

Influence of students' aspirations on choice of computer studies in public and private secondary schools in Machakos Sub-County.

Authors: ¹Kithungu Rose Mwikali (PhD Candidate-University of Nairobi) Email: mwikalirose.k@gmail.com; Tele: 254726208363 (Corresponding Author)

²Daniel Komo Gakunga (PhD) Email: gakungadk@gmail.com; Tele: 254728088020
orcid.org/0000-0003-1789-0794

³Gideon Mutuku Kasivu (Ed.D) Email: gidkasivu@gmail.com; Tele: 254726208364

Abstract

The main purpose of this study was to investigate the factors influencing students' choice of computer studies in public and private secondary schools in Machakos Sub-County. The objective of the study was to determine how students' aspirations influence their choice of computer studies in secondary schools in Machakos Sub-County. The study reviewed related literature that provided an overview of computer studies in secondary schools and findings from previous researches on factors influencing students' choice of computer studies in public and private secondary schools based on the research objective. The study used descriptive survey research design. The study embraced census sampling technique to select the sample size of the computer studies students, computer studies teachers and the head teachers of the schools. Data was collected mainly through questionnaires and was analyzed descriptively by use of SPSS programme. Data was presented in percentages and frequency distribution tables. This study established that student's aspirations; the careers which they intended to pursue, the acquisition of skills needed in the job market and self-employment influenced students' choice of computer studies in public and private secondary schools in Machakos sub-county, Kenya. The study recommended that the computer studies curriculum should be designed to fully equip the students with the computer skills useful in the computer dominated job market. In view of this paper, computer studies should be made compulsory for all the students in the Kenyan education system.

Key words: Students' choice, students' aspirations, computer studies, public and private schools

1.1 Introduction

Acquisition of computer skills play an important role in equipping learners with skills to enable them adapt well in the world of technology. To facilitate this, the Kenyan government through the Ministry of Education Science and Technology (MES&T) introduced computer studies as a subject in the Kenyan education curriculum in 1994 (MOE, 2000). The introduction of computer studies in Kenyan schools was either on societal rationale where students are trained to operate and fit in the computer society or vocational rationale where students are equipped with skills required by the computer driven job market (Kavagi, 2001). Computer studies are vital for they enable students to acquire the emerging new technologies and fit in a computerized global community. Pearson (1998) asserted that due to technological changes, there is need to prepare students who will be competitive in a world-class work force.

The need for enhancement in science and technology led to the introduction of computer studies in the secondary school curriculum in 1994 (MOE, 2002). Kenyan secondary schools that have adopted the country's official education system 8-4-4 offer a diversified curriculum comprising of 24 examinable subjects (KNEC, 2008). The Kenyan secondary school curriculum consists of five major groups of subjects. Group I- English, Kiswahili and Mathematics Alternative-A/Mathematics Alternative-B. Group II- Biology, Physics, Chemistry and General Science, Group III- History and Government, Geography, C.R.E, I.R.E and H.R.E. Group IV- Home science, Art and Design, Agriculture, Aviation Technology and Computer studies and Group V- French, German, Arabic, Music, Kenya Sign Language and Business studies. Candidates select at least seven subjects which includes all the three subjects in group I (Either Mathematics Alternative A or B), at least two subjects from group II one from group III and at least one subject from groups II, III, IV and V. Candidates can sit for a minimum of seven and a maximum of nine, the extra one or two subjects can be selected from any of groups III, IV and V (KNEC, 2014). Group four consists of five optional subjects and students' are supposed to choose at least one amidst subjects from groups two, three and five.

Kavagi (2001) argued that computer studies' being an optional subject provides an alternative for students to choose from a range of other subjects. He added that there is pertinent need of focusing on students' choice of subjects in both public and private secondary schools to ensure that they are completely aware of all the possible alternatives. Computer studies is classified as a technical subject alongside others and it is important because it is a major source of skills, abilities, attitudes, work habit, knowledge and information required for individual and economic development (Kibos, 2000).

Rono (1985) posited that choosing a subject made students to assume ownership of their curriculum and reduce chances of being alienated by the over prescriptive curriculum. He further argued that students' subject choice was a product of students' career aspirations, acquisition of skills needed in the job market and for self-employment. Students' preference and career aspirations dictated their choice of technical subjects especially computer studies because they fixed them to particular careers. Students understand the realities of the world of work and practically choose subjects which help them build and realize their future career plans (Wailer, 2003).

The initial candidature for computer studies when it was firstly examined in Kenya in 1998 was 22 candidates. The enrolment has risen over the years to 8,940 candidates by 2014 (KNEC, 2014). Despite the campaigns done in favour of computer studies hitherto, the enrolment in candidature and the schools offering the subject have continued to be low compared to candidature in other optional subjects. Machakos sub-county has 25 secondary schools which

offer computer studies, 12 public secondary schools and 13 private secondary schools. This revealed that the desire to include computer studies in the Kenyan secondary school curriculum had been and is still a dream for the country in order to achieve the goals of education. Many interwoven factors have played a significant role towards the achievement of this desire. However inherent challenges face this endeavor up to date hence the need to explore the factors influencing students' choice of computer studies in secondary schools. This study arose out of the concern that students' aspirations influenced their choice of computer studies in public and private secondary schools.

1.2 Research question

The study sought to answer the research question; How do students' aspirations influence their choice of computer studies in public and private secondary schools in Machakos Sub-County?

The Information Communication Technology (ICT) driven economy, requires highly skilled educated workforce with skills and aptitude in the application of ICT. The introduction of computer studies in the Kenyan education system was a step towards the realization of vision 2030 and national education aspirations through the acquisition of ICT skills for the production of globally competitive graduates. Computer skills acquired through teaching of computer studies lead to the acquisition of an array of skills and competencies needed for research, economic growth and individual innovation. This study sought to establish how students' career aspirations influenced their choice of computer studies in public and private secondary schools in Machakos Sub-County.

1.3 Research Objective

The study was guided by the following objective;

To determine how students' aspirations influence their choice of computer studies in public and private secondary schools in Machakos Sub-County.

2.1 Brief literature review

The study reviewed related literature which provided findings from previous researches on how students' aspirations influenced their choice of computer studies in public and private secondary schools. Evans & Ashworth (2001) stated that the entire need of computer skills in the job market influenced students' choice of computer studies, students regard computer studies as simulative and offered practical skills suitable to their future career aspirations. They argued that students in public and private secondary schools perceived the computer as an object of study, more exciting and potentially rewarding. Students in public and private secondary schools chose computer studies on the basis of perceived future career aspirations, relevance to the job market and to acquire skills for self-employment (Wikeley & Stables, 1999). Students with well-defined career aspirations in public and private secondary schools made right subject choices unlike those without definite career goals which influenced the choice of computer studies (Adey & Biddulph, 2001).

Kibos (2000) posited that computer studies lead to the acquisition of skills in computer technology which exposed students to new information and experiences applicable to the world of work which enhanced students' choice and preference to the subject. Students' perceptions on the importance of a subject were centered on its usefulness in future careers hence students in

public secondary schools chose computer studies to acquire skills for self-employment (Wikeley & Stables, 1999). Austin (2009) argued that students' in both public and private secondary schools chose computer studies because without computer skills in today's world one is doomed; the opportunities available in the job market require computer skills. The fore reviewed literature showed that student' aspirations determined their choice of computer studies hence the need to investigate the extent of their influence on students' choice of computer studies in public and private secondary schools in Machakos Sub-County.

3.1 Methodology

The research design adopted for the study was descriptive survey research design. The target population for this study included 107 form three computer studies students from public secondary schools and 110 from private secondary schools, 12 computer studies teachers from public secondary schools and 13 from private secondary schools. It also included 12 head teachers from public secondary schools and 13 from private secondary schools. Census sampling technique was employed in choosing the sample size. Data was collected by use of questionnaires. For face validity the study pre-tested the tools and for content validity the instruments were subjected to analysis by experts and specialists in the area of study. The study used test-retest technique to ascertain the coefficient of reliability. Data was analyzed descriptively by use of SPSS programme and presented in percentages and frequency distribution tables.

4.1 Study findings

The findings of this research were based on the responses of the computer studies students, computer studies teachers and head teachers to the research question.

Out of the 107 and 110 students questionnaires issued to the public and private secondary schools respectively only 100 were returned in each case. The questionnaire return rate was 93 percent and 91 percent for the public and private secondary schools respectively.

4.2.1 Students' response on their perception of computer studies

The study sought to establish whether students' aspirations influenced their choice of computer studies in secondary schools. To this effect the students were asked to indicate their perception of computer studies. The findings were as contained in Table 4.1.

Table 4.1 Students' response on their perception of computer studies

Responses	Public schools n=100		Private schools n=100	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
Very Positive	36	36	28	28
Positive	62	62	42	42
Negative	2	2	30	30
Total	100	100	100	100

The results in Table 4.1 indicated that 62 percent of the students from public secondary schools perceived the subject positively compared to 42 percent from private secondary schools. However, 30 percent of the students from private secondary schools had a negative perception compared to 2 percent from public secondary schools. This was an indication that students from public secondary schools perceived computer studies more positively than those from private secondary schools. The position affirmed the study conducted by Ainley, Robinson, Harvery, and Beavis, Elsworth & Fleming (1994) who established that students’ preference and career aspirations dictated their choice of technical subjects especially computer studies because they fix them to particular careers.

4.2.2 Students’ response on the influence of their aspirations on the choice of computer studies

The study sought student’s views on what influenced their choice of computer studies. They were required to indicate their responses on a four-point scale (**SA=Strongly Agree, A=Agree, D=Disagree, and SD=Strongly Disagree**) on what influenced their choice of computer studies. The results were as indicated in Table 4.2.

Table 4.2 Students’ response on the influence of their aspirations on the choice of computer studies

Responses	Public schools n=100										Private schools n=100									
	SA F	A %	A F	A %	D F	D %	SD F	SD %	Total F	Total %	SA F	A %	A F	A %	D F	D %	SD F	SD %	Total F	Total %
Career	58	58	42	42	0	0	0	0	100	100	68	68	32	32	0	0	0	0	100	100
Individual Interest	50	50	44	44	3	3	3	3	100	100	44	44	32	32	14	14	10	10	100	100
Skills for the job market	44	44	46	46	7	7	3	3	100	100	46	46	37	37	11	11	6	6	100	100
Skills for self employment	52	52	44	44	2	2	2	2	100	100	48	48	42	42	6	6	4	4	100	100
Peer Pressure	1	1	3	3	40	40	56	56	100	100	1	1	2	2	46	46	51	51	100	100

The students responses revealed that the careers they intended to pursue influenced their choice of computer studies with 58 percent of the public secondary school students and 68 percent of the private secondary school students strongly agreeing to the statement. Similarly, students from both public and private secondary schools strongly disagreed with the statement that they chose computer studies out of peer pressure at 56 percent and 51 percent respectively. The other factors individual interest, acquisition of skills for self-employment and acquisition of skills for the job market influenced students’ choice of computer studies though with variations in both public and private secondary schools. This showed that students chose computer studies independently due to their future career prospects and were well versed with the nature of the job market which

required computer skills. This was supported by a study which established that students' in both public and private secondary schools chose computer studies because without computer skills in today's world one is doomed; the opportunities available in the job market require computer skills (Austin, 2009). Students viewed computer studies as meaningful and important because it entailed the potential to have a significant consequence on their professional pursuit (Ainley et al. 1994).

4.2.3 Students' response on the extent to which computer studies prepared them for their future career

On career aspirations, the students were asked to indicate the extent to which computer studies prepared them for their future career. The responses were to be rated as **Great extent, Moderate extent or Low extent**. The results were as presented in Table 4.3.

Table 4.3 Students' response on the extent to which computer studies prepared them for their future career

Responses	Public schools n=100		Private schools n=100	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
Great extent	20	20	38	38
Moderate extent	58	58	28	28
Low extent	22	22	34	34
Total	100	100	100	100

The data contained in Table 4.3 indicated that 38 percent of the students in private secondary schools agreed to a great extent that they were prepared by computer studies for their future career while 58 percent of their counterparts in the public secondary schools were moderately prepared by the subject for their future career. This implied that a large number of students from both public and private secondary schools were prepared for their future careers through the skills they acquired from the learning of computer studies.

4.3.1 Teachers response on students' perception of computer studies

Out of the 12 and 13 teachers questionnaires issued to the public and private secondary schools only 11 and 12 were returned respectively. The questionnaire return rate was 92 percent for both the public and private secondary schools.

The study also sought computer studies teachers' views on the student's perception of computer studies. The results were as presented in Table 4.4.

Table 4.4 Teachers response on students' perception of computer studies

Responses	Computer studies teachers			
	Public schools F	n=11 %	Private schools F	n=12 %
Very positive	2	18	2	17
Positive	7	64	6	50
Negative	2	18	4	33
Total	11	100	12	100

As indicated in table 4.4, 64 percent of the computer studies teachers felt that students in public secondary schools had a positive perception of computer studies compared to 50 percent of those from the private secondary schools who felt the same. 33 percent of the computer studies teachers from private secondary schools had the view that their students had a negative perception of the subject compared to 18 percent of their counterparts from public secondary schools. This indicated that a greater number of students from both public and private secondary schools perceived computer studies positively.

4.3.2 Teachers' response on the influence of students' aspiration on their choice of computer studies

The study further sought the views of the computer studies teachers on the factors that influenced students' choice of computer studies. The results were as presented in Table 4.5.

Table 4.5 Teachers' response on the influence of students' aspiration on their choice of computer studies

Reponses	Public schools n=11		Private schools n=12	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
Individual interest	2	18	4	33
Career orientation	3	28	3	25
Skills for the job Market	4	36	2	17
Skills for employment	1	9	2	17
Peer pressure	1	9	1	8
Total	11	100	12	100

The information contained in Table 4.5 showed that computer studies teachers were of the opinion that peer pressure least influenced student's choice of computer studies compared to

other factors in both public and private secondary schools at 9 percent and 8 percent respectively. They felt that the acquisition of skills for the job market highly influenced students' choice of the subject in public secondary schools at 36 percent compared to individual interest in private secondary schools at 33 percent. This indicated that the computer studies teachers sufficiently oriented computer studies in form one and two and provided proper subject/career guidance to the students before subject choice in form three.

4.4.1 Head teachers response on students' perception of computer studies

Out of the 12 and 13 head teachers questionnaires issued to the public and private secondary schools only 11 and 12 were returned respectively. The questionnaire return rate was 92 percent for the public and private secondary schools.

The study also sought the views of the head teachers on the student's perception of computer studies. The results were as presented in Table 4.6.

Table 4.6 Head teachers response on students' perception of computer studies

Responses	Head teachers Public schools n=11		Head teachers Private schools n=12	
	F	%	F	%
Very positive	3	27	1	18
Positive	6	55	6	50
Negative	2	18	5	42
Total	11	100	12	100

The results of the head teachers also reflected the same trend as those of the students and the teachers that public secondary school students perceived computer studies more positively than private secondary school students. 55 percent and 50 percent of the head teachers from public and private secondary schools respectively were of the opinion that students had a positive perception of computer studies. However, 42 percent of the head teachers felt that students from private secondary schools had a negative perception of computer studies compared to 18 percent of those from public secondary schools who had similar views. This could be attributed to the fact that directors of private secondary schools being the proprietors highly determined the subject combinations in their schools.

4.4.2 Head teachers' response on the influence of students' aspiration on their choice of computer studies

The study further sought the views of the head teachers on the factors that influenced students' choice of computer studies. They were required to indicate their responses on a four-point scale (SA=Strongly Agree, A=Agree, D=Disagree, and SD=Strongly Disagree). The results were as presented in Table 4.7.

Table 4.7 Head teachers' response on the influence of students' aspiration on their choice of computer studies

Responses	Head teachers Public schools n=11										Head teachers Private schools n=12									
	SA		A		D		SD		Total		SA		A		D		SD		Total	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Career	4	36	2	19	3	26	2	19	11	100	6	50	5	42	1	8	0	0	12	100
Individual Interest	5	45	4	36	1	9	1	9	11	100	8	67	3	25	1	8	0	0	12	100
Skills for the job market	6	55	4	36	1	9	0	0	11	100	4	33	5	42	2	17	1	8	12	100
Skills for self-employment	4	36	4	36	2	19	1	9	11	100	5	42	3	25	3	25	1	8	12	100
Peer Pressure	0	0	1	9	4	36	6	55	11	100	1	8	2	17	4	33	5	42	12	100

The data contained in Table 4.7 indicated that 55 percent of the head teachers from public secondary schools strongly agreed with the statement that acquisition of skills for the job market drove more students to choose computer studies. 50 percent and 67 percent of the head teachers from private secondary schools strongly agreed with the statements that career and individual interest overrode other factors that influenced student's choice of computer studies respectively. 55 percent and 42 percent of the public and private secondary schools head teachers strongly disagreed with the statement that students chose computer studies due to peer pressure respectively. This implied that the head teachers provided subject/career guidance to the students before subject choice. The head teachers being the administrators of the schools organized career guidance programmes to ensure that the students made the right subject choices which suited the careers they wanted to pursue after secondary education. The findings of this study were in agreement with the study conducted by Wikeley & Stables (1999) which established that computer studies led to the acquisition of skills and knowledge relevant to the job market. Students in public and private secondary schools chose computer studies on the basis of perceived future career aspirations, relevance to the job market and to acquire skills for self-employment.

5.1 Conclusion and recommendations

This study indeed established that student' aspirations; career choice, acquisition of skills needed in the job market and self-employment influenced students' choice of computer studies in public and private secondary schools though with variations. This study recommends that the computer studies curriculum should be designed to fully equip students with skills useful in the computer dominated job market after schooling. The subject should be made compulsory for all the students. There was need to give students the freedom to choose the subjects they wanted to pursue. This freedom of choice would be guided by thorough subject orientation at the basic levels.

6.1 References

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