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Socio-Cultural Factors Contributing To Gender Disparity on Enrolment of Students in Technical Disciplines in Technical Training Institutes in Mt. Kenya Region, Kenya

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Abstract

In recent years, more female students have been enrolling in Kenyan colleges and universities to study technical courses previously dominated by male students but statistics indicate that gender equity is yet to be achieved. This study sought to establish the socio-cultural factors contributing to gender disparity on enrolment of students in technical disciplines and sought strategies to address them. The study was conducted in 3 Technical Training Institutes in Mt. Kenya region, Kenya which were purposively selected. The study used descriptive survey research design. The population of the study was 3012 made up of 2679 students and 333 teachers. Stratified sampling method was used to identify the respondents from the students and purposive sampling to select heads of department and principals. A sample size of 314 made up of 280 students, 31 heads of departments and 3 institute principals was used in the study. Data collection was done using three sets of questionnaires. Reliability of instruments was tested by use of Spearman Brown Prophecy formula using split-half technique. A correlation co-efficient of 0.73, 0.79 and 0.811 from the students, H.O.Ds and principal respectively was realized. Descriptive statistics was used to analyze quantitative and qualitative data. The study established that factors contributing included inadequate computers and workshops, poor attitudes, poverty, parents' career background, preference to educate boys, overloaded and irrelevant curriculum and lack of suitable equipments, facilities and teachers among others. The recommendations of the study contribute to enhancement of change of attitudes, curriculum review and provision of suitable equipments, facilities and teachers.

Key words: Socio-cultural factors, Contributing, Gender disparity & Enrolment

1. Introduction

Education is one of the most important influences on the quality of life (GOK & UNICEF, 1990). Education is a central factor in social, cultural, political and economic development of any nation (Psacharopoulos & Woodhall, 1985). This is because investment in human capital and the development of human resources are seen as legitimate options for economic and social policy in both industrialized and developing countries (Jones, 1992). Education as a process entails the realization of individual and societal ideas, which on the universal basis, are referred to as aims of education (Shiundu, 1992). This shows the critical role that education plays on individuals and societies.

Haider (2007) points out that technical education is the branch of vocational education which deals with practically-oriented fields of trade, commerce, agriculture, medicine and engineering. Therefore, technical education refers to a range of programs that impart skills, knowledge and attitudes to individuals preparing them to middle level professional positions in the world of work particularly in engineering and scientific disciplines (ROK, 2002).

Haider (2007) points out the importance of technical education is to train artisans, craftsmen, technicians and technologist for all types of industries of which the progress of a country depend upon for

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its industrialization. The Sessional Paper No. 2 of 1996 states the role of T.V.E.T as to provide and promote lifelong education and training for self-reliance so as to eliminate unemployment (ROK, 2005).

The overall enrolment of T.V.E.T. institutions has risen from 62,439 in 2003 to 82,500 in 2008 which is an increase of 32.1% (MOE, 2008). The enrolment in T.T.I's by gender has been on upward trend. According to the reports by MOE (2009) the T.T.I's had an enrolment of 12,132 male and 9,876 female student's population in 2008. However, when this growth is examined critically, disparities that exist in regional and gender aspects emerge (Yungungu & Kyalo, 2006). This expansion has not been without major challenges, one of which is equity in access (ROK, 2007).

The commitment of the government of Kenya to attain gender equality is underlined in various national and international legal and policy document (ROK, 2007). Both the constitution of Kenya (2010) and the Sessional Paper on African Socialism and its application to planning in Kenya (1965) outlaw discrimination on the basis of gender and emphasize social justice and equal opportunities with regard to education. The Children's Act (2001) unequivocally stipulates every child's entitlement to education. Other government documents that address gender issues in education are the Poverty Reduction Strategy Paper (2001), NARC Manifesto (2003), Economic Recovery Strategy (2003-2007), National Development plan (2002-2008), Sessional Paper No. 1 of 2005 and KESSP (2005). This gave impetus to the study since the observations made are not visible until underlying factors are identified and addressed.

The Ministry of Higher Education Science and Technology (MOHEST) endeavors to eliminate gender disparities in T.T.I's by provision of loans and bursaries to enhance access to T.I.V.E.T. (ROK, 1999 & 2007). MOHEST through the KESSP of 2005 investment programmes that set up Bursary Awards programme taking special account of marginalized groups in the technical oriented disciplines (ROK, 2005). MOE through the gender policy in education suggested implementation of affirmative action in admission for science-related courses (ROK, 2007). However Kellough (2006) states that support of affirmative action is unlikely to end completely until sufficient progress has been made in the battle against discrimination of minorities and women. The study sought to address the underlying factors to the current status on enrolment in disciplines like building, mechanical and electrical engineering in Technical Training Institutes in Mt. Kenya region, Kenya.

Statement of the Problem

Education and training remains the foremost tool for accelerating social and economic development of a country. For both males and females to contribute effectively and equally to the attainment of industrialization goals they must be imparted with the relevant skills. Although the government initiated affirmative action to promote female participation in technical disciplines enrolment of girls has remained low. The study sought to investigate socio-cultural factors contributing to gender disparity in technical disciplines in Technical Training Institutes of Mt. Kenya region, Kenya.

Objectives of the Study

To determine socio-cultural factors contributing to gender disparity in enrolment of students in technical related disciplines

2. Methodology

This study adopted descriptive survey research. The population of the study was 3012 subjects made up of 2679 students and 333 teachers in 3 T.T.Is in Mt. Kenya region, Kenya. Thirty one academic departments were involved. The study employed both probability and non-probability sampling techniques. The study used 10% of the target population of the students which gave 268 respondents. To take care of attrition a sample of 280 respondents were used. Questionnaires were used as tools for data collection. Questionnaires were piloted with 10% of the actual sample size. The researcher used the results of the pilot study to test the reliability of the instruments. The Spearman Brown prophecy formula was used and a correlation coefficient of 0.73, 0.79 and 0.811 for students', H.O.Ds and principal respectively. Qualitative

data was analyzed using frequencies and percentages. The results of data analysis were presented using frequency distribution tables and bar graphs.

3. Results and Discussions

The researcher sought information on gender of the respondents. Majority (58.5%) of the students were male while 41.5% are female. This indicates gender inequality on enrolments in T.T.Is. Majority of H.O.Ds (55.2%) were male while 44.8% were female. However, all the principals (100%) were male. This indicates the existence of gender disparity at this level of management that may impact in enrolments by gender in T.T.Is.

Socio- Cultural Based Factors

The researcher sought information on socio-cultural factors contributing to gender disparity on enrolment of students in technical disciplines. The items in the questionnaires included societal norms, gender roles, societal expectations, early marriages, other suggested factors and strategies to overcome those factors. The views of the students, H.O.Ds and the principals on socio- cultural factors contributing to gender disparity on enrolment of students in technical disciplines. The researcher sought information on how gender roles could have influenced students to enroll for the courses from the principals and H.O.Ds. Majority (89.3%) of the H.O.Ds reported that gender roles had to a great extent influence on the choice of course by the students while 10.7% felt that gender roles had to a small extent influence on choice of course. This is in agreement with FAWE (2007) that negative parental attitudes based on perceived gender roles lead to biased socialization of girls at home and community denying girls the opportunity to explore and experiment to the same extent as boys are encouraged to do.

The researcher sought information on the effect of societal norms on the choice of course. Majority (57.1%) of the H.O.Ds and 33.3% of the principals reported that societal norms had great influence on choice of course while 42.9% and 66.7% of the H.O.Ds and principals respectively reported that societal norms had small influence.

The researcher sought information on the effect of role models on choice of course. Majority (82.1%) of the H.O.Ds and 33.3% of the principals reported that role models had great influence on choice of course while 17.9% and 66.7% of the H.O.Ds and principals respectively reported that role models had small influence on choice of courses.

An item in the questionnaire sought information on the effect of economic prospects on choice of course. Majority (70.4%) of the H.O.Ds and 66.7% of the principals reported that economic prospects had great influence on choice of course while 29.6% and 33.3% of the H.O.Ds and principals respectively reported that economic prospects had small influence.

An item in the H.O.Ds and principals questionnaire sought information on the effect of peers on choice of course. Majority (71.4%) of the H.O.Ds and 66.7% of the principals reported that peers had great influence on choice of course while 28.6% and 33.3% of the H.O.Ds and principals respectively reported that peers had small influence.

The researcher sought information on the effect of advertisements on choice of course. Majority (85.2%) of the H.O.Ds and 66.7% of the principals reported that advertisement had great influence on choice of course while 14.8% and 33.3% of the H.O.Ds and principals respectively reported that advertisements had small influence.

The researcher sought information on the societal expectations of the students on the courses they had chosen. Majority of the students opinions 61.6% are that their choice of course does not conflict with societal expectations while 38.4% reported that it conflicted with the societal expectations.

An item in the H.O.Ds and principals questionnaires sought information on whether choice of courses conflicted with the societal expectations. Majority 60.7% of the H.O.Ds and 100% of principals reported

that choice of course was dependent on the societal expectations. An item in the H.O.Ds and principals questionnaires was developed to seek information on ways choice of courses conflicted with the societal expectations. The findings were presented on Table 1.

Table 1: Conflict with Societal Expectations

Response	H.O.Ds		Principals	
	Frequency	%	Frequency	%
Technical disciplines are only for the male gender	13	76.5	3	100
It is a taboo for a female to take engineering courses	1	5.9	_	_
Technical disciplines are only for the failures	3	17.6	_	_
Total	**17**	**100.0**	**3**	**100**

From the information on Table 1, majority of the H.O.Ds and principals felt that majority of the students did not enroll for technical disciplines because they believed it belonged to the male gender while others reported it was a taboo for a female to take engineering courses and also the courses were meant for failures. Students in T.T.Is come from various geographical and historical backgrounds which are unique in their own way. There is an urgent need to educate parents and communities to discard cultural practices that are no longer helpful and redefine some of them to make them relevant to the current times.

The researcher sought information from students on the ways which conflicted with the societal expectations. The findings are presented in Table 2.

Table 2: Students' Responses on Conflict with Societal Expectations

Response	Frequency	%
Technical disciplines are only for male gender	35	39.8
Technical disciplines are for female gender	30	34.1
It is a taboo for a female to take engineering courses	14	15.9
Technical disciplines are only for failures	9	10.2
Total	**88**	**100.0**

Information on Table 2 indicated the ways which conflicted with societal expectations; 39.8% of the students revealed that technical disciplines are only for male gender, 34.1% technical disciplines are for female gender, 15.9% it is a taboo for a female to take engineering courses and 10.2% technical disciplines are only for failures. An item was developed in the students' questionnaire to seek factors not contributing to socio-cultural based factors. The findings are presented in Table 3.

Table 3: Students' Responses on Socio-Cultural Factors

Factors	Frequency	%
Early marriages	64	38.1
Preference of parents to educate boys	8	4.8
Societal norms	22	13.1
Advertisements	28	16.7
No female engineers	46	27.4
Total	**168**	**100.0**

The information in Table 3 indicate that majority of the respondents revealed that early marriages 38.1% and lack of female engineers 27.4% did not contribute to gender disparity. The study further revealed that advertisements 16.7% and societal norms 13.1% did not contribute to gender disparity. The

researcher sought information from students on strategies to overcome socio-cultural factors. The findings are presented on Table 4.

Table 4: Students' Responses on Socio-Cultural Based Strategies

Strategies	Frequency	%
Discourage early marriages	25	18.0
Educate the parents technical disciplines	63	45.3
Role models to encourage the youth	51	36.7
Total	**139**	**100.0**

The study on Table 4 revealed that there is need to educate the parents on technical disciplines, discourage early marriage and outsource for role models to encourage the youth.

An item in the H.O.Ds and principal questionnaires was developed to establish the socio- cultural based factors. The findings are presented in Table 5.

Table 5: H.O.Ds and Principals Responses on Social-Cultural Factors

Response	H.O.Ds		Principals	
	Frequency	%	Frequency	%
Early marriages	9	37.5	_	_
Preference of the parents	5	20.8	_	_
Societal norms	2	8.3	_	_
Advertisement	4	16.7	3	100
No female role models	4	16.7	_	_
Total	**24**	**100.0**	**3**	**100**

The information in Table 5 indicates that majority of the H.O.Ds 37.5% revealed that early marriages contributed to gender disparity. 20.8% reported that parents preferred to educate boys to girls. 8.3% of the H.O.Ds revealed societal norms like girls place is in the kitchen contributed to gender disparity. 16.7% of the H.O.Ds and 100% of the principals reported that advertisements that portrayed girls as mothers and boys as engineers contributed to socio-based factors. 16.7% of the H.O.Ds revealed that there are no female role models. Spencer (1999) in his social learning theory states that the main components influencing learning are observation, labeling, cultural influences, social control and mass media.

The researcher sought information from H.O.Ds on strategies to overcome socio-cultural factors. The findings are presented on Table 6.

Table 6: H .O.Ds Socio-Cultural Strategies

Strategies	Frequency	%
Campaigns	15	62.5
Source for female instructors	6	25.0
Discourage early marriages	3	12.5
Total	**24**	**100.0**

The information in Table 6 indicated that there is need for the government and the individual institutions to launch campaigns on the technical disciplines, source for female instructors in engineering to act as role models and also discourage early marriages and talk to children on sexuality.

4. Conclusions

The study established that there were more male than female students in technical related departments. The study also found that there were more male than female H.O.Ds and principals in the technical institutions.

The second objective was to find out socio-cultural factors contributing to gender disparity on enrolment of students in technical disciplines in T.T.Is. Students reported that personal interest had 98.2%, role models within the community had 82.3%, economic prospects had 76.6%, current trends had 76.5%, advertisement had 67.7% and preference of the parents had 58.6% influence on students at time he was enrolling for the course. However, societal norms had 18.2% and gender roles had 34.3% influence on the student at the time he was enrolling for the course. This is an indication that traditional practices are no longer an influence in some areas.

On family issues parents should be sensitized against discrimination of children and discourage early marriages by educating children about sexuality at an early age. In order to alleviate poverty, the government and individual institutions should offer financial assistance by giving bursaries. The ministry and the T.T.Is should consider lowering the minimum requirements for admission for female students who intends to enroll in technical disciplines. This may work as a motivation to the females. Use of role models who are trained and successful in technical disciplines: to encourage the youth. The role models can be outsourced to visit the primary schools, girls' secondary schools and communal grounds to hold talks with youth. This will enhance favourable attitudes towards technical disciplines. Both the government and individual institutions should launch campaigns to promote technical disciplines. The government should upgrade the existing T.T.Is by equipping them with suitable equipments that meets the demands of job industry. The teachers should be assisted to go for further studies in registered and modern equipped institutions of higher learning.

5. Recommendations

Based on the findings of the study, the following recommendations are made:

- Educating the parents, students and the society at large on the importance of technical disciplines. Universities, colleges, and academic institutions should use open engineering week, to raise public awareness of engineers' positive contribution to the quality of life. This will promote recognition among parents, and girl students on the importance of engineering education and a high level of math, science, and technology literacy. This will also motivate youth, especially girls, to pursue engineering careers in order to provide a diverse and vigorous engineering workforce.

- There is need for development of programmes aimed at fostering students attitudes towards technical disciplines. Women engineers in academic establishments to act as role models and mentor to the younger girls.

- There is need for the government and individual institutions to launch campaigns to promote technical disciplines in T.T.Is for both genders if the country is to achieve Vision 2030.

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