



Computer Clubs and the Competency Based Curriculum: An Examination of the Current State of Computer Clubs in Kenyan High Schools

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Abstract

Computer clubs are extracurricular activities established in some Kenyan High Schools with varying objectives but primarily meant to generate interest in Information and Communication Technologies through activities and lessons outside of regular class hours. This work focused on establishing the current state of computer clubs in some selected high schools in Kenya with respect to their value in the schools as well as for the purposes of performance of students in the computer studies subject. The issues examined were the existence of the clubs, existing guidelines and support structures for these clubs, their perceived impact on the delivery of the curriculum, student interest and participation, as well as the challenges they face and how they can be resolved. The study was undertaken by means of a brief survey and a focus group discussion with computer studies teachers in selected schools in Nakuru County. It was established that not all schools that offer computer studies as an examinable subject have these clubs and vice versa, that these clubs are generally appreciated and valued but not primarily as a means to better performance in the computer studies subject, and that they do not have consistent support from key stakeholders such as the school administration and the Ministry of Education. The study recommends the development of a framework to guide the activities of these clubs in order to ensure that they meet their objectives of creating interest and competencies in Information and Communication Technology as is envisaged in the Competency Based Curriculum.

Keywords: Competency Based Curriculum, Computer Clubs, Computer Studies

1.0 Introduction

Computer clubs, as is the case with other co-curricular activities in schools, are meant to enhance the delivery of the core curriculum as well as to develop students in areas and in ways that may not be possible in a typical classroom experience. In the context of Computer Clubs these 'areas' are in the broad and rapidly changing field of Information and Communications Technology (ICT), and the 'ways' comprise of hands on activities and events that serve to impart skills and broad knowledge of cutting edge technologies. The introduction of the Competency Based Curriculum (CBC) in Kenya with a keen emphasis on the use of computers in classroom delivery as well as an area of study for application in the workplace brings the need for these clubs to the forefront. They can be avenues both for the impartation of hands on skills and most importantly for developing interest among learners in the area.

Their activities, therefore, must be very well thought out and executed in order for their aims to be achieved. They require clear guides for day to day activities at the different levels of learning as well as teachers capable of delivering and guiding these activities at the schools. While these clubs do exist in Kenyan High Schools there is however no



documentation available in the Basic Education Curriculum Framework (BECF) or other sources from the Ministry of Education on the aims and proposed activities of Computer Clubs in Kenyan High Schools.

Objectives of the Study

This study therefore sought to establish the nature of the establishment, activities and challenges facing computer clubs in Kenyan High Schools with their potential role in the delivery of the CBC in the county in mind.

2.0 Background

2.1 The Basic Education Curriculum Framework (BECF)

The Basic Education Curriculum Framework (BECF), launched in 2017, was accumulation of key events and processes that began with a summative evaluation of the 8.4.4. Curriculum in 2009 that indicated that the curriculum was largely academic and examination oriented. This was in addition to other challenges such as overloads within and across subjects, content challenges, overlaps across subjects, lack of due attention to emerging issues and poor equipping of schools for the delivery of the curriculum. The curriculum was also found to be quite rigid and did not allow for alternative learning pathways for learners gifted and abled in different ways (KICD, 2017).

The 2012 'Report of the Task Force on the Re-alignment of the Education Sector to the Kenya Vision 2030 and Constitution of Kenya 2010, Kenya Vision 2030' informed the development of the Sessional Paper No. 2 of 2015 that recommended the establishment of a competency based curriculum. The sessional paper placed an emphasis on an number of key issues such as Science, Technology and Innovation, the identification and nurturing of talents, leaning pathways and the teaching of national values in schools. (KICD, 2017). This sessional paper lay the ground for the process that cumulated in the launch of the Basic Education Curriculum Framework in 2017.

The Basic Education Curriculum Framework (BECF) (KICD, 2017) emphasizes the need for ICT as a means of delivery in Upper Primary and Lower Secondary (pg 35 & pg 42), as an optional subject (Computer Science) in Lower Secondary School (pg 49) and as a core subject in the Science, Technology, Engineering and Mathematics (STEM) pathway in Upper Secondary School (pg 50 – 51). The curriculum framework additionally envisages the development of digital literacy skills for all learners and further defines it as;

"... having the knowledge, skills and behaviours which are necessary to effectively and safely use a wide range of digital content and devices" (KICD, 2017)

According to the BECF, this digital literacy skills shall be achieved through in class activities and also through extra curricular activities such as clubs (KICD, 2017, pg 112).

3.0 Computer Clubs

Computer clubs are student associations that may be, depending on the context, regarded as extra-curricular or co-curricular activities in schools. They are extra-curricular where the schools do not have any form of core subjects in the computer area (Kapur, 2018) and they are co-curricular where the schools offer computer related courses in their academic curriculum (Great Schools Partnership, 2014).

These clubs are part of a great array of extra-curricular / co-curricular activities that also include sports, drama, dance, religion, volunteer work, foreign languages, governance, art, music, and poetry among others (Cadwallader, 2002). They have been found to lead to (i) better performance in examinations as a result of the stimulation from these activities, (ii) increased interest in school resulting in lower absenteeism, (iii) a reduction in school dropout rates, (iv) improved discipline and obedience, (v) improvement in skills and



competencies, (vii) impartation of important life skills such as teamwork, leadership and communication and (viii) reduction in negative personality traits and behaviour such as anger, loneliness, laziness and frustration (Kapur, 2018).

Computer clubs, as the name implies, are established with a focus on creating interest among students in the area of Information and Communication Technologies. They focus on learning about computer hardware, software and various emerging technologies (Franklin High School, nd). In Kenya these clubs are established in a number of schools but there is no documentation available on their activities or achievements. In the context of the BECF in Kenya, computer clubs are poised to be a very critical extra-curricular and co-curricular activity in the education system. The CBC envisions the use of ICT in all subjects and at all levels of education. In addition the CBC also proposes two subjects related to ICT, the Computer Science Course in Lower Secondary and the ICT subject in upper secondary school.

4.0 Methodology

This study, whose aim was to establish the current state of computer clubs in Kenyan High Schools, was undertaken in two stages;

1. By means of a brief survey among 16 computer studies teachers representing 16 different schools.
2. A focus group comprising of 5 teachers that validated the survey results during a workshop in June 2019 at Kabarak University.

5.0 Results

The following are the key findings from the study;

- i) The establishment of Computer clubs in Kenyan High Schools;

The study sought to establish whether or not they are required in all schools that offer computer studies. From the survey 81.2% of the respondents indicated they were required and 18.8% indicating they were not required. The focus group participants indicated that the clubs were optional and depended on the willingness and ability of the school to establish and run them. It was also established that the clubs were also established even in schools that do not offer computer studies as an examinable subject according to 50% of the survey respondents which was further confirmed in the focus group discussion.

Ministry of Education guidelines or curriculum for the operation of computer clubs

The study sought to establish if there were any specific guidelines for the operation of these clubs from the Ministry of Education. There was a mixed reaction to the issue among the survey respondents with 56.3% indicating that there were guidelines and 43.7% indicating that there were no guidelines for computer clubs available. This finding was discussed in the focus group and it was established that indeed there were no specific guidelines or curriculum for the activities of computer clubs in the country. The guidelines available were those for the offering of computer studies as an examinable subject.

Computer club activities

The participants in the study reported the following as the activities undertaken by the computer clubs in their schools.

- Learning programming
- Digital literacy
- Projects for the science congress
- Projects for the science and engineering fair.



- Robotics projects
- Sharing innovative ideas
- Computer studies projects
- Learning software packages not in the syllabus
- Computer maintenance
- Learning about new technologies
- Website development
- Designing publications

With respect the time allocated for these activities the respondents indicated that the clubs met at least once a week for a duration of between 1 - 2 hrs. This time was allocated during the official clubs time, evening, lunch hour and weekends in some cases. With respect to activities outside of the school for these clubs, a majority of the respondents, 64%, indicated that most of the club activities were internal with limited if any engagements outside of the school.

Value addition to curriculum delivery

There were mixed reactions as to the value and contribution of the clubs in the process of delivering the curriculum. With respect to their contribution to the success of students in examinations they make a contribution given the fact that the clubs are a forum for the discussion of issues and challenges related to their class projects. However this contribution is not very significant according to some respondents. Their contribution has however been noted to be significant in other ways such as in learning creativity, innovation, communication, critical thinking, collaboration and problem solving. The clubs are also instrumental in providing a platform for learning about software and skills that are not taught in class. Overall they help to create an interest in ICT among the students.

Support for the Clubs

The clubs are supported by school administrations though the allocation of time and space for their activities. There is limited financial support available for them from the school budget. There is however a significant level of support received from corporates and non-governmental organizations through mini grants training and materials for club activities. Their patrons are the main source of support as they conduct hands on training and mentorship as well as providing a link to the school administration and other parties when need arises.

Student Attendance

For the schools that have the clubs are popular according to 62.5% of the respondents. The main reason for the popularity are mainly associated by the desire of the students to look smart and techsavvy, the hands on nature of the club and the general love of technology among the youth. The lack of popularity of the clubs in some schools is mainly attributed to the lack of support from the school administration.

Challenges facing the Computer Clubs

The clubs face a number of challenges as was established in the study. These include;

- Lack of sufficient support from the school administration.



- Lack of sufficient resources and time allocation to the club activities.
- Poor internet access.

These challenges according to the respondents can be addressed through sufficient support from the school administration, non governmental organizations and the Ministry of Education. This would translate to clearer guides for club activities, better computers, more time for club activities, teacher capacity building, improved internet connections and availability of out of school events and competitions.

6.0 Discussion

This work focused on establishing the current state of computer clubs in some select schools in Kenya. The issues examined were the existence of the clubs, existing guidelines and support structures for these clubs, their perceived impact on the delivery of the curriculum, student interest and participation, as well as the challenges they face and how they can be resolved. It was established that not all schools that offer computer studies as an examinable subject have these clubs and vice versa, that these clubs are generally appreciated and valued but not primarily as a means to better performance in the computer studies subject, and that they do not have consistent support from key stakeholders such as the school administration and the Ministry of Education. The clubs as currently established lack guides or curriculum for activities which are necessary to ensure that they achieve the objectives envisaged in the CBC. This lack of guides currently results in a wide range of activities that do not make any significant or measurable contribution to the student's growth in the area of ICT or towards their performance in the Computer Studies subject.

7.0 Conclusions

7.1 Key findings

The following are the key findings from the study.

1. The establishment of computer clubs largely depends on the interest and ability of the specific schools.
2. The existing clubs do not have any specific guide to follow in their activities but depend largely on the teachers in charge to guide them.

7.2 Recommendations for further research

The study therefore recommends the development of a framework to guide the activities of computer clubs so that they may be able to make their intended contribution towards the delivery of the CBC. The proposed framework should have a number of key features;

1. Be interesting to the students by the use of multimedia, hands on activities and out of school activities.
2. Be delivered by the teachers independently of the developers
3. Be delivered within the 1 hour time allocation for clubs in schools.

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