



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH & STUDIES

The Influence of Home and School-Based Factors on Performance of Girls in Science Subjects in Kenya Certificate of Secondary Education (Kcse) in Kilungu District Makueni County

ISSN 2319-9725

Lewis M. Ngesu

Lecturers University of Nairobi, Kenya

Lydia N. Wachira

Lecturers University of Nairobi, Kenya

Kyule M. Mutisya

PhD Student-University of Nairobi

Emily N. Kivuli

Med graduate-University of Nairobi

Abstract: *The purpose of the study was to investigate the influence of school and home based factors on performance of girls in science subjects at K.C.S.E level in Kilungu District, Kenya. The study intended to achieve the following objectives: to find out the general condition of students' performance in science subjects in Kenya; to establish whether there is any relationship between parents level of education and students performance in science subjects; to find out whether there is any relationship between parents' socio-economic status and students' performance in science subjects; to examine whether there is any relationship between curriculum implementation and students performance in science subjects. The researcher adopted the Ex-Post facto design and targeted principals and Form Four students in secondary schools in Kilungu district, Makueni County. The main research instrument was the questionnaires and interviews. Data was analyzed using Statistical Package for Social Sciences software programme. The study established that girls were disadvantaged in science related discipline because some were made to believe that it was a male dominated subject. In this context, the study recommends that the Ministry of Education (MOE) should encourage schools to provide rewards to girls who excel in schools.*

1. Introduction:

Investing in education is one of the fundamental ways in which nation states and their citizens can work together to achieve long-term development goals and improve both social and economic standards of living. This is born out by numerous research studies which indicate that high levels of education and development are positively correlated (Herzt and Sperling, 2004).

The education of women in particular provides the key to securing intergenerational transfer of knowledge and long-term gender equality and social change. Gender equity in access to education now occupies a central place in the global policy discourse on human and social development. Gains made in female education as a result of global advocacy and donor pressure have been significant in some cases; however, in others they are fragile and vulnerable to changes in economic and social environments, and girls and women still struggle to catch up with boys and men in their enrollment rates achievements. There has been progress particularly in primary education; but in the secondary and tertiary sectors there are still huge gaps, especially in the countries of South Asia and sub-Saharan Africa. Thus the 'gender gap' persists, despite a well-developed and accepted body of scholarship on the factors that constrain female educational achievement relative to that of men, and despite the prediction of high rates of return on state and household investment in education.

In spite of the interventions by various governments, international organizations, non-governmental organizations (NGOs), religious bodies to achieve gender equity in education, girls' education has continued to fall short of boys' at all levels schooling and more so at secondary level (Avalos, 2003). Therefore specific research remains to be done region by region to establish the extent to which these policies and programs have been implemented so as to reduce the gender gap in education. Girl child education is an issue because women are poorly represented in high ranks and power. For example, in policy and decision making women take less than five percent of the world's heads of state, heads of major corporations and top positions in international organizations (UNESCO 1985). Women are found in large numbers in low level positions of public administration, political parties, trade unions and business. Furthermore women as a group enjoy fewer advantages and work longer hours than men and their opinions are undervalued. Thus secondary school level of education is crucial as it determines the future career of the girl child.

As boys and girls grow up they are socialized differently with girls being told one set of personal values and boys another. From early age boys and girls are taught skills and assigned duties in accordance with traditional gender specific division of labor. Male supremacy is advocated in many cultures in terms of inheritance of homestead, property and control of family sources. A girl child is given a lower ranking than a boy child and is generally denied opportunities for higher achievement in leadership and for control over productive resources. Early domestic responsibilities among young girls conflict with their pursuits for education. This gender division of labour within house hold makes a girl child attend school irregularly (Waweru, 1994). Retrogressive cultural practices such as women genital mutilation and thereafter engagement for marriage results in low education attainment by girls. Also, parents' level of education and their social economic background influence the girl child's performance in school subjects (Davis 1997).

School related factors such as teaching methods have a significant implication for girls' retention in schools (Waweru 1994). The teachers' attitude towards their female students is a reflection of the broader social biases about the role of women in the society and the academic capacity of girls (Brock and Cammish, 1991). Distribution of female teachers has an important impact on school quality for female pupils. Their presence provides girls with role models, guidance and counseling especially on issues related to puberty (Adam 1993). Other school related factors such as distance from school, teachers pedagogy, head teachers leadership styles and curriculum implementation have also been cited as some of the factors contributing to girls low participation in schooling, and especially in science subjects (Adhiambo and Ward, 1995). Therefore removing the obstacles that hinder the active participation of girls in education should be a matter of priority if the government is to provide equal education opportunity (Gachukia, 1992). Improving girls' participation in science subjects is a crucial development challenge. Any step that would address the highlighted challenges must start by addressing the root cause of the problem. The concept of gender parity is theoretical because gender biases are still being seen in some communities. Gender sensitization campaign has not changed the attitudes about male supremacy. In Kenya for example, the primary curriculum is one such that all pupils take one subject. But immediately after that they become free to choose and Preferences immediately become apparent.

2. Statement Of The Problem:

Girls face unique problems in their learning environments, which may go along way in determining how they perform academically. Although low selection grades at the time of enrollment is a significant factor contributing to poor academic performance, research has shown that schools can draw from a similar group of students in terms of performance but end up a big difference in the next national examinations. It is evident that a majority of female students who sit for K.C.S.E examination do not manage to proceed for further studies or even get good jobs due to poor K.C.S.E marks (Ndiritu, 1999). There is a lot of variation in performance in schools that select students with similar scores in K.C.P.E. For example, within the mixed schools, girls seem to perform poorly academically compared to boys despite the two groups having similar facilities. Although studies done on secondary school reveal that such factors like inadequate and relevant textbooks, teacher qualification and student background affect performance in examinations, few research has been done on the influence of home and school based factors on girls performance in science subjects. This study therefore attempted to investigate the influence of home and school based factors on performance of girls in science subjects in KCSE in Kilungu district, Makueni County.

3. Objectives Of The Study:

The study was designed to answer the following objectives:

1. To establish whether there is any relationship between parents level of education and students performance in science subjects.
2. To find out whether there is any relationship between parents' socio-economic status and students' performance in science subjects.
3. To find out whether there is any relationship between curriculum implementation and students performance in science subjects.

4. Methodology:

4.1. Research Design And Population:

The researcher design adopted for this study was ex-Post facto. The research design was relevant for this study because the study was not only concerned with collection and description of data, but it also sought to investigate and establish the existence of certain relationship among variables under investigation. The target population for the study comprised head teachers and Form Four students of public secondary schools in Kilungu District, Makueni County. The head teachers were useful for this study because they are the educational managers and as such have responsibility of promoting a reading culture in schools. Form four students on the other hand were useful for this study because they are candidates and able to respond to pertinent issues raised.

4.2. Sampling:

The sample was drawn from 15 secondary schools in Kilungu district using simple random sampling techniques.

6 secondary schools were randomly chosen from a list of registered secondary schools in the district. Two secondary schools were chosen from each division. The school registers were used to randomly select girls in sampled schools to participate in the study. The study selected 120 girls as the sample size, 20 from each secondary school. All the Six (6) principals were purposively selected to participate in the study. The total number of respondents for this study was 120 girls and 6 principals.

4.3. Data Collection:

This study mainly utilized questionnaires and interview schedule.

4.4. Questionnaires:

Questionnaires were designed using both open and closed ended questions and; were distributed to all the participants except the principals of secondary school. The instrument was useful in obtaining data where respondents gave information discretion without much physical influence from the researcher. The advantage of using questionnaires was that they stimulate free thought and also where choices are provided, each is a graduation of a single dimension of some thoughts or behaviour.

4.5. Interviews:

Interviewing is an appropriate instrument in any study because it helps the interviewer to cover all the dimensions of the investigations through probing of the participants. Interviews

were used to collect data mainly from the 6 principals. The information gathered from interviews was tape recorded for further content analysis.

5. Results And Discussion:

5.1. On Relationship Between Parents Level Of Education And Students Performance In Science Subjects:

The results are as shown in Table 1.

Level of education	Father		Mother	
	Frequency	Percent	Frequency	Percent
Primary	31	28.2	49	44.5
Secondary	48	43.6	44	40
College	13	11.8	13	11.8
University	9	8.2	4	3.6
No response	12	10.9	0	0
Total	110	100.0	110	100.0

Table 1: Parents level of education

It was noted that 44.5% of the mothers had attained primary level of education while 43.6% of fathers had attained secondary level of education with 28.2% attaining primary level of education. 11.8% reported that both parents were college graduates with 8.2% reporting that their fathers were University graduates. From these results the researcher observes that majority of the parents had achieved primary and secondary level of education. This is likely to have an impact on how the students perform in school. The findings seem to agree with Hussein (2010) who confirmed that better educated parents are often interested in the educational progress of their children and their academic achievement. To achieve these objectives, facilities are provided at home and parents pay extra fees to teachers to teach them at home. Also, parents who are educated endeavour to offer unreserved assistance to their children in solving their education problems. Those who do not go beyond primary school in certain cases might not be able to render adequate help to their children educationally.

However, responses by head teachers during interviews showed that there was a strong relationship between parents level of education and students performance in science discipline.

5.2. On The Relationship Between Parents' Social-Economic Background And Students' Performance In Science Subjects:

There are different factors that influence the social and economic status of households or society. They include income, or expenditure per household. These factors determine the decision by parents and families on which child to invest in. The factors that affect a girl child's participation in secondary education are discussed as follows: direct cost of schooling and fees as a factor. Parents whose daughters do not get Government aid (bursaries) become reluctant to send their children back to school. The researcher asked the respondents to indicate the sources of income in the family. The results are as shown in Table 2.

Sources of income	Frequency	Percent
Business	30	27.3
Formal employment	30	27.3
Farming	50	45.5
No response	7	6.4

Table 2: Source of income in the family

The main source of income as indicated by 45.5% was farming, 27.3% business and formal employment respectively. The researcher observes that the main source of income in a family may have an impact on the students' performance, since it may influence how parents comply with fee requirements. This may lead to the students being sent home for schools fees. The head teachers agreed with this point of view pointing out that low income earning parents defaulted in fee payment hence the likelihood of the girl child staying out of school.

5.3. On The Relationship Between Curriculum Implementation And Students Performance In Science Subjects:

Sensitizing teachers and alerting them to the implications of gender differentiation in the classroom is unlikely to make a significant difference if the curriculum remains gender biased. Getting the curriculum 'right' is important, although extremely challenging. This made the researcher to enquire from the students of their favorite subjects in school. The results are as shown in Table 3.

Subject	Frequency	Percent
Sciences (Chemistry, Physics & Biology)	57	51.8
Arts (English, Kiswahili, Geography, History, Business studies, etc)	27	24.2
Mathematics	41	37.3

None	3	2.7
------	---	-----

Table 3: Favourite subject

Slightly above half (51.8%) of the respondents indicated that their favorite subjects in schools were sciences while 37.3% reported Mathematics 24.5% reported arts subjects. This shows that majority of girls have interest in science related disciplines contrary to the common believe that science subjects were dominated by boys. The head teachers supported this view by suggesting that girls could perform equally well like boys if proper role modeling and motivation was done.

6. Conclusion And Recommendation:

Employment of more science subjects, role modeling and availability of practical sessions are important components that can help students to attain excellent results in Science related discipline. Good leadership in schools that comprises of building vision, managing the teaching and learning resources as well as human resource is central in influencing students' attitudes towards science related subjects. There is need for

the Ministry of Education to encourage schools to provide special rewards to girls who excel in schools. This can be don through prompt allocation of bursaries to the needy, bright and disciplined students in order to help them stay in school. In-service training should be provided to Science teachers in order to help them sharpen their pedagogical skills. The Ministry of Education (MOE) should collaborate with Non-Governmental Organizations in developing materials for science teachers on a way of boosting public image and encouraging girl child to pursue encouraging girl child to pursue Science related discipline. The Ministry of Education should also adopt measures to increase the numbers of

women serving in science related discipline. This will motivate the girls to work harder because of presence of role models.

References:

1. Adam, A.A.B. (1993). The education of girls and women in Africa: Issues and concepts. Working papers series. Nairobi: Forum of African Women Educationists.
2. Adhiambo O. and Ward, H. (1995). Girls and schools in sub-Saharan Africa: World Bank Technical paper no. 298.
3. Avalos, B. (2003). Gender parity and equity: A case study. Background paper for EFA Global monitoring report 2003/2004. Paris: UNESCO.
4. Brock, C. and Cammish N.K. (1991). Factors affecting female participation in education in six developing countries. London: ODA.
5. Davis, B. (1997). Educational management in the 1990s. Essex: Longman group (ULC

6. Gachukia, E. (1992). The education of girls and women in Africa: Issues and concepts. Working papers series Nairobi: Forum of African Women Educationists. Nairobi.
7. Hertz, B. and Sperling, G. (2004). What works I girls Education: Evidence and policies from the developing world . New York: Council on Foreign Relations.
8. Hussein, H. (2010). Determinants of the girl child participation in secondary school education in Central division of Mandera East District, Kenya. Unpublished M.Ed thesis University of Nairobi.
9. Ndiritu, A. N. (1999). A study of factors which influence performance in Kenya certificate of secondary education in selected public secondary schools in Nairobi and Central provinces, Kenya. Unpublished. M.Ed Thesis, University of Nairobi.
10. UNESCO, (1985). Access of girls and women to education in rural areas: a comparative study. Nairobi
11. Waweru, H. (1994). The problems that girls face in studying in secondary schools in Kenya: Paper presented at the EDI seminar on Girls Education in Anglophone Africa, the Safari Park hotel.