



RESEARCH ARTICLE

GENDER BASED FACTORS AND FEMALE STUDENT'S ACADEMIC PERFORMANCE IN HIGHER LEARNING INSTITUTIONS IN RWANDA: A CASE STUDY OF KIBOGORA POLYTECHNIC IN NYAMASHEKE DISTRICT

Mr. Uwiturije Jean Pierre¹ and Dr. Mugiraneza Faustin²

1. Research Scholar, Department of Curriculum Study, Mount Kenya University Rwanda.
2. Lecturer, Department of Curriculum Study, Mount Kenya University Rwanda.

Manuscript Info

Manuscript History

Received: 28 July 2024

Final Accepted: 30 August 2024

Published: September 2024

Key words:-

Academic Performance, Higher Learning Institutions, Gender Related Factors, Cultural Factors, Socioeconomic Factors, Structural Factors

Abstract

This paper examined gender related factors influencing female students' academic performance in higher learning institutions in Rwanda with reference to Kibogora Polytechnic. The specific objectives were to determine the level of female students' academic performance, structural cultural factors, socioeconomic conditions, and cultural factors and their effect on female students' academic performance. The research surveyed female students and staff from higher learning institutions, involving 486 participants. A representative group of 220 was calculated using Yamane formula. Data was collected through semi-structured questionnaires, interviews, desk reviews, and pre-tests. Statistical Package for Social Sciences was used to generate descriptive and inferential statistics. To the first objective, results revealed that 86.4% accepted female attendance rate was increased, 77.0% contended that female student has active participation in class within higher learning institutions, 76.4% accepted that there is a rate of graduation. To the second objective, the research revealed that 74.5% accepted that the existing policies influence female academic performance, 86.4% accepted that the higher learning procedures have influenced female academic performance, 87.2% show an agreement and strongly agreement respectively. The correlation coefficient $r=0.522$ was produced with p-value of 0.000 of a two-tailed. To the third objective, 74.5% provided positive responses concerned with the number of girls and boys in the family has influenced female academic performance, 86.4% agreed domestic work performed at home influence negatively academic performance in higher learning institutions, Findings demonstrated the association between socio-economic and the success of performance of female students was 0.820 the p-value was 0.000 for 2-tailed. To the fourth objective, the research felt that 88.0% that domestic responsibilities reduce female willingness to school and educational activities. Correlation coefficient and the p-value demonstrate the existence of significant effect of cultural factors on female student academic performance. The study recommends that the Ministry of education should establish effective female sensitive policies. The society should leave unfavorable cultural norms and hand habits that affect female

Corresponding Author:-Mr. Uwiturije Jean Pierre

Address:-Research Scholar, Department of Curriculum Study, Mount Kenya University Rwanda.

students in higher learning institutions owing to their effect in lowering self-confidence and academic target. Further studies should investigate effect creating awareness on female education at all level and to establish the forums to debate on societal factors hindering girls' education.

Copyright, IJAR, 2024,. All rights reserved.

Introduction:-

Female students' performance in higher learning institutions remains a significant education concern globally, particularly in low- and middle-income countries where access to education may be limited. In Rwanda, despite the adoption of gender sensitive policies, performance rates among female remain low. According to recent statistics from Kigobora Polytechnic, located in Rwanda, only 1.5% of female students obtained first class grade, 6.8% obtained second class upper division, (Kibogora Polytechnic, 2023), significantly lower than national statistics of 11.5% of female students who obtained first class grade, who 36.8% obtained second class upper division (National Institute of Statistics Rwanda, 2018). However, very little had been done in Rwanda, which is a developing country and whose cultural orientation may be very different from any other countries. Although some of such studies have not quite paid attention on those factors with exclusive effect on females; as opposed to those factors that affect both male and female students (Anagbogu& Nwokolo, 2015; Nyoni, 2017; Okeke, 2015). No research had yet been carried out in the private higher learning institutions of Rwanda. Therefore, there was still a knowledge gap. Understanding these factors was imperative for developing targeted interventions to improve female student's performance rates among women in Kibogora Polytechnic University, Nyamasheke District.

General objectives of the study

This paper examined gender related factors influencing female students' academic performance in higher institutions in Rwanda with reference to Kibogora Polytechnic University in Nyamasheke District

Literature Review:-

A study carried out by Bahrun, et al (2023) in Indonesia examined scientific facts supported by evidence from field studies and understanding the various factors in determining differences in learning outcomes of gender approaches in achieving higher education outcomes. Thus, these findings were a meaningful input for developing studies for researchers, academic discussion, and policy-making to support female students' academic achievement in higher education institutions. In addition, the achievements obtained are expected to be a model for women to increase their capacity as social workers and entrepreneurs.

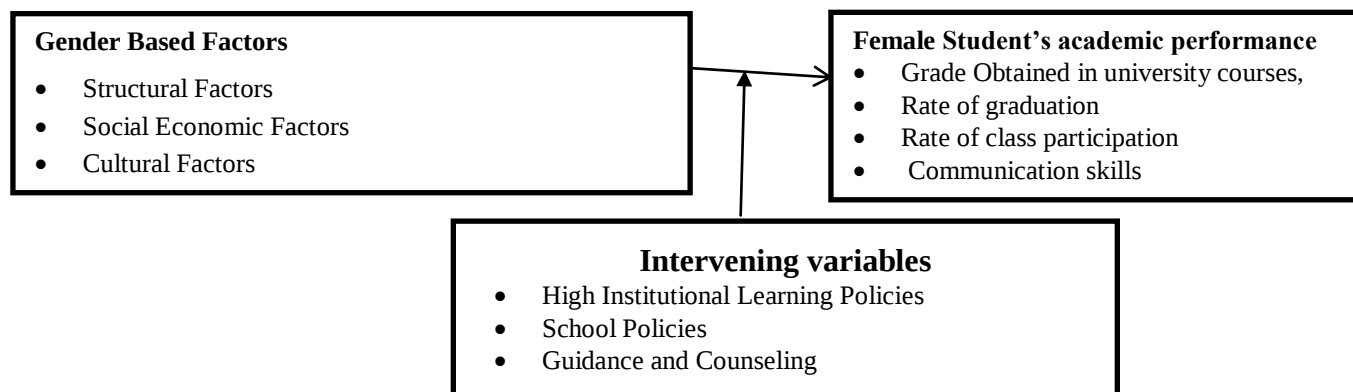
In Africa, structural elements affect formative process of making decisions as they direct the shift from secondary schools to the higher learning institutions. Eligibility where primarily places learners necessitate to do and succeed national advanced secondary school certificate with two principals possesses (REB, 2017) For the use, accepted and adhered learners may opt to register to the university of Rwanda relying on the success in secondary school certificate exams and obtainability of places in courses adopted for, in this regards, girl student and women are 38% enrolment rate in 2016 (University of Rwanda, 2017).

Feng and Savani (2020) conducted a researcher on understanding gender disparity: factors affecting higher education self-efficacy of students. The results suggested that male and female students' self-efficacy depends on five determinants. Additionally, male students with better financial backgrounds are more likely to have higher self-efficacy, whereas gender roles negatively affect male and female students' self-efficacy for higher education.

In developed countries like German, Grossman, et al. (2013) demonstrated that parent education improved their role in development of their children in schools equally for female and male children. Well-educated parents and guards have intention to support both daughters and son's equality to enroll and participate in schools' activities including higher learning education

Conceptual Framework

This study's conceptual framework connects the independent variables to each other and to the intervening variable in the figure.

Independent variable**Dependent variable****Research Methodology:-**

For the purpose of carrying out a research, descriptive and correlation research designs were adopted and establish the association between genders-based factors and female student academic performance in higher learning institutions. A descriptive design helped the researcher to assess, evaluate and establish guiding decisions and respondent's perception while correlation design was used to establish the relationship research variables, however, the researcher did not discover the causal relationship between variables.

Target Population

Thus, the study targeted 486 respondents from Kibogora Polytechnic in Rwanda. Respondents were 220 who chosen in proportional way ($n = N \times n / N$) was used to acquire respondents from each category of respondents. Female students = $(54 \times 220) / 486 = 24$

Teacher's = $(432 \times 220) / 486 = 196$. Lecturers are one of the targeted populations the researcher used. As regards the lecturers, the selection procedure was random sampling techniques to. The researcher used it because it gave equal opportunity to all participants and avoids biasness during the research. Students were focus of this study.

Random sampling techniques were used to select them from various selected faculties of Kibogora Polytechnic. The random sampling technique was used to eliminate biases and it always gave equal opportunity to participate during conducting the research. The researcher collected both primary and secondary data sources through a survey and interview methods as well as the documentary analysis for documents from higher learning institutions from 2019 to 2024. All the data collected was summarized into tables following the objectives. Data from each of the instruments used was summarized separately. Therefore, the findings collected were analyzed by using SPSS software version 21.0 to analyze quantitative findings so as to get frequencies, percentages and mean as well as standard deviation of the responses. The researcher produced descriptive statistics in term of number of respondents, response repetition, response mean, standard deviations. Correlation results demonstrated correlational and regression results for findings association between research constructs. These summaries included the frequencies and percentages of occurrence. From these tables descriptive statistics were used to analyze the data and later explained the results. For variables in this research, a mean was determined using computer software for each year and then simple average for all five years was calculated. The regression equation formula was used:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + e$$

Where Y = Female Students Academic Performance:

B_0 = Constant,

b_1 = Structural Factors,

b_2 = Socio-economic Factors,

b_3 = Cultural Factors.

Therefore, the above regression formula helped the researcher to establish the regression size effect for each specific objective of the study and its construction by establishing the direction and strength of relationship between variables. A level of significance of $p = 0.05$ means that there is a 95% probability that the results found in the study are the result of a true relationship/difference between groups being compared. It also means that there is a 5% chance that the results were found by chance alone and no true relationship exists between groups. In addition,

qualitative data was analyzed using thematically and incorporated into other analysis. The researcher will have an interview transcript where information was classified by themes and subthemes in order to analyze non numerical information to deepen information from quantitative information.

Presentation of Findings

Level of Female Students Academic Performance in Higher Learning Institutions

Table 4.1:- Perception of Female Students on their Academic Performance.

	Strongly Disagree	Disagree	Not sure	Agree	Disagree		
Female academic performance	%	%	%	%	%	Mean	Standard Deviation
Female Attendance Rate has been increased	2.8	1.4	11.4	37.0	49.4	4.01	.56
Female student has active participation in class within higher learning institutions	0.0	3.0	19.0	29.0	49.0	3.69	.50
Grade Obtained in university courses for students are influenced structural, socio-economic and cultural factors	1.2	10.4	27.5	20.0	40.9	3.61	.51
Rate of graduation are influenced structural, socio-economic and cultural factors	1.5	3.2	18.3	30.0	47.0	3.22	.58
Rate of class participation are influenced structural, socio-economic and cultural factors	0.4	11.1	12.1	29.2	47.2	1.32	.69
Communication skills has been improved due to structural, socio-economic and cultural factors	0.0	2.4	10.4	30.5	56.7	4.20	.55

Source: Primary Data (2024)

Results presented revealed that 86.4% accepted the existence of female attendance rate has been increased, 77.0% contended that female student has active participation in class within higher learning institutions, it was only 3.33% of sampled population grade obtained in university courses for students are influenced structural, socio-economic and cultural factors. However, 76.4% accepted that there is a rate of graduation is influenced structural, socio-economic and cultural factors. The researcher demonstrated the existence of Rate of class participation are

influenced structural, socio-economic and cultural factors where 30.5% of respondents agreed with the statement while 56.7% of respondents strongly agreed communication skills has been improved due to structural, socio-economic and cultural factors.

Table 4.2:- Perception of KPI staff members on Female Student Academic Performance.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total	
	%	%	%	%	%	the mean	std.
Female Attendance Rate has been increased	0.0	0.0	0.0	0.0	100.0	4.33	.834
Female student has active participation in class within higher learning institutions	0.0	0.0	7.1	28.5	71.4	4.27	.852
Grade Obtained in university courses for students are influenced structural, socio-economic and cultural factors	3.6	14.3	3.6	21.4	57.1	3.96	.995
Rate of graduation are influenced structural, socio-economic and cultural factors	10.6	7.1	0.0	17.9	64.3	4.62	.824

Source: Secondary Data (2024)

Results presented in Table 4.2, 100.0% of staff members, the mean response was 4.33, std was .834 strongly accepted female attendance rate has been increased, 71.4% of KPI staff members were strongly accepted the female student has active participation in class within higher learning institutions. However, 57.1% of KPI staff members, mean was 3.96, std was 0.995 strongly agreed grade obtained in university courses for students are influenced structural, socio-economic and cultural factors. In the same vein, 64.3% of staff members, mean response was 4.62 and std was 0.824 strongly agreed the rate of graduation are influenced structural, socio-economic and cultural factors.

Effect of Structural Factors on Female Academic Performance in Higher Learning Institutions

Table 4.3:- Correlation between Structural Factors and Female Academic Performance.

		Structural Factors	Female Academic Performance
Structural Factors	Pearson Correlation	1	.522**
	Sig.(2-tailed)	.000	.000
	N	216	216
Female Academic Performance	Pearson Correlation	.522	1
	Sig.(2-tailed)	.000	.000
	N	216	216

Source: Primary Data (2024)

Table 4.3 revealed the association between structural factors and female academic performance. Structural factors were positively associate with female student academic performance Pearson correlation score ($r = 0.522$, $p\text{-value} = 0.000$). The correlation coefficient $r = 0.522$ was produced with $p\text{-value}$ of 0.000 of a two-tailed. The finding shows that the relationship between structural factors and female academic performance was strong, positive and statistically significant. For improvement in structural factors, the female students' academic performance also

improved significantly. The study was in line with the work done in Kenya, where the eligibility was topic to the learner's success in national exams, the topic and socioeconomic development (Rwanda Education Board, 2017). In Rwanda, the academic performance in higher learning institutions in using ICT, respondents evidenced that girl learners had to complete most of familial responsibilities.

Table 4.4:- Regression Coefficient.

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.824	.217		3.790	.000
	Existing policies	.715	.175	.630	4.082	.000
	Institutional requirements	.092	.169	.066	.543	.588
	Payment fees and mode	.023	.203	.017	.114	.909
	Learning conditions	.023	.203	.017	.114	.909
a. Dependent Variable: Female Student Academic Performance						

Source:Primary Data (2024)

The finding revealed that holding independent variables constant (existing policies, institutional requirements, payment fees and mode, learning conditions) to a constant zero, female student academic performance improved to mean that 90% be at 0.23 a unit increase existing policies lead to female student academic performance to mean that 90% limited by a factor of 0.175. Concerning the academic performance in higher learning institutions in using ICT, respondents evidenced that girl learners had to complete most of familial responsibilities and therefore, few timeline to explain ICT or using internet and would be argued that many persons did not have accessibility to internet at their families that was the reason behind internet cafes were popular young persons including males (Grossman, *et al.*, 2013).

Effect of Socio-Economic Factors on Female Academic Performance in Higher Learning Institutions

Table 4.5:- Correlation Analysis.

		Socio-Economic Factors
Socio-Economic Factors	Pearson Correlation	1
	Sig.(2-tailed)	
	N	216
	Sig.(2 -tailed)	.000
Female Student Performance	N	216
	Pearson Correlation	.820
	Sig.(2-tailed)	.000
	N	216

Source: Primary Data (2024)

Findings demonstrated the association between socio-economic and the success of performance of female students in higher learning institutions (Kibogora Polytechnic Institute) was 0.820 the p-value was 0.000 for 2-tailed.

Table 4.6:- Model Summary

Model	R	R Square	Adjusted Square	Std. Error of the Estimates	Durbin Watson
	.895	.801	.789	.0844	2.469

a. Dependent Variable Service Delivery

b. Predictors: (Constant), Structural Factors

Source: Primary Data (2024)

Results presented in Table 4.6 evidenced that structural factors is associated with the female student academic performance success of in higher learning institutions (Kibogora Polytechnic Institute) was 0.895 meaning a positive effect as demonstrated by 78.9% of change at female student academic performance.

Table 4.7:-ANOVA.

Model	Sum of Squares	df	Mean Square	Sig.
1 Regression	6.875	5	1.719 4425.648	.000 ^b
Residual	.017	211	.000	
Total	6.892	215		
Dependent variable : Female Student Academic Performance				
Predictors : (Constant), Structural Factors				

Source: Primary Data (2024)

ANOVA data demonstrated that f-statistic was 4425.648 with the p-value of 0.000 that was less than 5% that was applied as inception for rendering decisions and implications at 95% of confidence. It means that structural factors affect the female student academic performance of in higher learning institutions (Kibogora Polytechnic Institute).

Table 4.8:- Regression Coefficients.

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% CI B	
	Beta	Sta. Error	Beta			LB	UB
(Constant)	.138	.037		2.675	.010	.025	.175
Strategic Intent	.413	.037	.376	11.242	.000	.339	.488

a. Dependent Variable: Female Student Academic Performance

b. predictors , (Constant) :Structural Factors

Source: Primary Data (2024)

Findings argued that the level of female student academic performance in higher learning institutions (Kibogora Polytechnic Institute) demonstrated that structural factors positively affect female student academic performance where $b = 0.413$, $t = 11.142$, $p\text{-value} = 0.000$. The CI was statistically affecting academic performance of female students with 95% at higher learning institutions (Kibogora Polytechnic Institute).

Effect of the cultural practices on Female Students Academic Performance in Higher Learning Institutions

Table 4.9:- Pearson Correlation Analysis.

		Cultural Factors
Female student Academic Performance	Pearson Correlation	1
	Sig.(2-tailed)	
	N	216
	Pearson Correlation	.784**
	Sig.(2-tailed)	.000
	N	216

Source: Primary Data (2024)

Correlation coefficient and the p-value demonstrate the existence of significant effect of cultural factors on female student academic performance.

Table 4.10:- Model Summary.

Model	R	R Square	Adjusted Square	R	Sdt. Error of the Estimate	Durbin Watson
	.895	.801	.798		.08543	2.469

a. Dependent Variable: Performance of female students

b. predictors: Constant: Cultural Factors

Source: Primary Data (2024)

A correlation analysis between cultural factors and female student academic performance was 0.895 meaning positive correlation between cultural factors and female students' academic performance.

Table 4.11:- ANOVA.

Model	Sum of Squares	Df	Mean Square	Sig
1 Regression	6.875	5	1.719 4425.648	.000 ^b
Residual	.017	211	.000	
Total	6.892	216		
Dependent Variable : performance of female student				
Predictors : (Constant), cultural factors				

Source: Primary Data (2024)

Regression analysis on strategic formulation evidenced that the value of f-statistics was 4425.684 with the –p-value of 0.000. It implies that cultural factors affect level of female student academic performance.

Table 4.12:- Regression Coefficients.

	Unstandardized Coefficients		Standardized Coefficients	t	Sig	95% CI for B	
	Beta	Std. Error	Beta			Lb	UB
(Constant)	.138	.037		2.675	.010	.025	.175
Strategy Formulation	.327	.018	.350	17.875	.000	.290	.364

a. Dependent Variable: performance of female students

b. Predictors: (Constant), cultural factors

Source: Primary Data (2024)

Findings evidenced that the level of female student academic performance in higher learning institutions = 0.138 + cultural factors. The researcher assessed effect of cultural factors on the academic performance of female students. The study indicated that cultural factors are affecting female student academic performance with $b=.327$, $t=17.875$, $p\text{-value}=0.000$ with a low edge of .0290 demonstrating that cultural factors are within the suitable interval at 95% CI.

Discussion of Findings:-

The information highlighted was based on research objectives. These objectives are: to assess structural factors influencing female students' academic performance in higher learning institutions in Rwanda; to determine socioeconomic conditions influencing female students' academic performance in higher learning institutions in Rwanda; and to establish cultural factors influencing female students' academic performance in higher learning institutions in Rwanda. The first specific objective assessed learning outcome and success and, in this regard, the researcher assessed the learning outcomes through a grade obtained in university courses, rate of graduation, and rate of class participation and communication skills, 76.4% accepted that there is a rate of graduation is influenced structural, socio-economic and cultural factors. Female registration in secondary schools between 2016 and 2018 outnumber that of male in public and schools (Ainscow (2020). Therefore, connection of structural organization of higher learning institutions, cultural practices and agencies evidenced that schools, structure, and cultural determined accessibility and involvement of women for tertiary educational sectors within the context of university workers and learners (Nyoni, 2017). The reason that higher education was necessary to give capacity and training male to exchange passing men may be take into consideration one of the pieces of evidence for gender inequality in these areas. Therefore, the accessibility to tertiary education continues to be difficult in most of states and government, female is pertinent in global development for many years.

The second objective determined structural factors affecting female academic performance. 74.5% accepted that the existing policies influence female academic performance in higher learning institutions, 86.4 accepted that the higher learning procedures have influenced female academic performance in higher learning institutions. The present study did not contradict the work of Bahrun, *et al* (2023) that examined scientific facts supported by evidence from field studies and understanding the various factors in determining differences in learning outcomes of gender approaches in achieving higher education outcomes. The correlation coefficient $r=0.522$ was produced with p-value of 0.000 of a two-tailed. The study was in line with the work done in Kenya, where the eligibility was topic to the learner's success in national exams, the topic and socioeconomic development (Rwanda Education Board, 2017).

Sociocultural factors are deemed to influence the learning outcomes in higher learning institutions especially for female students. In this regard, 74.5% of respondents provided positive responses concerned with the number of girls and boys in the family has influenced female academic performance in higher learning institutions., 86.4% agreed domestic work performed at home influence negatively academic performance in higher learning institutions, 87.2% of respondents confirmed that parental level of education has influenced my academic performance in higher learning institutions.

Findings felt the association between socio-economic and the success of performance of female students in higher learning institutions (Kibogora Polytechnic Institute) was 0.820 the p-value was 0.000 for 2-tailed. In developed countries like German, Grossman, *et al.* (2013) demonstrated that parent education improved their role in development of their children in schools equally for female and male children.

The fourth objective determined cultural factors or practices factors affecting female academic performance. The study demonstrated that 67.2% agreed that early marriage is main cause of poor academic performance in higher learning institutions contribute to female student academic performance in higher learning institutions, 88.0%, that domestic responsibilities reduce female willingness to school and educational activities. In line with previous studies, the study evidenced that gender disparity and how it affects the main academic performance setting is covered in the introduction. Most societies did not stimulate women educational accessibility and attainment, for instance Islamic cultural practices towards females did not stimulate follow up traditional education practices usually positioned within their privacy and without permission concerning stimulation of common living conditions and conventional habits related to the contribution of female in cultural practices and the anticipation that female place is in the family responsibilities and duties.

Conclusions:-

Based on the study findings, the researcher makes pertinent concluding remarks. To the first research question, the researcher concludes that the learning outcomes were assessed through a grade obtained in university courses, rate of graduation, and rate of class participation and communication skills. Results revealed an increase of female attendance rate, active participation, higher rate of graduation and improved communication skills has been improved due to structural, socio-economic and cultural factors. The second objective, the study concludes that structural factors have been affected female students in higher learning institutions. The most commonly structural factors affecting female student academic performance are existing policies, institutional requirements, payment fees and mode, learning conditions. Therefore, to encourage female students to have academic goals in their monthly meeting to discuss about female students challenges and ways of mitigating them and creating safe learning environment for girls by being their advocate and trusted counselors. To the third research objective, the study concludes that there are socio-economic factors affecting female student academic performance such as parental occupation, parent willingness, parent education, female occupation, more gender sensitive, recruiting staff members who are sensitive to gender parity, promoting health in secondary schools, eliminating gender bias in textbooks and learning materials, provision of alternative education encouraging their participation and activities, supportive education environment has been applied to ensure effective implementation of girl's education policy. To the fourth objective, the study felt that cultural factors had a positive association with learning academic performance since the p value is less than 0.005. An increase of a unit in independent variable leads to an increase in dependent variable. This shows that the relationships between independent and dependent variables were positive and statistically significant. Each of the discussed cultural factors significantly affects female academic performance

From this study, a number of recommendations are: The government should make attention to the improvement of academic performance, education quality and pertinence in higher learning institutions and enable female students to achieve high level of learning outcomes. The educational environment generally should be more conducive and favourable to female students in the context of health facilities, equipment and psychological counselling and career guidance. The Ministry of education should establish strong and effective female and gender sensitive policies to ameliorate the function and effect of female mentorship program in higher learning institutions. There is a need to ameliorate suitable learning conditions in order to enhance female student education and their academic performance. Finally, higher learning institutions must adopt gender sensitive methods and provide school equipment. The study recommends that more emphasis should be placed on helping female students in higher learning institutions to overcome cultural practices that are harmful to their education by designing and proliferating effective policies tailored towards eradicating the cultural practices affecting female students' academic performance. The researcher proposed that the offices of education at all levels need to conduct periodical

inspections in all Rwandan tailored to ensure that harmful traditional cultural practices are effectively eliminated. Adequacy and constant inspection and supervision would be proactive and preventive strategies for strengthening female education as well as their academic performance in Rwanda. Parent and the entire society should leave unfavorable cultural norms and hand habits that affect female students in higher learning institutions owing to their effect in lowering self-confidence and academic target. Finally, female students should respect and comply with school rules and regulations through punctuality, demand of permission, constant attendance, doing home-works at time, respect to teaching staff and school management personnel. In addition, it would be very important to establish a constant communication among educators, parents and school principals to assess the academic performance of the students.

The current research took into consideration the gender-based factors and female student's academic performance in higher learning institutions. However, it is very necessary to conduct further researches on the role of teaching approaches on female student academic performance. The role of school location on the accessibility of females on education services in Rwanda. It has been recommended to conduct a study on female students' opportunity to quality education in order to exploit their talents for their own development as well as for the society development in general. Further studies should investigate effect creating awareness on female education at all level and to establish the forums to debate on societal factors hindering girls' education.

References:-

1. Ababa SA, Gallarde KJ, Gica AL, Gillado LB, Laoc IR, Oncone MB (2012). Socio-economic status of parents and academic performances of students. Research Submitted in Partial Fulfillment of the Subject Introduction to Research and Research Works.
2. Achor, E.E., & Duguryil, Z.P. (2014). Effectiveness of Teacher Mentoring Program in Enhancing Pre-Service Chemistry Teachers' Attitude Towards the Teaching Profession. *Advances in Research*, 2(12), 817-832.
3. Aguillon, S. M., Siegmund, G. F., Petipas, R. H., Drake, A. G., Cotner, S., & Ballen, C. J. (2020). Gender differences in student participation in an active-learning classroom. *CBE— Life Sciences Education*, 19(2), ar12.
4. Agunloye, O.O. (2013). Impact of Mentoring Program on Faculty Performance in Institutions of Higher Education: A Developing Country Study. 19-21
5. Aina, J.K., & Akintunde, Z.T. (2014). Analysis of Gender Performance in Physics in Colleges of Education, Nigeria. *Journal of Education and Practice*, 4(6). Retrieved on 5 September, 2019 from [http:// www.iiste.org](http://www.iiste.org).
6. Ainscow, M. (2020). Promoting inclusion and equity in education: lessons from international experiences. *Nordic Journal of Studies in Educational Policy*, 6(1), 7-16.
7. Alvi, M.H. (2016). A Manual for Selecting Sampling Techniques in Research, University of Karachi, Iqra University.
8. Al-Zoubi, S.M, and Younes, M.A.B. (2015). Low Academic Achievement: Causes and Results. *Theory and Practice in Language Studies*, 5(11), 2262-2268.
9. Anagbogu, M.A., & Nwokolo, C. (2015). Preparing for Research Mentoring in Nigeria Colleges and Universities. www.academia.edu.
10. Bahrin, Bahrin; Sanusi, Sanusi; Yeniningsih, Taat Kurnita; Bakar, Abu; Hasan, Amiruddin (2023). Understanding Gender Approach to Educational Achievement: Perceptions of Outstanding Female Students of University in Aceh, Indonesia.
11. Bol, T. (2020). Inequality in home-schooling during the Corona crisis in the Netherlands. First results from the LISS Panel. Retrieved on 18th September, from: <https://osf.io/download/5eaa699be4f081026b0778f8/> 5.
12. Bravo, A and DeFreita, C.S. (2012). The Influence of Involvement with Faculty and Mentoring On the Self-Efficacy and Academic Achievement of African American and Latino College Students. *Journal of scholarship for Teaching and Learning*. vol.12. no.4 dec, 2012 pp 1-11.
13. Camfed.M. (2016). Learner Guides: Alumnæ Transforming Young People's Prospects. <https://camfed.org/our-impact/learner-guide-program/>.
14. Carmichael, S. Dilli, S. & Rijpma, A. (2015). Girl-child in Global Economic. Gender Inequality since 1820. In AukeRijpma, Jan Luiten van Zanden, Marcel Timmer, JoergBaten, Marco
15. Centre for Gender Studies. (2017). Understanding the Causes of Low Female Enrolment at the University of Rwanda. University of Rwanda. Kigali. Unpublished Report
16. Cooper, R. D., & Shindler, S. P. (2011). *Business research methods*, (9th ed.). New York, USA: McGraw-Hill.
17. Creswell, J. W. (2014). *Qualitative inquiry and research design: Choosing among five*
18. Dominick, J & Wimmer, R. (2013). *Mass Media Research: An Introduction*. USA. Michael Rosenberg.

19. Dossi, G., Figlio, D., Giuliano, P., & Sapienza, P. (2021). Born in the family: Preferences for boys and the gender gap in math. *Journal of Economic Behavior & Organization*, 183, 175-188.
20. Doug, H. (2017). Effects of Good Role Models. Retrieved 02, May, 2018 from <https://www.livestrong.com/article/58883-qualities-good-role-model/Education Journal>, 8, 14-26.
21. Feng, Z., & Savani, K. (2020). Covid-19 created a gender gap in perceived work productivity and job satisfaction: implications for dual-career parents working from home. *Gender in Management: An International Journal*, 35(7/8), 719-736.
22. Girl-Child Network (2016). School Sanitation Improvement Project. Retrieved May, 012, 2018 <http://www.girlchildnetwork.org/what-we-do>.
23. Global Action Nepal (2016). Sisters for Sisters Program. Retrieved May, 012, 2018 from <http://www.nepalaction.global/sisters-for-sisters.html>.
24. Goudreau, K, Lyon, L.B and Fulton, S.J. (2014). *Foundations of Clinical Nurse Specialist Practice*. New York. Springer Publishing Company.
25. Grossman, B. J, Dubois, D.L & Herrera, C. (2013). *The role of Risk: Mentoring Experiences and Outcomes for Youth with Varying Risk Profiles*. New York, NY: A public/private ventures project distributed by MDRC.
26. Ivancheva, M., Lynch, K., & Keating, K. (2019). Precarity, gender and care in the neoliberal academy. *Gender, Work & Organization*, 26(4), 448-462.
27. Jackson, L. S. (2016). *Research Methods and Statistics: A Critical Thinking Approach* (5th ed.). Boston: Cengage Learning. Retrieved from <https://books.google.com/> on January 21st, 2020.
28. Maganga, J.H. (2016). *Factors Affecting Student's Academic Performance: A Case Study of Public Secondary Schools in Ilala District, Dar-es-salaam, Tanzania*. University of Tanzania. Retrieved April
29. Omari, M.I. (2011). *Concepts and Methods in Educational Research*. Dar es Salaam. Oxford press.
30. Osu, O.B and Ihedioha, S.A. (2012). *The Opinion of the Academic Staff on the Effect Mentoring on Students' General Performance Development in Government Comprehensive Secondary Schools*. Bwari Abuja Nigeria. vol 1/ 2/143-150.
31. Owolabi, O.T., & Oginni, O.I. (2013). Assessing the Relative Effectiveness of Three Methods in the Measurement of Students' Performance in Physics. *International Journal of Materials, Methods and Technologies*. (IJMMT), 1(8), 116-125.
32. Oyugi, C. (2012). *Qualitative Study of the Perception of Bank Managers in Sweden (Umeå Region)*. Published Master's Thesis, Umea University
33. Pember, S.T. (2014). *Effect of Computer Simulation Experiments on Senior Secondary Students' Practical Physics Achievement and Interest in Physics in Education Zone A, Benues State*. (Unpublished PhD Thesis), Benue State University Makurdi, Nigeria.
34. UNICEF, (2015). *Education Poverty issues*. Retrieved 07, June 2018 from <https://www.unicef.org/education.html>
35. University of Rwanda, (2017). *Gender-Related Factors Influencing Female Students' Participation in Higher Education in Rwanda*. Huye, Rwanda
36. Vijay, R. (2014). *Technology Adoption in Developing Countries*, UK: Oxford University Press.
37. Vinales, JJ, (2015). *The Learning Environment and Learning Styles: A Guide for Mentors*. US National Library of Medicine.
38. Washington, E.S. (2011). *Mentoring, Organizational Rank and Women's Perceptions of Advancement Opportunities in the Work place*. *International Journal of Education Management* 2(1), 17-19.