SUBMITTED IN PARTIAL
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ABSTRACT

Continuous poor performance in Mathematics and sciences (Biology, Chemistry and Physics) in Kenyan secondary schools have put the methods of teaching and learning in sharp focus in recent years. The government of Kenya through the Ministry of Education and Japan International Cooperation Agency (JICA) started a project called Strengthening Mathematics and Sciences in Secondary Schools Education (SMASSE) in 1998. The project popularized the use of electronic media by giving computers, video cameras and laptops to schools that served as centers. Electronic media when effectively used can support constructive concept development in a class resulting in firm grasp of mathematics and science concepts. The study purpose was finding out availability and utilization of electronic media materials in secondary schools in Makuyu Division. Descriptive survey design was used in this study which targeted all principals, all teachers of mathematics and sciences and the students in the division. Purposive sampling was done so as to get schools that have electronic media materials that they obtained from government funding through Economic Stimulus Programme (ESP). A sample of 125 respondents was included in the study using different sampling methods. Data was collected by use of questionnaires, interviews and observation schedule which was tabulated and then analyzed using descriptive statistics and inferential statistical techniques where frequency distributions and percentages were employed. The analyzed data was presented in tables and graphs. The study found out that technology is well embraced where electronic media are utilized. All the schools in the EPS programme have acquired computers which are interlinked, a laptop, LCD projector but with no internet connectivity. In addition to their existing facilities 80% of the classrooms in these schools had sockets with electricity. From the results of this study, teachers and learners do not utilize the tools fully. They lack adequate skills and experience in using handling the new technologies. Some are not comfortable with the caution the administration has put in place to guide the use of these media. The laptop and the LCD projector have to be booked for use in a class well in advance by the teacher concerned. All the schools had a policy of using the computers and the laptop where a teacher is supposed to use them for teaching at least 3 times in a term. However, there are a few teachers 11% who do not use the laptop at all. The carrying and setting up of the media materials bothers these teachers. All schools had each one LCD projector which is not adequate for a whole school with 12 classes at any given time. Furthermore only one computer room is available for the whole school. Internet speed is very slow in all the sampled school make it difficult for the teachers to download content. All schools lacked proper internet downloader that can download all the animations and videos in the internet. Instructional media materials use in schools for learning and teaching are not adequate in all the schools. Electronic media are easily accessed and support Systems in school are in place for electronic media in terms of teacher training, time tabling and provision of necessary softwares in secondary schools in Makuyu Division. The findings of the study are of importance to school administrators, science teachers and policy makers in education sector. The study therefore recommended that the KICD should develop an extensive programme for software development for learning