

Chapter 4 - Gender Equality in Online Education in Higher Education: A Literature Review

Meinrad Lembuka 

Chapter Highlights

- Gender equality in online higher learning
- Highlights of gender in online education
- Gender and e-learning in Tanzania
- Higher learning and gender equality
- Gender discourses through online education

Introduction

In Tanzania, higher education is defined as that proportion of tertiary education that leads to an advanced diploma or degree. Education system in Tanzania include two years pre-primary, seven years primary, four years junior secondary, two years senior secondary (A level) and three or more years of university or tertiary education. The last decade has seen a significant expansion of higher education in Tanzania. Whilst up to the mid-1980s there were only two universities and a handful of other specialist higher education colleges, by 2005 there were a total 30 universities, the majority of these being private. Also there were 15 additional public Institutions of Higher Education including 6 professional institutes, 2 institutes of technology, a wildlife college and a business college (URT, 2016).

Education remains to be a crucial factor for nations to advance their social, cultural and economic well-being. A nation's ability to acquire and apply knowledge influences development greatly and as knowledge becomes more important, so does higher education (Senzige, 2003). In recent years Tanzania has experienced an increase in online education or e-learning following the outbreak of COVID 19 global pandemic that forced the paradigm shift from traditional teaching and learning method to online education. This process was facilitated by the availability of ICT legal framework, trained staff and respective infrastructures in the education institutions. Historically the online education gradually can be traced from the dawn of independent when the government initiated a number of strategies on the use of ICT in Tanzanian schools (Senzige, 2003 & Lembuka 2022).

The use of ICT in education is not a new concept as in the late 1960's and early 1970's primary and secondary schools were provided with radios to enable them listen to educational programmes designed in collaboration with and broadcast by the Radio Tanzania, Dar es Salaam. Audiocassettes with pre-recorded subject matter were also used. In early 1990's institutions like the then High Precision Technology Centre were already using videocassettes to teach subjects like electronics and quality assurance. The wide spread use of TVs in the mid 1990's would probably have been another step in introducing ICT based school education, but there were no efforts made to integrate these electronic media into education delivery (Senzige et al, 2003 & URT 2016).

The fact that technology is an essential element of online education or e-learning in the 21st

century thus the Government of Tanzania has continued to invest in ICT development and later provided computers to educational institutions. In 1997, the Ministry of Education and Culture issued a syllabus for computer studies for secondary schools, as a response to this, most higher learning institutions introduced courses in computer science and information technology. The private sector also did not want to miss this opportunity and hence they jumped on the bandwagon and several private training institutions were established to address the ICT related education provision (URT, 2016).

Due to family and work commitments, students find it difficult to pursue a degree via the conventional mode of learning. Internet-based instruction is gaining recognition as an alternative mode of learning. Online learning addresses the demand to provide education to those who could no longer be accommodated in campus due to limited facilities and physical resources.

There is a seemingly growing demand for online learning in the past years which was also brought about by the rising development in web-based technologies. Online learning also offers flexibility to students to study on their own pace and space as contrasted to the traditional classes. More significantly, online learning provides equal opportunities to all students (Jolliffe, Ritter & Stevens 2001).

The increase in the use of technology in education had altered educators' attitudes from the traditional ones when they were distributors of knowledge to a new and more flexible attitude now that they are considered more as supporters and motivators who urge and encourage students to participate and learn (Onyema, 2019). Moreover, as Shadieva & Sintawati (2020) suggested, technology supports intercultural learning on many levels. The role of technology could also be the facilitator of personalized learning that allows students to achieve better learning outcomes (Zhang et al, 2020).

Online education or E-Learning are two terms that will be used simultaneously in the article that represents a futuristic mode of education that accommodates the different requirements and expectations of different users with a support of ICT services; in this way, it allows varied methods of educational technology to operate, redesigns instructional methods, and refines performance and effectiveness to adapt to the priorities of e-Learning (Chavoshi et al, 2018). The need for education updating was required because of the fast advances in

technology. They need to learn at any time, and any place was in its way to be achieved. (Wolfinger, 2016). Over the past two decades, online learning has been activated in some global institutes. However, most schools, colleges, and universities do not use this education mode (Mahyoub, 2020).

With equal participation in education the issue of gender equality at all levels of education became a global concern from MDGs to SDGs. Gender equality in education is directly proportional to gender equality in the labor force, in the household and in decision making. The same concern that was addressed in conventional education approach is reflected in online education or e-learning. Widening participation of women's in higher education has been a policy priority in Tanzanian government. Traditional, there is a wide gender gap when it comes to higher education whilst there are no real problems of access to primary education, the trend towards fewer girls in education starts to appear at secondary school level and accelerates markedly in higher learning institutions (Kilango et al, 2015).

The gender inequality is a very concerning issue in our current society and affects many developing nations most especially Tanzanian case as it affects the human dignity and universal human rights. This problem arises when a person receives unequal or disadvantageous treatment, under the same circumstances, based on gender. This goes against the first article of The Declaration of Human Rights, "All human species are born free and equal rights for dignity. They are embedded with logical consciousness to act towards one another in the unity of purpose. Gender to education is directly proportional to gender equity in the labor force, in the household and decision-making. Educating the female's lowers infant mother and baby mortality rates that goes to affect higher educational attainment and achievement for next generations and improve the economic conditions of nations (Target, 2015 & Bisanda et al, 2019).

A number of studies have explored gender issues on higher education online learning and findings have shown that gender may have a substantial impact on an individual's participation and performance as well as cognitive functions such as perception, memory, and emotion. Also, previous studies have focused on gender differences in traditional face-to-face learning, but there are few empirical studies on gender differences in online learning education in Tanzania. Therefore the article adopted systematic a scoping literature review to analyse the gender issues on online education in higher learning in Tanzania.

Gender

Gender is defined as a complex, multilayered social practice that distinguishes between men and women, masculinity and femininity through formal and informal power processes (Van Den Brink, Holgersson, Linghag & Deé, 2016). One of the explanations for the complexity is provided by Marx through society's evolution into a complex system. This evolution leads to more distinct differences in body and mind between women and men, specialized roles and division of labor. The process by which this social process is carried out is called socialization. Socialization is carried out early in an individual's life through the family. This socialization is followed through by education (school system) and the society thereafter continuously. (Holmes, 2007)

The concept of humanity has been taken from social life and gets its meaning only if its personality as well as its behavior are both defined and elaborated inside society. If the discrepancy existed among members of a society get initiated based on natural characteristics and be evaluated on the basis of socio-cultural criteria; hence, some will be credited to a high degree while some not. As a result of this, social inequality emerges. A case in point is gender inequality. In most communities, gender is considered as a socio-cultural phenomena related to sex. Gender inequality can be expressed as an imparity between men and women in the use of available facilities (Alipour et al, 2011).

It also refers to every behavior, policy and performance reflecting constant, comprehensive and institutionalized viewpoints of members of the society toward women as an inferior creature in various fields such as occupation, education, etc. Gender inequality, especially in the field of education, can result in profound disorders in mental, social and living aspects of women's life as well as next generations. One of the main missions of the society is to meet human needs and educational institutions as part of the society can fulfill such needs through different methods namely elearning. In this article, it has been tried to evaluate this newly arisen matter, e-learning, and to apply its results to provide psychological security for women in a society (Alipour et al, 2011).

Higher Education in Tanzania

According to the National Higher Education Policy (1990) of Tanzania, higher education

refers to the scope of knowledge and skills imparted by tertiary education. It excludes both the primary and secondary level of education (p. 7) but includes full academic professional training and intermediary professional training provided by universities and non-universities. Universities are the highest level of higher learning institutions, mainly focusing on research, teaching and public services (Mnubi, 2013).

As a country in transition at the crossroads of globalization, Tanzania requires its higher education institutions, particularly universities, to prepare people to function effectively as sources of skill and knowledge and as important partners in sustainable development (Commission for Africa Report, 2005). This necessitates the national education policy to establish critical national goals and priorities in matters relating to education, particularly higher education (Mnubi, 2013).

Since her independence, Tanzania has established more or less 40 higher institutions to date. The first higher institution was established in 1961 and was called Dar Es Salaam University College, a constituent (university) college of University of London. As an affiliation, Dar Es Salaam University College only catered one faculty, Faculty of Law, and received only 13 students. In 1963, Tanzania and two other Eastern Africa countries, Kenya and Uganda, signed a contract establishing harmonized higher education institution called University of East Africa (UEA) under an affiliation with University of London; University of Dar Es Salaam in Tanzania, Makerere University in Uganda, and University of Nairobi in Kenya. In 1970, UEA collapsed, and the three countries decided to nationalize and run the university in their own country. From 1970 to 2003, Tanzania added 4 more public universities, namely Sokoine University of Agriculture (SUA), Mzumbe University, Open University of Tanzania (OUT), and State University of Zanzibar; the establishment of private institutions was started in 1995 when liberalization of education received concern (Istoroyekti et al, 2016).

While looking back at Tanzania's higher education history, Tanzania has made rapid progress in term of higher education system that went along side with technological changes, from one university in the 1970s to more than 40 universities in 2014 (both public and private universities). As in 2014, Tanzania has established more or less 50 universities. The number of public institutions is 18 and private ones are 32 (TCU, 2014).

This massive progress in one hand provides Tanzanian accessible higher education but in

other hand it places quality education at stake. The issue of human capital, facilities, and credibility has been challenging across Tanzania, both public and private universities and in the long run it jeopardizes the higher education system itself. Reviewing related literatures, current education system and major problem facing Tanzania today, it is important to revise and promote a liberating education system that train students to be independent, critical and analytical (Istoroyekti et al, 2016).

The burgeoning university across the country in the last 2 decades has enacted the government to establish a higher institution body that controls and manages all the universities called TCU (Tanzania Commission of Universities). As it was established on July 2005, TCU envisions an accessible, equitable and harmonized education system particularly in tertiary education level. The main role of TCU is to “recognize, approve, register and accredit Universities operating in Tanzania and local or foreign University level programs being offered by registered higher education institutions”. As regulatory, advisory, and supportive institution, TCU builds centralized system of application process that screen eligibility of applicants based on the applicants’ Form 6 result. In this manner, university receives students who are already approved by TCU, no universities are allowed to receive direct application (TCU, 2014). In other words, as newly established government’s body, TCU regulates the students’ intake of all higher institution in Tanzania. Before this establishment, students did not pass through TCU to enroll the university.

Online Education

Online education or E-learning is becoming a key and effective component in higher learning institutions worldwide (Eklund et al. 2003; Stoltenkamp et al. 2007). As learning and technology intersect in tertiary institutions worldwide, implications about the ways women and men engage in online learning environments have become an important issue to examine (West, et al, 2017). Information and Communication Technology (ICT) is progressively playing more influential role in every business domain, and has dramatically transformed the way people and organizations interact with their environment, particularly learners and academic institutions (Bhuasiri et al., 2012).

The diffusion and adoption of ICT have created an opportunity for educational institutions to complement traditional face-to-face classroom teaching. Moreover, adoption and effective

utilization of ICT in education have become an acknowledged issue of strategic importance in educational institutions around the world (Jebeile and Reeve, 2003). Additionally, the technology has become a major player in global provision of education, which is gender sensitive (Morley et al. 2007).

Tanzania embraces online education as the ideal of providing more educational opportunities for minority groups, women and those who cannot access the educational system in the regular way (Kramarae, 2001). In the 1990s, females were at first diffident about using the computer and they were reluctant to learn the use of the internet. However, the expansion and commercialization of internet made it possible for this technology to be less intimidating and easier to use for females Nevertheless, creation and administration of the web continued to be the male's dominion as they were the technically-inclined individuals whereas females as low-level users of technology (Herring, 2001 & Secreto, 2013).

The rapid growth of higher education institution is not accompanied by sufficient number of students' enrollment; even though government has made it easy for Tanzanian to access it. In Education for Self-reliance, Dr. Julius kambarage Nyerere mentions that the purpose of education in Tanzania is “[It must] encourage the development of proud, independent and free citizenry which relies upon itself for its own development, and which knows the advantages and the problems of co-operation” (Nyerere, 1967). His notion on education promotes the importance of able and capable human resources as well as constructive and productive agents in society. In other words, Nyerere addresses university as the manufacturer of high qualified people who are of beneficial for his/her community and to develop it (Istoroyekti et al, 2016).

With the introduction of internet two decades ago, ICT related activities were predominated by males in various aspects of human life not only in Tanzania but it was a global phenomenon. Not only are males more interested in ICT, numerous research findings likewise illustrated that males were heavier users of computers, had positive attitudes about computers and thus performed better than females in ICT literacy including in education activities (Herring 2001 cited in Reinen and Plomp 1993; Volman and Eck, 2001). During those years, various studies further revealed that there was a significant disparity in terms of access and technology literacy in favor of males than their counterparts.

Online Education and Gender

The definition of gender is still controversial to many people around the globe. Taylor, Whittier and Rupp (2007) state, ‘our gender, and what it means to us affects the ways we interact with each other, the kind of relationships we form, and our positions in our communities’. Shortly, ‘gender refers to the societal meaning assigned to male and female, and to the socially constructed roles, behaviours, activities, and attributes that any given society considers appropriate for men and women’ (Schwenke, 2011). However, it is difficult to agree with this definition because, “Even the definition of who is a man and who is a woman can be contested” (Connell, 2009 quote by Schwenke, 2011). Then, gender is the social and psychological dimensions of being male or female (Santrock, 2006 & Mlyakado, 2012).

Gender equality defined as the situation where women and men, girls and boys enjoy the same rights, opportunities and protections (UNICEF, 2011). It is a core human rights principal and valuable end in itself (Ibd). It implies that that women and men have equal conditions, treatment and opportunities for realizing their full potential, human rights and dignity and for contribution and or benefiting from economic social cultural and political development (UNESCO, 2009). Gender equality is essential for protecting universal human rights and fundamental freedoms (UNESCO, 2012). It is also a powerful development accelerator (Msoffe, 2016)

Inequalities in education do not happen as a matter of chance but the socio-cultural socialisation processes can be attributed to the current inequalities between men and women as exemplified in education and employment or career choice’ (Petro, 2011). ‘...women everywhere suffer restrictions, oppression, and discrimination because they are living in patriarchal societies’ (Taylor, Whittier & Rupp, 2007). Women have been oppressed through history and across the globe (Keeping & Shapiro, 2011). However, Gender inequality is more pronounced in some aspects of the educational systems than in others (Jacobs, 1996 & Mlyakado, 2012).

Gender equity in higher education is more than putting women on equal footing with men it is eliminating barriers to participation and stereo types that limit the opportunities and choices of both sexes. Gender equity is about enriching classrooms, widening opportunities,

and expanding choices for all students (Bailey 1996). Since the independence 1961 the government of Tanzania has put in place a sector wide approach to education and the Education Sector Development Programme in an effort to reduce gender disparity in the education sector and to improve the quality of education. The international and regional agreements related to women's rights have developed a number of national policies that constitution bans discrimination on whatever grounds. Gender equality in education imply that girls and boys are ensured and actually offered the same chance and treatment in access, process, and outcome of an education of good quality and which is free from any stereotypes (UNESCO, 2009 & Msoffe, 2016).

On another hand the National Education and Training Policy of 2002, National Education Act of 1978 and the National Higher Education Policy of 1999 provides guidelines for achieving gender equity and equality in the various levels of education (Onsongo 2009). Gender inequality in Tanzanian higher learning institution started during the transition from primary to secondary schools. However the government has achieved gender parity in primary and secondary school enrolments hence girls' performance in the primary school leaving examination results remains lower than boys', and gender differentials in enrolment widen in higher secondary and in higher levels of education (Lihamba, Mwaipopo et al. 2006).

Method

The The chapter used documentary review method or desk research to analyse gender in online higher education in Tanzania. The chapter has drawn on secondary data and the author's observations to present the findings in a systematic manner. The review followed a systematic procedure for reviewing or evaluating documents both printed and electronic (computer-based and internet-transmitted) material. Like other analytical methods in qualitative research, document analysis requires that data be examined and interpreted to elicit meaning, gain understanding, and develop empirical knowledge (Corbin & Strauss, 2008).

The review included several documents that reflected gender in online higher learning in Tanzania and some parts of Africa that included books and other research findings with similar drift that were reviewed to justify and enrich the article.

Results

The Tanzania Population and Housing Census, 2022 results, which were released by President Samia Suluhu Hassan on Monday this week, show that females account for 51.3 percent of the country's 61.7 million people (NBS, 2022). Despite of more Women present in the country some of the social and cultural values have been hindering some people to access education system since independence of 1961 particularly female populations. Online education in higher learning is one of the mechanism that was introduced to balance the gender equality in education system.

The country initiated the Education Policy of Self Reliance to address gender inclusion and universal education for all through Arusha declaration in 1967. Distance education was among the features that was introduced during Self Reliance Policy with major aim of provision of education for all and it laid down the foundation of online education in Tanzania (Nyerere, 1967) and it was noted by onlineeducation.com (2020) noted that online teaching and learning originates from and distance learning and the development of digital technologies which facilitate instructional activities by using the internet. The country continues to embrace right to education for all considerably influenced by the Universal Declaration of Human Rights (UN, 1948), Tanzania's adherence to international standards and education conventions as education is the right of every individual in the society, Banjul Charter on human right and People's Right (1981). According to Jomtien convention (1990) and Dakar Framework for Action (2000) put much emphasis on Education for All (EFA) as basic human right.

As a believer of Universal Human Rights, Tanzania always has been striving to balance gender in all levels of education that goes together with the technological advancement. The national policies are emphasizing on the use of modern technologies in teaching and learning processes, like other developing countries the use of ICT services in education system its considered as competitive tool for improving the academic performance of Higher Learning Institutions (HLIs) (Lwoga et al, 2015). Amongst the widely used technology in teaching and learning in HLIs is E-learning or onlined education and the use of e-learning has resulted in a number of changes in HLIs as far as education delivery is concerned in Tanzania including gender issues (Lwoga & Komba, 2015). Online education most of E-learning usage has allowed marginalised populations in rural areas to have access to education as well distance

education to become more accessible to all.

Tanzania's vision 2023 have highlighted on the importance of mixed education approaches in meeting basic learning needs of all children, youths and adults is the ultimate target of most of the international and national communities as well as governments across the world' (Kayombo, 2011). 'Over the years, education has focused on access and parity that is, closing the enrolment gap between girls and boys while insufficient attention has been paid to retention and achievement or the quality and relevance of education especially in online education (EQUATE Project, 2008).

To date, either conventional or online educational system Tanzania's educational context is marked by a distinct gendered imbalance with young girls leaving their studies at higher rates than their male counterparts during secondary school. Their early departure results in a gender imbalance in institutions of higher learning (MoEST 2016; Mwita & Murphy 2017), which in turn results in approximately only 30 percent of academic posts at Tanzanian universities being held by women (World Bank 2020).

Research on gender in the African educational system has shown that girls and women's experiences in Tanzania's educational sector can be explained by deeply rooted cultural norms and traditions continuing to influence gender inequity and limited female engagement throughout higher education (Mama 2003; Morley 2010). The primary social roles assigned to female populations affect their involvement in online higher education as well and according to (Morley 2011; Mukama 2020) and norms of patriarchal ideologies often link women to motherhood, domestic duties and care provider in both domestic and professional spheres. In contrast, these norms often link men to notions of independence, assertiveness, leadership, and dominance, and women and men reproduce these norms through their practices and values, which as a result shape and influence their self-expectations and behavior even in online higher education participation (Murphy et al. 2019).

These norms then play out in the higher education and research spaces. For example, Massawe & Sife (2020) found that gender gaps can be seen across all academic ranks with more women than men occupying lower academic ranks and being proportionality underrepresented at all other levels of the academy hierarchy. Much work has been done on gender mainstreaming (Morley 2011) and targeted initiatives, such as affirmative action

(Lihamba, Mwaipopo, & Shule 2006), to address these inequities. Yet it is uncertain whether such initiatives have had a transformative effect on the structure and dynamics of gender relations and expectations within academic institutions (Darkwa et al. forthcoming). This context provides a scene against which the online education in higher learning can be examined. It also provides insight into the situation-sensitive nature of gender norms, values, relations, and expectations within this space.

Inferiority complex to female students in accessing ICT services for online education in higher learning caused by gender imbalance is well noted in Tanzania that resembles other developing countries. Similar studies revealed that the evident gap between male and female students was the level of confidence about their technical capability with males unsurprisingly more confident than their female counterparts. Markauskaite (2006) observed that females manifested anxiety and less confidence about their ICT competencies. It is important to some extent that online learning institutions deal with this ICT related gender inequality which is rooted basically from the difference in characteristics than the gender per se (Markauskaite, 2006).

With focus to include disadvantaged groups in the country such as female populations, online education in Tanzania Although, was first introduced to allow people in the remote and rural areas to gain access to higher education and since then online education is regarded as an effective way to deliver education in terms of time and costs in HLIs as it was similar highlighted in a study conducted by Wang et al., (2007). The findings suggest that the use of e-learning such as development of multimedia, information technologies and Internet in teaching, has resulted in radical changes in the traditional process of teaching that left some marginalised populations behind.

More importantly, online or e-learning provided greater flexibility of access to teaching and learning material as well as allowing all students from different background and genders to benefit from online sessions and ICT related education services and rendered a major asset for their future careers. To this end, the integration of onlien or elearning in the education system is viewed as one of the responses to gender inclusion and as well as to meet the growing need for high quality education in HLIs from both developed and developing countries including Tanzania (Masue et al, 2020).

Discussion

Tanzania education policy and related national strategies have been integrated Online education in higher learning as part of global agenda for inclusive education by 2030 through ensuring an equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university. As enshrined in Sustainable Development Goal 4 is the education-related goal of the United National 2030 Agenda for Sustainable Development, adopted in September 2015. Its overall aim is: to: “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (UN SDGs, 2020).

In Tanzania, gender inequality in higher learning institution is critical; and it starts during the transition from primary to secondary schools. Tanzania has one of the lowest secondary enrolment ratios in the world, and the majority of places at public secondary schools are taken by families from the richer end of society (Wedgwood, 2005). Although Tanzania has achieved gender parity in primary school enrolments and near parity in lower secondary enrolments, girls’ performance in the primary school leaving examination results remains lower than boys’, and gender differentials in enrolment widen in higher secondary and in tertiary levels of education still accessibility to online education varies in term of gender criteria (Poverty Eradication and Economic Empowerment Division, 2010).

ICT and related services have pioneered the process of online education in Tanzania yet there is no agreement on when ICTs were initially introduced into the education sector to facilitate online education in higher learning institutions Africa including Tanzania, with equally as many answers as there are attempts at answering this question (Alkharang & Ghinea, 2013; Bagarukoyo & Kalema, 2015; Hubackova, 2015). For example, Alkharang and Ghinea (2013) argue that the appropriation of ICTs for teaching and learning started in the 1960s, whilst Hubackova (2015) points out that the cornerstone of modern e-learning was set in the late 1980’s, with the term e-learning first used in 1999. Similarly, Bagarukoyo and Kalema (2015) state that in the South African Higher Education context, e-learning emerged in 1990s. Whilst the term e-learning might be relatively new, ICT appropriation in education is not.

With new technological developments, scholars and practitioners in Tanzania and across the

world are still interested in harnessing ICT services for enhancing access to academic knowledge in relations to gender equality. Similar to global trends, a number of African countries have adopted e-learning to extend the reach of education in their territories to all populations. While there is a difference of gender enrollment in online education for higher learning students from country to another, the growing number of student in African universities (Gunga & Ricketts, 2007; Jaycoba & Ilonga, 2019; Lwoga, 2012), with some universities making the adoption of e-learning platforms mandatory without regarding the gender capacity of utilizing ICT services it will be very challenging (Mpungose, 2020). Some of the reported benefits of e-learning include a reduction in costs, the provision of convenient and flexible learning, less environmental impact, as well as access to quality education with more gender inclusion (Alkharang & Ghinea, 2013).

Tanzania resembles other African developing countries with many resource constrained struggling with limited infrastructure that cannot accommodate all prospective higher education students (Lwoga, 2012), the promised benefits of e-learning may explain the widespread enthusiasm around e-learning in Tanzania and the rest of Africa. Whilst e-learning has been promoted an equaliser that can enhance access gender equity and education parity (Awidi & Cooper, 2015), there are a number of scholars who urge caution and reflection when embracing e-learning. In their article outlining various myths around e-learning, Njenga and Fourie (2010, p. 202) question whether e-learning does indeed improve teaching or merely embraced as a “virtual fashion” with new gender stereotyped in education arena.

The phenomenon of gender inequality was magnified during COVID 19 pandemic worldwide and it has been observed since then in online higher education even in Tanzania (UNICEF,2021), the disparity gap that still exists between boys and girls are again widening in other developing countries as well. The international community and countries working abysmally to fulfill the promise to close the gender gap by 2030 remain a mirage. The situation has been tedious, scholarly UNESCO Institute for Statistics (UIS) disaggregates capacity indicators by sex to the effect possible, given parity indices and creative new indicators to better influence the equity and inclusion of girls and boys (Bisanda et al, 2019).

However in online education learning process women have more domestic and family commitments than men, often mature women face significant barriers through multiple

commitments and have serious financial burdens, unequal distribution of men and women in different subject areas. Also, online education has provided for many women, perhaps their only chance to learn when other educational institutions were inaccessible to them (2002) On the other hand, argued that gender inequality in education lowest the mean of human resources in a society it turns to affect economic progression. It is abnormally restructuring the pool of talent from which to draw for education and thereby excluding highly qualified girls and taking less skilled boys instead (Dollar, Gatti, & Filmer, 1999).

The male's predominance over the computer and the internet had greatly declined in the recent years with more and more females gaining greater interest in ICT activities. Thus, gender inequality in terms of access and technology literacy had diminished to a great extent as these new technologies become an indispensable aspect of learning, work and everyday life. Over the years, these differences have slowly and entirely ceased to exist. Herring (2001) noted that the internet promoted greater gender equality and became instrumental for bringing women online in the mid 1990s. She added that internet suits the female because it is "clean, safe and can be used indoors".

With the emergence of the web and email technologies the web as a source of information and email as a medium of communication, have captured the interest of women because of their increasing practical significance in computer supported learning (Gunn, 2003). Communicating online, Gunn observed that women tend to be more collaborative and intimate, while men are more of the confrontational type. Because of this inherent communication style of females, they are more likely to develop interpersonal relationship online (Secreto, 2013).

The review has shown that online education offered opportunities for studying without the constraints of time and place, female students were more reflective in their learning, appeared less hesitant to engage in the online environment, felt they had more control over their learning and found the mode a positive experience compared to face to face courses in similar academic area, Also it allowed accessibility for people who are prevented by work and family commitments or by other factors such as disabilities or lack of mobility to attend classes but who enjoy a degree of flexibility in their schedules.

Studies made by Markauskaite (2006) revealed that while males have more experience with

ICT, there were no significant gender differences in terms of ICT literacy and there was no apparent disparity in students' participation in online learning for both genders. Evidently, the gap between male and female students was the level of confidence about their technical capability with males unsurprisingly more confident than their female counterparts. This could be attributed to the fact that females spent lesser time in computer activities than males did. In terms of time spent on the web and the computer, a case study conducted by Gunn (2003) reported that women did not have "priority access" to the computer at home. Further studies revealed that males spend more time in computer use and put study as one of their priorities. More recent studies conveyed that the gap between the number of male and female online has greatly decreased with more women taking advantage the Internet as a mode of communication.

Internet has been described as an electronic meeting place where individuals can meet equally regardless of gender (Monteith, 2002). As internet becomes a balanced and neutral environment, Herring (2001) projected that the number of females who goes online will continue to increase thus giving them more power not merely in terms of number but in technical facet as well that will shape the nature and uses of the internet with women not just users but as administrators as well. To assume that the Internet has the ability to create gender equality is parallel to saying that men and women are equal offline (Herring, 2001). Monteith (2002) predicts that "gender issues in cyberspace are likely to persist as long as they also exist offline" (Secreto, 2013).

Therefore, online education has been integrated into online and distance education in Tanzania as a result it has succeeded to contributed on educational inclusion and equity for all people including irrespective of sex, age, race, colour, ethnicity, language, religion, political or other opinion, national or social origin, property or birth, as well as persons with disabilities, migrants, indigenous peoples, and children and youth, especially those in vulnerable situations or other status, should have access to inclusive, equitable quality education and lifelong learning opportunities. Vulnerable groups that require particular attention and targeted strategies include persons with disabilities, indigenous peoples, ethnic minorities and the poor. Also, online education has grown into an important global strategy in resolving problems of access to education among both female and male students (Mkwizu & Ngaruko 2020).

Challenges

The capacity of instructors in online higher learning differ and affect the delivery of online learning to the students. The fact that male and female instructors have adapted differently to online teaching as studies have shown that women may have performed more poorly than their male counterparts because of the (already well-documented) grave difficulties they faced in reconciling work and childcare during the first waves of the pandemic (Adams-Prassl et al., 2020; Alon et al., 2020a, 2020b; Deryugina et al., 2021; Farré et al., 2020; Zamarro and Prados, 2021). In that case, the gender gap could widen as a result of a genuinely poorer performance by female instructors.

On the other hand, online teaching may have narrowed the gender bias in teaching evaluation, if remote classes benefited from female teaching styles which are thought to be more interpersonal (MacNell et al., 2015). Assuming that women are more likely to be supportive, accessible or personable than men, students may be more appreciative of the support received from their instructors in difficult times (such as during a pandemic) and that may be reflected in their evaluation of the teaching. But again, if online instruction makes it more difficult for women to excel through verbal communication (given that non-verbal communication and body language are often eliminated) they may be penalized (Fauville, 2021).

Furthermore, it could be that female instructors have less experience in the courses that all of a sudden need to be taught online; and again, that could be reflected in differences in the evaluations of the teaching of male and female lecturers. Also, one needs to consider the possibility that men and women teach subjects of a different nature, which could in turn have different degrees of adaptability to an online environment. Thus, it is important to discount the possibility that gender differences in teaching evaluations are not the result of self-selection (or sorting) by students into subjects. Nonetheless, if one can discount all the aforementioned mechanisms and still observe a gap in teaching evaluations to the detriment of women, it must be that online teaching contributes to the strengthening of gender bias (either because of prejudice or dislike, either conscious or not, either implicit or not) (Bertrand et al., 2005; Rooth, 2010; Oreopoulos, 2011; Bohnet, 2016).

However, some instructors of in higher learning institutions are the victims of gender imbalance and they still are still abusing students online either knowingly or unknowing.

Some instructors are used to conventional learning approach and shifting to online approach has become disadvantage to them with social constructed belief that ICT is for specific gender domination and ultimately affects the intended goal of quality online learning in higher education. Also, this likely affected low socio-economic and vulnerable student populations the most, failing to uphold Goal 4 of inclusive and accessible education for all. Changes in the learning environment (e.g., the transition from face-to-face learning to online learning) can influence students' well-being, behaviors and learning basing on gender differently (Zhang et al, 2022).

Lesson Learned

- Tanzania has taken important steps since independence of 1961 towards addressing gender equality in education systems, much remain to be desired, specifically the gender mainstreaming in online higher education
- Gender equality either through conventional or online education has been promoted by the international development community for over two decades; however, it has remained to be a contemporary challenge to promote gender equality through online education in higher learning institutions.
- Even though the internet is considered as a gender-neutral environment nevertheless there are differences of how students in higher learning institutions react and use the internet. Male students are more linked to technology aspect than their counterparts.
- Mainstreaming gender in online education higher learning system should start from the scratch i.e. from primary level to higher educational institutions as vital sites for normative change and have the potential to address gender inequalities and prevent gender based violence (GBV) in online education.
- Online or E-learning have more opportunities in addressing gender disparities in higher education and addressing the challenges facing education system in developing countries. Well-designed e-learning initiatives can provide a low-cost, flexible, culturally appropriate and more gender inclusion
- Traditions, subcultures, and ethnic matters that are sometimes observed with bias that have potential to induct irreparable damage to vulnerable and marginalised populations in higher education, but e-learning can act as a shield to reduce such damage.

- Online education or E-learning has proven to attract a large number of women and other marginalised populations into educational environments.
- Supportive and solicitous parents prefer e-learning for their children, especially their daughters, while married women and their husbands prefer elearning.
- Expansion of e-learning can surmount the educational and socio-psychological needs of women and other marginalised populations in developing countries including Tanzania.
- The promotion the culture of e-learning by families viewing e-learning as an opportunity to improve psychological security of female students and their families
- Online education or E-learning has provided an opportunity for a higher learning student to simultaneously manage family, occupation and extra curricular activities compared to conventional education system. Thus online education in higher learning should be advocated and promoted as a tool for national-cultural preservation.

Conclusion

In Tanzania and other developing countries to achieve gender equality in both conventional and online education requires system-wide from National policy framework to institutional level change in the way policies and realistic plans are developed to ensure no one is left behind. With existing cultural practice that facilitate gender disparities in various education approaches yet the vital need to identify and mainstreaming online education gender issues and ways to turn gender differences into assets rather than disadvantages. Also, the country needs to develop online learning curiosity among women and girls from early stage of their development. In addition, strategies to ensure effective application of online education or e-learning in higher learning institutions with gender parity are needed, including strong enforcement of an ICT institutional policy on gender mainstreaming, availability of trained staff in gender and institutional led monthly open discussions regarding gender issues in online education in the teaching and learning process.

Recommendations

The Government

- The government of Tanzania needs to develop specific educational policy of online

education and that stipulates integration of gender education at all levels of education from primary school to higher learning institutions.

- The government needs to develop online learning culture among women and girls from early stage of their development.
- Online education should be used as an alternative approach for accessible and quality education to empower the poor and the marginalized groups
- The government should oversee the creation and the issue of local content learning materials. Diverse languages facilitates gender biasness and this can be addressed by creating and sharing local, customised content which improves learning because the learners study better in their first language.

Higher Learning Institutions

- Higher learning institutions should use online education as an approach to promote gender parity to all i.e. girls and boys, women and men, rich and poor should have equal opportunity to enjoy education of high quality and equal benefits from education.
- Each higher learning institutions should create an online gender awareness information and counselling system that gives effective support to students on the issues related to gender based violence by training relevant staff.
- Higher learning institutions should promote public awareness campaign on the vital need of using online education as alternative for disadvantaged groups women, poor men and disabled so as to achieve career development and nation's socio-economic development.
- Higher learning institutions should conduct public awareness campaign on gender awareness so that men can find the importance of sharing gender roles in the family and community level. This may provide women with ample time to participate fully in online education and ultimately contribute to the nation's socio-economic development.

Notes

The author of this paper would like to thank members of The Department of Sociology and social work at The Open University of Tanzania for the assistance given during developing of the article. Also, I would like to thank Dr. Kelvin Haule, Joan Mboneko and Mr. Stephano

Masuluale for their technical support on the process. Any opinions expressed in this paper are those of the author alone.

References

- Adams-Prassl, A., T. Boneva, M. Golin, & Rauh C. (2020): "Inequality in the impact of the coronavirus shock: Evidence from real time surveys," *Journal of Public Economics*, 189, 104245.
- Ayllon S. (2021). Online Teaching and Gender Bias
- Bagarukayo, E., Weide, T. P. V., Mbarika, V. W., & Kim, M. S. (2012). The Impact of Learning Driven Constructs on the Perceived Higher Order Cognitive Skills Improvement: Multimedia vs. Text" *International Journal of Education and Development using ICT*, 8:120-130.
- Bagarukayo, E. & Kalema, B. (2015). Evaluation of elearning usage in South African universities: a critical review. *International Journal of Education and Development using ICT*, 11(2), 168-183.
- Behera, S. K. (2013). E- and M-Learning: A Comparative Study, *International Journal on New Trends in Education and Their Implications*, Volume: 4 Issue: 3 Article: 08 ISSN 1309-6249.
- Boring, A., & Philippe A. (2021). "Reducing discrimination in the field: Evidence from an awareness raising intervention targeting gender biases in student evaluations of teaching," *Journal of Public Economics*, 193, 104323.
- Bhuasiri et al. (2012). Critical success factors for e-learning in developing countries: A comparative analysis between ICT experts and faculty *Computers and Education*, Volume 58, pp. 843-855.
- Hamidi, H. & Chavoshi, A. (2018). Analysis of the essential factors for the adoption of mobile learning in higher education: A case study of students of the University of Technology *Telematics Inform*, 35 (4) (2018), pp. 1053-1070, 10.1016/j.tele.2017.09.016
- Farre, L., Y. Fawaz, L. Gonzalez, & Graves J. (2020). "How the COVID-19 lockdown affected gender inequality in paid and unpaid work in Spain," *IZA Discussion Papers* 13434, Institute of Labor Economics (IZA).
- Fauville, G., Luo M., Queiroz A.C.M, Bailenson, J.N. & Hancock J. (2021). "Nonverbal mechanisms predict Zoom fatigue and explain why women experience higher levels than men," *Discussion paper*, SSRN.

- Green, L., & Trevor-Deutsch, L. (2002). "Women and ICTs for open and distance learning: Some experiences and strategies from the Commonwealth". Retrieved from <http://dspace.col.org/handle/123456789/201>
- Gunga, S. O. & Ricketts, I. W. (2007). Facing the challenges of e-learning initiatives in African universities. *British Journal of Educational Technology*, 38(5), 896-906. <https://doi.org/10.1111/j.1467-8535.2006.00677.x>
- Hubackova, S. (2015). History and perspectives of elearning. *Procedia-Social and Behavioral Sciences*, 191, 1187- 1190. <https://doi.org/10.1016/j.sbspro.2015.04.594>
- Jacobs, J. A. (1996). Gender inequality and higher education. *Annual reviews* 22, 153 – 185. Retrieved from http://www.uiowa.edu/~c07b150/jacobs_j_article.pdf
- Kayombo, J.J. (2011). Education for all in Tanzania: Achievements and shortfalls. East China Normal University, Dissertation for master's degree
- Kapinga, B., & Mtani, M. (2014). Challenges faced by adult learners enrolled in blended distance learning Programmes: A Case of the Institute of Adult Education. *HURIA Journal*, 18(1), 100-106.
- Kondo S.T (2016). An empirical study on E-learning adoption in Tanzanian secondary schools
- Lihamba, A., et al. (2006). The challenges of affirmative action in Tanzanian higher education institutions: A case study of the University of Dar es Salaam, Tanzania. *Women's Studies International Forum*, Elsevier
- Lwoga, T & Komba, M. (2011). Antecedent of confirmed usage intention of web based learning mgt system in Tanzania: *Education and Training* vol. 57.
- Lwoga, E. (2012). "Making learning and Web 2.0 technologies work for higher learning institutions in Africa", *Campus-Wide Information Systems*, vol. 29, no. 2, pp. 90-107.
- Mahona P, & Mkulu, D., (2020). Online Classes during COVID-19 Pandemic in Higher Learning Institutions in Africa. *Global Research in Higher Education*. 3. p1. [10.22158/grhe.v3n3p1](https://doi.org/10.22158/grhe.v3n3p1).
- Manion, C. (2011). Global-local power dynamics in the framing of girls' education policy in The Gambia: The significance of human capital, human rights, and human capabilities approaches. Paper presented at the Ninth International Conference of the International Development Ethics Association on Gender Justice and Development: Local and Global at Bryn Mawr College June 9-11, 2011: Bryn Mawr, USA
- Mbunda N.D., (2022). Open and Distance Learning Among Female Students In Tanzania: Empirical Voices From Learners At The Institute of Adult Education. *European*

Journal of Research and Reflection in Educational Sciences Vol. 10 No. 3, 2022 ISSN 2056-5852

- Mkude, D., Cooksey, B., & Levey, L. (2003). "Higher Education in Tanzania A Case Study". Dar es Salaam: Partnership for Higher Education in Africa.
- Mkwizu, K., & Ngaruko, D. (2020). Implied benefits of open and distance learning in Tanzania: A qualitative approach on its benefits in Tanzania. *Global and Local Distance Education*, 6(2), 80-88.
- Moraes, T.G.A. (2011). The millennium development goals two and three in Latin America: Social intersections and political responses. Paper presented at the Ninth International Conference of the International Development Ethics Association on Gender Justice and Development: Local and Global at Bryn Mawr College June 9-11, 2011: Bryn Mawr, USA
- Morley, L. (2005). "Opportunity or exploitation? Women and quality assurance in higher education." *Gender and Education* 17(4): 411-429.
- Munro, M. (2018). The complicity of digital technologies in the marketisation of UK higher education: exploring the implications of a critical discourse analysis of thirteen national digital teaching and learning strategies. *International Journal of Educational Technology in Higher Education*, 15(11), 1-20. <https://doi.org/10.1186/s41239-018-0093-2>
- Mpungose, C. B. (2020). Is Moodle or WhatsApp the preferred e-learning platform at a South African university? First-year students' experiences. *Education and Information Technologies*, 25(2), 927-941. <https://doi.org/10.1007/s10639-019-10005-5>
- Msoffe. M.M., (2016). The Role of Open and Distance Learning in Gender Equality and Women Empowerment - A Case of Diploma in Primary Teacher Education at The Open University of Tanzania
- Mlyakado B.P (2012). Gender and Education Opportunities In Tanzania: Do We Bridge The Gap of Quality? *Academic Research International*
- Nafukho, F., Onguko, B., Jepchumba, L., & Gaceri, P. (2013). For us it was a learning experience. *European Journal of Training and Development*, 37(7), 615-634. <https://doi.org/10.1108/EJTD-10-2012-0052>
- Nagunwa, T., & Lwoga, E. (2013). "Developing an eLearning strategy to implement medical competency based curricula: experiences from Muhimbili University of Health and Allied Sciences", *International Journal of Education and Development using ICT*, vol. 8, no. 3, pp. 7-21.

- Njenga, J. K., & Fourie, L. C. H. (2010). The myths about e-learning in higher education. *British Journal of Educational Technology*, 41(2), 199-212. <https://doi.org/10.1111/j.1467-8535.2008.00910.x>
- Nyerere, K. J. (1967). Education for self-reliance. Dar es Salaam : The Government Printer
- Onyema, E.M., & Deborah E.C., (2019). Potentials of Mobile Technologies in Enhancing the Effectiveness of Inquiry-based learning *International Journal of Education (IJE)*, 2 (1) (2019), p. 1, 10.5121/IJE.2019.1421
- Sanga, C., Magesa, M., & Kayunze, K. (2011). "E Learning Technology-enabling Science Education to Female Students: e Learning-enabling Science Education to Female Students in Developing Countries: The Case Study of Tanzania Universities": LAP Lambert Academic Publishing AG & Co KG.
- Sarukesi K. & Senzige J.P. (2003). An Approach to ICT based school education in Tanzania, The Institute of Finance Management, Tanzania African Studies Association of Australasia and the Pacific 2003 Conference Proceedings - African on a Global Stage
- Sife, A., Lwoga, E., & Sanga, C. (2007). "New technologies for teaching and learning: Challenges for higher learning institutions in developing countries", *International Journal of Education and Development using ICT*, vol. 3, no. 2, pp. 57-67.
- Schultz T.P. (2002). Why Governments Should Invest More to Educate Girls, *World Development*, 30 (2) 207-225
- Secreto, P. (2013). Gender Equality in Online Learning: The Case of UP Open University. *Procedia - Social and Behavioral Sciences*. 103. 10.1016/j.sbspro.2013.10.357.
- TCU. (2010). Statistics for universities and university colleges enrolment of students 2009/2010. Retrieved from <http://www.tcu.go.tz/uploads/file/Statistics%20for%202009-2010>
- UNESCO. (2000). Education for all: Meeting our collective commitments. Text adopted by the World Education Forum – Dakar, Senegal, 26-28 April 2000. Retrieved from <http://unesdoc.unesco.org/images/0012/001202/120240e.pdf>
- UNDESA (2010). Financing for Gender Equality and Empowerment of Women. Report of Expert Group Meeting Organized by division for Advancement of women and hosted by government of Norway.EGM/ FFGE/ 2007/ REPORT.
- URT. (1995). Education and training policy. Dar es Salaam: Ministry of Education and Culture. Retrieved from <http://www.tzonline.org/pdf/educationandtraining.pdf>
- Uwezo, T. (2011). Are our children learning? Annual learning assessment report. Retrieved

from http://www.twaweza.org/uploads/files/ALA_UWEZO.pdf

Wedgwood, R. (2005). Post-basic education and poverty in Tanzania. Post-basic education and training working paper series - no 1. Centre of African Studies, University of Edinb

Miyakado P.B. (2012). Gender and Education Opportunities In Tanzania: Do We Bridge The Gap of Quality? Academic Research International

Zhang L., Basham J.D., & Yang S. (2020). Understanding the implementation of personalized learning: A research synthesis *Education Research Review*, 31 (2020), p. 100339, 10.1016/j.edurev.2020.100339

Author Information

Meinrad Lembuka

 <https://orcid.org/0000-0002-8267-5161>

The Open University of Tanzania

Box 23409

Dar es salaam

Kawawa Road - Kinondoni

Tanzania

Contact e-mail:

meinradlembuka@gmail.com

Citation

Lembuka, M. (2023). Gender Equality in Online Education in Higher Education: A Literature Review. In O. Noroozi & I. Sahin (Eds.), *Technology-Enhanced Learning Environments in Education* (pp. 87-112). ISTES Organization.