

Gender Intake Disparity in Students of Adamawa State Polytechnic, Yola Nigeria

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Abstract- *This research work examines the gender intake disparity in students of Adamawa State Polytechnic, Yola. The study was guided by three research objectives which are (i) examine the trend intake of student's in Adamawa State Polytechnic, Yola (ii) examine the gender intake of students according to course of study and (iii) analyze the gender intake pattern according to discipline in the institution.. Secondary data on student recruitment was obtained from each institution's master data unit for the nine-year period (2013-2021) and analyzed using Z-Test for Proportion at $\alpha = 0.05$ significance level. The results of this discovery describe a large gender gap in student's intake at this institution. It is urgent to address the wider gap in this gender equality and to stimulate female students' interest in other disciplines in the institute. The study therefore recommends that; The institution must be sensitized to realize this problem so that it can encourage attempts to solve or reduce gender inequality in the school to be able to reach the Sustainable Development Goal No. 3, there should be an awareness campaign to bridge the knowledge gap identified in this research work, which will hopefully increase students' knowledge of other courses offered in the institution, the scholarship award should be awarded to female students in bridging this gender gap and more public education enlightenment is needed to ensure that parents embrace girls' education*

Indexed Terms- *Z-Test Statistic, Gender Pattern, Intake, Discipline.*

I. INTRODUCTION

Education is a cornerstone of progress in every aspect of human life. Education should therefore be equally accessible for all, all those seeking education should have the ideal choice, and women should participate in

higher education (Tabitha 2020). Education is also the gateway to progress for any society. Economic, social and political growth is essential. Girls and children have to go to college and get training so that society can move forward. Rufa (2000) stated that "Educating children improves the opportunities to get to know them in this connection; extending access to school in most emerging countries over the past four decades has been the main goal of the strategy.

Gender equality for education means that all school-age children, whether girls or boys, have equivalent or nearly equal enrollment rates. The scenario is that men and women have equal or equal access to education (Tabitha 2020).

Higher education is expected to be available to all in a similar way; the ideal decision should be emphasized for people seeking higher education and women should be involved in higher education (UNESCO 2003).

Researchers have shown that the equal access rate of women to higher education in Nigeria is rather insignificant. For example, Anho and Onojetah (2007) reported that cumulative overtime enrollment for college students in Nigeria from 1980 to 1999 revealed that there is a large disparity between enrollment of men and women. Studies (Emunemu & Ayeni, 2003 in Nwajiuba, 2011 and Oyebade, 2008) have shown that there is a very poor level of equal access to university education in Nigeria, both by women and other educationally disadvantaged groups such as nomads, migrant fishermen and street children. Nwajiuba (2011) reported that JAMB complained about the decline in the number of female candidates taking the exam from 438, 703 in 2003 to 353 and 834 in 2004. As noted by Ahmed (2010) there is still a large gap in enrollments and retention in favor of males. This means that there is gender inequality in

enrolling in tertiary education in Nigeria. Therefore this research work seeks to uncover the gender intake disparity in students of the Adamawa State Polytechnic, Yola

- Objectives of the Study

The research objectives are to;

- examine the trend intake of student's
- analyze the gender intake according to course of study and;
- analyze the gender intake pattern according to discipline in institution under study area.

- Research Question

- Is the gender intake of males and females in Adamawa State Polytechnic, Yola the same?

- Research Hypothesis

H_0 : The intake of males and females in Adamawa State Polytechnic, Yola are the same.

II. REVIEW OF LITERATURE

- Gender Inequality

Gender is the socially determined roles and relation between male and female human being. It refers to a social cultural stratification of male and females individuals. This stratification also follow societal incomes and value consideration that define the role of male and female should play in the society. Gender inequality means uneven or difference in treatment, access to provision or possession of materials or other resources (political or educational, means and power). Gender inequality is therefore a situation of uneven distribution of income, lack of access to productive inputs, such as credit and education, lack of command over property or control over earned income as well as gender bias in labour market and social exclusion between men and women (Lau, 2021).

It also connotes a situation where women do not have the same rights and enlightenments as men to human, social, economic and cultural development and where women do not have equal voice in civil and political life (Evans, 2001). On the other hand, inequality is often referred to as lack of; being unequal in amount, size, value or rank; lack of, regularity or uniformity;

lack of due proportion or uneven distribution of resources (World Book, 2002).

Pearson and Anyanwu in Fareo (2017) hold the view that the quality of pupils' at school depends on the home background. They opined that there should be an intensified effort to make the home literate through Adult Education so that parents would be more inclined to stimulate the education of their male children as well as female. Bond in Obielumani (2010), quoting Lord James of Britain, said that "the effectiveness of Britain's educational system depends largely on its being supported by the parents and the community". The influence of the home (parents) and community greatly dictates the female education.

- Gender Inequality in Education

Lawless et al., (2021) gender inequality refers to the social differences between men and women that are learned, changeable over time and have wide variations within and between cultures. It is a socio economic variable used to analyze roles, responsibilities, constraints, opportunities and needs of men and women in any context. Inequality amounts to state of being unequal, in status, rights and privileges. It connotes some practices with respect to rights, privileges and status according to persons. Gender inequality in education refers to the disparities in access to education between males and females. In Nigerian context, it refers to the fact that females have disproportionately low levels of access to all subsectors of educational system vis-a-vis their male counterparts. In other words, more men enroll and graduate from the nation's primary, secondary and tertiary institutions. Hence, although women constitute about 50% of Nigerian population, their levels of participation in the educational programme of the nation is not proportionate to their size in the total population (Gambari, 2004). This goes to show that women population is not giving as much support commensurate to their number as they are ought to give towards the enhancement of educational sector of the country.

Equality has to do with distribution; the fairness or impartiality with which a given entity has been distributed. According to Alumode (2010) equity in education means the provision of equal opportunities for those who are qualified to receive education

without regard to differences in sex, religion, social standing and environment. This implies that all section of the society should have their fair share of access to whatever educational opportunities for self-advance men through education been distributed evenly among the strata of members of the society irrespective of circumstances of birth, ethnicity, origin, religious beliefs or social status (Tonwe,2005). Equity in university education according to Mohammed as cited in Ene (2007) referred to the removal of obstacles to university education opportunities which are not due to natural capacities and social arrangements but which are products of social factors such as socio-economic. He noted that discrimination on religious ground sand gender, indigene/non-indigene dichotomy, exorbitant school fees, poverty, uneven distribution of educational resources and others could impair in university education.

- Access in Education

Access in Education or Access to education stands for the number of persons enrolled in the education system in comparison with those who should have been accommodated in the system and are not. It can be described as the opportunity to participate in education sector, whether formal or informal (Ehiametalor, 2005). The Federal Republic of Nigeria (2003) presented access to education as making it possible for everyone who is entitled ISSN 2039-2117 (online) ISSN 2039-9340 (print) Mediterranean Journal of Social Sciences Published by MCSER-CEMAS-Sapienza University of Rome Vol 4 No 7 August 2013 131 to education to receive it. This implies that the recipient has to be qualified. For example, to qualify for primary education one must have attained the stipulated age of six years, to qualify for access to secondary education, the recipient must have completed his primary education and to qualify for access to university education, one must have completed his secondary education (Alumode, 2010). Thus, access to education is the right to be educated as provided by Nigerian Constitution, the Universal Declaration of Human Rights, the Conference on Education for All (EFA) and the Dakar Framework for Action, the Ouagadougou 1992 Declaration on Education of Women and Girls, the Amman 1996 Affirmation of the Pursuit of the Goals of Jomtien, the Durban 1998 State of Commitment on Inter-African Collaboration for the Development of Education and

the African Union (AU) 1997 – 2006 decade of education in Africa. All these emphasize access to education for all.

- Rationale to Ensure Gender Equitable Access in University Education in Nigeria

The needs to ensure gender equitable access in university education according to Bunyi (2004) as cited in Oyebade (2008) are highlighted below:

1. Higher education institutions, especially African universities, have a critical role to play in the social and economic transformation of African societies. Increased women's participation in higher education is particularly important in the era of globalization that we live in. Globalization seems to favor those with higher levels of useful knowledge and skill (but threatens the livelihoods of the lowest skilled and low knowledge levels, and devalued by technological changes, those in traditional areas of skill). It is only through higher education that women can be sure to acquire the knowledge and skills needed to earn competitive incomes and thus lead meaningful lives in a globalized world.
2. Concern about gender issues in higher education is rife because of women's contribution to social, economic and political development. If basic education for women has produced unequalled socioeconomic benefits at the family and community levels, then higher education enables women to participate usefully in the social, political and economic lives of their communities and countries as leaders in business, in the professions and in politics. All these go to prove right, the popular adage that "when you educate a man you educate an individual, but when you educate a woman you educate a generation".

- Trends in Male and Female Enrolment in University Education in Nigeria

Evidence abound that there is disparity in gender equitable access to university education in Nigeria. Statistics showed that girls and women are educationally under represented and disadvantaged in most states of Nigeria. Okolo (2001) attested to this when she reported that the trend in male enrolment in different universities (state and federal) has continued to be higher than their female counterparts. According to her, although there is sharp increase in female

enrolment, unlike before, in some universities, there is still a clear inequality between male and female enrolment in some parts of the country. She maintained that inadequate access of females to technological and scientific knowledge and managerial skills show a clear evidence of inequality at higher education level. Adeyemi & Akpotu (2004) conducted a study on the trend and pattern of gender enrolment in Nigerian universities. The study showed gap between male and female enrolment with lower female enrolment in all aspects of the universities. The study also indicated a wide gap between science and non-science based disciplines as well as between the northern and southern parts of Nigeria. Similarly, Oke (2000) and Salman (2001) reported low enrolment of female in science and technology related courses at the university level of education. It is observed that females take the least resistance by opting for disciplines designated as feminine such as liberal arts, education, nursing and shy away from courses in sciences, engineering, medicine and mathematics.

- Widening participation, student equity and social inclusion

Widening participation in higher education is a policy focus for many countries around the world seeking to address the historical under-representation of students from particular social and racial groups in higher education (Shah, Bennett, & Southgate, 2016).

Widening participation policies aim to accelerate progress towards fairer educational participation and are focused on making education accessible for all learners, not just those from white, wealthy or professional families. By ensuring that a wider range of learners are supported into and through higher education it is expected that the benefits of health, wellbeing and prosperity that flows from good graduate employment are spread more equally throughout society (Burke, 2012). Widening participation policies are known by many names in different parts of the world including “widening access”, “fair access”, “social inclusion” and “student equity.”

- Lapses in Policies and Processes of Eliminating Gender Inequality
- a) Gender not being seen as a priority in the context of what is regarded as more pressing;

b) Wide implementation gap between declared policy intentions and actions for organizational and social changes. While governments or higher education (universities) institutions make policy commitments to equal opportunities, these do not always translate into changes in organizational practices. International ideas are not always adhered to nationally. For example, despite being a signatory to the Convention to the Elimination of Discrimination against Women (CEDAW), and having put in place some projects for the implementation of the articles of the Convention, Nigeria has not enacted the domestic laws for the enforce (c) Under representation of women in enrolment, academic and management posts (Oyebade, 2008).

- Measures to Enhance Gender Equitable Access to University Education in Nigeria

In Nigeria, commendable efforts have been made at various times. For instance, the production of blueprint on women education by the Federal Government in 1987 whose provisions include:

- Increasing awareness campaigns for women’s education;
- Pegging of legal age of first marriage at a minimum of 18 years for women;
- Enforcing legal provision of penalties for withdrawal of girls from school for marriage;
- Expanding facilities for “second chance” functional and literacy education for adult women;
- Providing education for women with special needs e.g. nomadic education and education for women in purdah;
- Establishing women education departments in Federal and State ministries of education; and
- Establishing women education centre’s by FME in all states of the Federation (Oyebade, 2008).

III. MATERIALS AND METHODS

- Study Area

The area of study is Adamawa State Polytechnic, Yola Nigeria,

- Population/Sample & Sampling Techniques

The population of the study covered all departments in the institution. A sample of seventeen (17)

departments was selected using convenient sampling for the purpose of this study.

• Source of Data

The study captured data from registry unit of the institution for the period of nine (9) years from 2013-2021.

• Procedure for data Analysis

The data collected were analyzed using Z-Test for difference in proportion. Below is the stated Test Statistics;

The test-statistics

$$Z = \frac{P_i - P_j}{\sqrt{\frac{P_i Q_i}{N_i} + \frac{P_j Q_j}{N_j}}} \sim N(0, 1) \text{ at } \alpha=0.05$$

Where

P_i = the proportion of males

P_j = the proportion of females

Q_i = one minus the proportion of males

Q_j = one minus the proportion of females

N_i = number of males

N_j = number of females

Decision Rule

If $|Z_{cal}| \leq Z_{tab}$, reject null hypothesis (i.e H_0), otherwise accept (H_0).

IV. RESULTS AND DISCUSSION

4.1 Total Students Intakes by Gender and Academic Year for 2013-2021.

Table A: Distribution of Students Intake by Gender and Academic Year.

	2013	2014	2015	2016	2017	2018	2019	2020	2021
Males	3921	4152	4520	4733	4297	3440	3049	3002	2242
Females	1434	1687	2277	2170	2028	1755	1554	1429	1008

Tot	53	58	67	69	63	51	46	44	32
al	55	39	97	03	25	95	03	31	50

Source: Computed from Registry Office Adamawa State Polytechnic, Yola 2022.

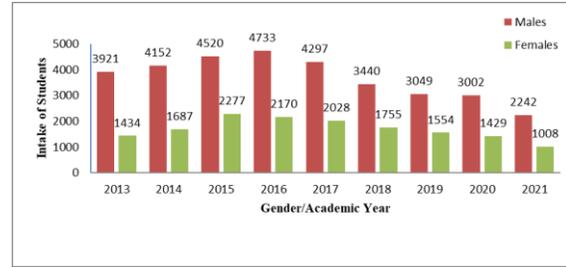


Fig.1 Trend Intake of Students by Gender and Academic Year for the Year 2013-2021

4.2 Total Students Intake According to Gender and Course of Study for the Period 2013-2021.

Table B: Distribution of Students Intake According to Gender and Course of Study.

S/No	Course of Study	Males	Females
1	Agric Technology	416	159
2	Business Management Education	6208	3753
3	Disaster Management and Control	1478	668
4	English Language	1486	1443
5	Agric and Bio Engineering Technology	499	79
6	Civil Engineering Technology	1651	70
7	Electrical and Electronics Engineering	2060	41
8	Mechanical Engineering	881	19
9	Building Technology	714	13
10	Survey and Geoinformatics	331	47
11	Urban and Regional Planning	377	89
12	Computer Science	3841	1102
13	Science Education	1091	638
14	Statistics	705	196

15	Crime Prevention Management and Control	1359	619
16	International Relations and Strategic Studies	6482	2711
17	Mass Communication	3777	3695

Source: Computed from Registry Office Adamawa State Polytechnic, Yola 2022

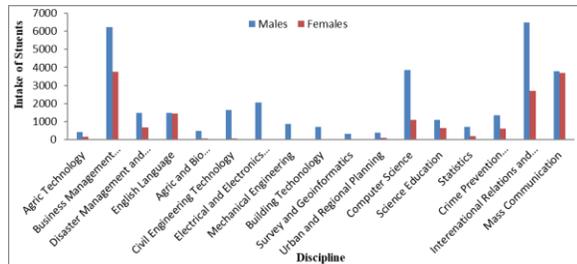


Fig.2 Trend Intake of Students by Gender and Discipline for the Year 2013-2021

4.3 Total Students Intake in Each Course of Study by Gender for the Period 2013-2021.

Table C: Analyzed Result According to each Course of Study between the Periods 2013-2021

S/No	Course of Study	p_1	p_2	n_1	n_2	Z_{cal}	Decision
1	Agric Technology	0.7	0.2	41	15	10.6	Rejected
2	Business Management Education	0.6	0.3	62	37	24.0	Rejected
3	Disaster Management and Control	0.6	0.3	14	66	17.2	Rejected
4	English Language	0.5	0.4	14	14	0.7	Accepted
5	Agric and Bio Engineering	0.8	0.1	49	79	17.7	Rejected

6	Technology Engineering Technology	0.9	0.0	16	70	38.5	Rejected
7	Electrical and Electronics Engineering	0.9	0.0	20	41	44.0	Rejected
8	Mechanical Engineering	0.9	0.0	88	19	28.1	Rejected
9	Building Technology	0.9	0.0	71	13	25.7	Rejected
10	Survey and Geoinformatics	0.8	0.1	33	47	14.4	Rejected
11	Urban and Regional Planning	0.8	0.1	37	89	13.3	Rejected
12	Computer Science	0.7	0.2	38	11	38.0	Rejected
13	Science Education	0.6	0.3	10	63	10.8	Rejected
14	Statistics	0.7	0.2	70	19	16.2	Rejected
15	Crime Prevention Management and Control	0.6	0.3	13	61	16.7	Rejected

16	International Relations and Strategic Studies	0.705	0.219	64	27	39.	Rejected
17	Mass Communication	0.505	0.415	37	36	0.9486	Accepted

Source: Researcher's Computation 2022

$$\text{Critical Value } Z_{0.05} = 1.96$$

Table D: Gender Pattern of Students Intakes According to Discipline in Adamawa State Polytechnic, Yola

Discipline	n_1	n_2	p_1	p_2	Z_{cal}	Decision
Agricultural Technology - International Relations and Strategic Studies	333	153	0.685	0.315	81.6	Rejected
Total	68	32				
Percent age (%)						

Source: Researcher's Computation 2022

$$\text{Critical Value } Z_{0.05} = 1.96$$

V. DISCUSSION OF FINDINGS

Figure 1 illustrates Adamawa State Polytechnic intakes and gender / academic year distribution; Yola, for the period 2013-2021. The figure reveals that there is a disparity in the intake of males and females in the institution. We can clearly see in these periods the intake of females is much lower than that of males. The trend intake by gender showed a significant decrease among intake in 2015-2021 (2277-1008).

Both intakes decreased in 2020 and 2021. As a result, when this continues to happen, we won't see any women enrolling in this institution as we can see intake of males doubling that of females over the past two years.

Figure 2 above revealed the gender pattern of total intakes according to the discipline. It can be seen that courses such as Agricultural Technology, Agricultural and Biological Technology, Civil Engineering, Electrical Electronics, Mechanical Engineering, Building Technology, Surveying and Geoinformatics, Urban and Regional Planning, and Statistics have lower female recruitment. Such courses should receive more attention when it comes to institution enrollment. This result is in line with (Newman 2021).

Table C Revealed the proportion of males in each Department except for English Language and Mass Communication are higher than those of females. In all other departments the hypothesis was rejected, this is a clear indication that male intake is higher than female in the institution. This result is in line with a research work conducted by (Kumur & Reuben, 2015). Also according to the Sustainable Development Goals (SDGs) no.3, gender equality must be achieved from 2015 to 2030. This goal may not be achieved if the assumptions observed in the various courses of study in the institutions are not adequately verified.

From the analysis of the data in Table D it emerged that most of the students who typically enroll in the various disciplines are male. This showed a large gender gap in favor of males (68%) with females (32%). The male intake pattern was outnumbered by females in this institution. It means that the intake of males and females in Adamawa State Polytechnic is not the same. This result is also in line with (Kumur & Reuben, 2015).

VI. CONCLUSION / RECOMMENDATION

This study consequently revealed that the female gender is one of the disadvantaged groups compared to intake at the Adamawa State Polytechnic, Yola. It has been observed that there is an annual decrease in female intake in the institution, as seen in Fig. 1. Furthermore, it can be clearly seen in Table C that the

assumptions are rejected in most of the course of study, implying that male intake exceeds female intake in most of the institution's departments.

The results of this work describe a serious understanding of the gender gap intake at Adamawa, Yola State Polytechnic. In light of these research findings; urgent recommendations on how to improve the gender gap are set out below;

1. The institution must be sensitized to realize this problem so that it can encourage attempts to solve or reduce gender inequality in the school to be able to reach the Sustainable Development Goal No. 3.
2. There should be an awareness campaign to close the knowledge gap identified in this research work, which will hopefully increase students' knowledge of other courses offered in the institution.
3. The scholarship award should be awarded to female students in order to bridge this gender gap
4. More enlightenment of public education is needed to ensure that parents adopt girls' education.

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