

Inequities and Challenges Faced by the Girl Students in Accessing the Information Communication Technology in the Mountainous Region of Pakistan

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Abstract

This qualitative study has explored the cultural and social influences which affect female students to access and use the Information Communication Technology (ICT) facilities for their education and learning. We employed multiple data collection tools such as interviews and Focused Group Discussions in two colleges (one public and one private sector) in Gilgit-Baltistan, Pakistan. The finding indicated that there is awareness in society about the role that the ICT is playing in socio-economic development. However, female students are facing various kinds of barriers and obstacles for accessing ICT education which range from lack of quality infrastructure, social and cultural obstacles, and the sense of insecurity among parents about the use of ICT by their daughters. Educational institutions, thus, can ensure motivation and encouragement by developing an enabling and comfortable learning environment for ICT education. Additionally, it has implications for ICT policies and gender realities.

Keywords: Women and ICT, Social and Culture Contexts, ICT Education, Patriarchal Society, Barriers in ICT.

Introduction

Information Communications Technology (ICT) is an umbrella term that includes all the cutting-edge technologies often referred to for diverse strands such as education, health, and other professions. The rapid growth of ICT has changed the whole complexion and dynamics of the socio-economic environment of the contemporary world. Societies around the globe are now increasingly involved in a debate for equal and equitable ICT access and opportunities to the underprivileged and marginalized sections of the world society so that the ICT benefits must reach humanity irrespective of gender, class, clan, and region.

However, the developing countries of the world are still struggling to provide equal and equitable ICT opportunities to the underprivileged and marginalized sections of their societies (Gurumurthy, 2004). The situation is worse in remote regions. Various kinds of stereotypes about gender roles are emerging as paramount obstacles for equal and equitable access to ICT by all sections of societies. Gil et al. (2010) highlighted four important factors that are becoming instrumental for reducing the access of women to ICT. These factors include the exclusion of women from ICT education, limited free time, socio-cultural norms that favor men, and the financial limitation of the female population. Similarly, Antonio and Tuffley (2014) highlighted material barriers, social and cultural barriers, psychological barriers, and political and institutional barriers which hamper women from accessing ICT education. Social and cultural barriers are referred to the reduced opportunities and choices of women to access the digital equipment, preference for sons over daughters, and discriminatory social orders in the societies. Psychological barriers are the stereotype thinking in the society, including the perceptions that ICT is a better fit for boys and girls who do not have that required ability in ICT. Finally, political, and institutional barriers are also limiting institutional opportunities for female students to access ICT facilities.

Provision of equal opportunities and empowering women for access to ICT and other income-generating opportunities can significantly raise the income level of their families and contribute to the larger economy given the condition that the women of the society must have equitable power

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relationship in the society (Todaro and Smith 2007). However, the state of this equitable power relationship in the society is not encouraging, particularly in the case of developing countries of Asia where a digital divide persists in various parts of the region. Frequently, research indicates cases of discouraging women from accessing ICT. For example, a study in Afghanistan explored that getting permission from family for keeping and using a mobile phone is a significant barrier (USAID, 2013). In countries like Egypt and India, it was found that women hesitate to use the internet because family and friends would feel it inappropriate. Many of the men expressed their concern for the use of the internet by their wives and daughters and considered it as a source of destabilizing relationships (Intel, 2013).

Pakistan is a country where the government is gradually taking significant steps for ensuring gender equality; however, Zainudeen et al. (2008) explored that there is a visible gender divide in accessing ICT. This gender divide is particularly visible in rural settings (Benz, 2013). Gilgit-Baltistan of Pakistan, which is the context of the study, is one such rural setting where parents prefer to invest in boys. In such rural settings, decisions about women's education are nested in the gender role considerations (Benz, 2013). Hence, the dominance of males influences the decision of females in accessing the ICT facilities for their education and learning.

Hence within the backdrop of the above-mentioned scenario, the purpose of this study was to explore how and in what ways the social and cultural environment influence the access to ICT resources and facilities by the female students in Gilgit-Baltistan, Pakistan.

Literature Review

Researchers have explored various kinds of obstacles and challenges that women face to access, use, and benefit from the ICT. In this regard stated that women are facing serious challenges that are not only economic but social and cultural obstacles that limit or prevent their access to, use of, and benefits from ICT facilities (Primo, 2003; Huyer & Hafkin, 2007). The barrier for women's access to ICT is becoming instrumental in reducing the efforts for making ICT a tool for women empowerment (Hilbert, 2011). In this regard, Wagner, et al (2008) argued that the root causes of the initial digital gender divide were related to the issues of lack of a safe place of access, limited literacy, and few useful outcomes for females. Another reason is the men's access to economic resources outside of the home which put them in a greater position for access to technology. In a bid to further expanding the horizons, Volman and Eck (2001) found gender-related differences in participation in computer activities and performance in ICT by men and women.

However, in some contexts the scenario is different. Hohlfeld Ritzhaup and Barron (2013) examined gender differences related to ICT with eighth-grade students in Florida. The results indicated significant differences in all areas in favor of females. For instance, females got higher scores in computer use, perceived ICT skills, and attitudes toward computers and all performance-based assessments. Hence, they claimed that gender has no longer significant and females have dominancy over ICT. Indeed, culture and context can play a vital role because, if females are provided an enabling environment, they seem to perform well. However, the situation of female participation in ICT education is not so encouraging and is becoming a concern for developing countries.

Zirima (2017) discusses the state of ICT and gender inequalities in southern African countries, namely Mozambique, Zambia, and Zimbabwe, and argues for devising and implementing comprehensive policies in critical sectors such as commerce, agriculture, and education to ensure women's access to ICT. In the Asian context, Zainudeen et al. (2008) stated that there is a visible gender divide for ICT in Pakistan, India, and to a lesser extent in Sri Lanka. Similarly, Shresta (2017) emphasized a collaborative and strategic line of action by the government and civil society to increase female access and use of ICT in Nepal. Shresta argued for reducing the digital divide by cultivating female friendly environment, promoting women's ICT leadership, and facilitating their access to financial resources. Thus, the socio-economic and cultural contexts have a huge impact on the decision about the type of education for women (Gurumurthy, 2004).

The local culture and context play a pivotal role in the access and use of ICT by women in societies. The strong influence of culture ranges from the design, use, management of information, and communication, and, career choices to learning systems. Zhan (2007) highlighted several factors in pedagogical culture and suggested critical changes to ensure equal and equitable access to ICT by all sections of the society. According to Assié-Lumumba and Sutton (2004), the first dimension is the

notion of globalization and the second is the locally inflected and worldwide transformation of gender roles in education.

To conclude, female students have challenges accessing ICT facilities in most parts of the developing regions due to socio-cultural barriers (Schoepp, 2005; Primo, 2003). These barriers can broadly be categorized into extrinsic and intrinsic obstacles. The access to quality hardware, quality internet connections, technical and administrative, supports can be categorized into extrinsic barriers, whereas personal beliefs, previous success with technology, and self-efficacy can be grouped into intrinsic barriers (Ertmer, Ottenbreit-Leftwich & York, and 2006–2007).

Research Methodology

This qualitative small-scale study intended to explore how and in what ways the social and cultural environments impede the career choice and access to the ICT facilities by female students in Gilgit-Baltistan. Data were collected from two colleges (one private and one public sector). Multiple tools such as teachers' interviews, parent interviews, and focused group discussion for students were employed for data collection. The teacher interviews were focused on exploring their views about the digital gender divide in their classrooms, gender differences, and difficulties faced during their teaching and learning processes and the performance of different genders, and possible causes of these inequities. Three teachers were selected from a public sector college and three teachers from a private college were selected as the primary participants of this study against the following criteria:

- The teachers having at least three-year experience of teaching ICT at the college level;
- The teachers having experience of at least two years in a co-education environment;
- The teachers having a willingness to participate in the study.

All the six teachers were ICT teachers in the colleges having above four years experience.

Similarly, six parents were selected from the same public sector college and six parents from the Private Sector College as the primary participants. Parent interviews were focused on exploring their views about the benefits and drawbacks of ICT for their children, ICT accessibility and practices for both girls and boys at home, and the ICT facilities they are providing to girls and boys at their homes. The parents were selected against the following criteria:

- The parents are residing in the region at least for the last ten years;
- A child of the parent is currently studying in any one of the colleges;
- The parent is willing to participate in this study.

All the parents, who participated in the study, had minimum elementary level education. Three of them had received masters' degrees and four of them had a bachelor's degree in various subjects.

As the secondary participants, six students from each college were selected to participate in the Focused Group Discussion (FGDs). Altogether, twelve students, both male, and female participated in the FGDs. The focused group discussion for children was focused on exploring their views about the difficulties they faced in the classroom, online assignment submission, outdoor issues faced while using ICT, and the support and challenges they face at home.

All the interviews were audio-taped and transcribed for analysis. The analysis included reading through the transcripts several times, coding the data under various emerging themes, cross-checking for triangulation through looking for various sources of data, and finalizing the themes.

Ethical considerations including anonymity of the respondents, protection of the data, and right to withdraw from the study at any stage, were followed strictly. Pseudonyms were used in place of real names. Voluntary participation was ensured through the consent of the participants. All the participants were adults (above eighteen years of age).

Analysis, Interpretation, and Findings

Based on the analysis of the data, findings are discussed in the sections below.

Perceptions about the Importance of Information Technology in Education.

The majority of the participants highlighted the importance and indispensable role that information technology is playing in the socio-economic dynamics of the contemporary world. In this regard, teacher 1 mentioned that information technology was becoming an integral part of our socio-economic life and has significantly increased the speed of life. He shared his feelings in the following words:

"It is the era of data communication. We use computers, mobiles, and other accessories in banks, in education, and everywhere. The data communication! Everywhere data, data, and data!"

Without any data!! However, in developing societies like ours, information technology is a bit ignored, which is because of the lack of awareness about its importance. We do not have an option but only to use it in the right way if we want to progress" (Teacher Interview).

Teacher 2 pointed towards the remoteness of the area as a result of which basic information technological supports is not available to the teachers and the student for their teaching and learning. He said,

"You know, we live in a remote mountainous region. We have our problems. We have a shortage of basic facilities such as computers and the internet. Sometimes we get internet but the speed is so slow that it takes hours for one download. Students need these facilities to develop themselves by searching latest information. We teachers also need internet to update our knowledge to share with our students" (Teacher Interview).

During the Focused Group Discussions, the majority of the students were appreciative of the contribution that information technology has made to the development of societies around the globe. A male student tried to highlight the significance of information technology by comparing the developed and developing societies. He argued:

"We need the knowledge and education of information technology just like people have in the West. They are more developed because they have more advanced knowledge and skills in information technology. We should have the same knowledge and expertise. We need to allocate more money for information technology in our country" (Focused Group Discussions).

In the Focused Group Discussions, all the students emphasized providing opportunities for improving their knowledge and skills about computers and information technology. A female student argued that "we need training for effectively using computers and other accessories to take full benefits from the opportunities of information technology" (Focused Group Discussion). According to a male student, "if we are still full for the operation of accessories, we will be able to solve all our problems in academics through the internet" (Focused Group Discussion).

Parent 1 argued and mentioned the values and cultural aspects to be protected while using information technology. He said, "Information technology is necessary for education. It is impossible to survive without ICT. To gain knowledge from the world it is extremely important to have good knowledge and skills about information technology and its accessories. However, it is equally important to protect our children from the negative implications of the Information Technology in terms of confusions in values, norms, and ethics" (Parent Interview).

By and large, all of the participants have positive perceptions about information technology for teaching and learning. However, a parent showed some fear and reservation for the misuse of information technology.

Unavailability of Information Technology facilities and required skills

The availability and accessibility of information technology to the students at their homes revealed diverse responses from the participants. During the Focused Group Discussion, the majority of the male students claimed that they have the facility of personal computers and they share data. These students further stated that they did not share computers with their siblings. One of the male students even said that he did not even allow his siblings to touch his computer (Focused Group Discussion). Additionally, all the students shared their challenges of electrical breakdown and unavailability of proper internet which seriously hampers their learning from information technology. However, the female participants had different views about the availability and accessibility of the information technology facilities at their homes. All of the female participants except two shared that they faced problems at home as they had limited and sometimes no access to computers and internet facilities. In this regard, one female student said, "Yes we have the facilities of computer at home and institute. At home, usually brothers use a computer but we, the sisters, hardly get the opportunity". Another female student mentioned, "At homes computers are protected and thus we cannot use them freely. We cannot go to the Internet Cafes as that is culturally considered undesirable" (Focused Group Discussion).

In his interview, teacher 6 highlighted the poor skills of the students for using computers, the internet, and other accessories of information technology. He maintained,

"We face numerous problems in computer classrooms. Most students do not know what a computer is! How to open and close it? Now at Grades 9 and 10, I have to teach them the basics. There is a problem with their basic knowledge and skills about computers because most of the

students do not have computers in their homes. We should start from the beginning of their educational careers at schools so that children are familiar with information technology” (Teacher Interview).

Teacher 4 had similar views about the availability of computers and other resources of information technology and argued that “in our context, the main problem is the lack of basic knowledge about computers. Recently, in some schools, computers have been introduced in the lower grades which will help the student to acquire basic knowledge and skills about computers. This will reduce their hardships with computers in the higher grades. Most of the students do not have basic knowledge about computers, like how to use the mouse, how to the operate keyboard and the operating system” (Teacher Interview).

The responses of the two teachers reinforce the claims of the female students in their Focused Group Discussion that they did not have full excess to the computers and internet at home and in society. As a result, they were not able to acquire the required knowledge of information technology.

Like the students, mixed responses were received from the parents. Parents 2 and 4 shared that they did not have computers in their homes. Parent 3 claimed that “he had a computer at home which was in the custody of his elder son and other siblings were too young to use it” (Parent Interview). Likewise, Parent 1 shared his views about the home environment and said, “Yes, we have a computer at home. It is our responsibility to provide them all facilities and remove the barriers. All of my children are sharing equally the computer and internet facilities and there is no restriction” (Parent Interview).

The data reveals that computers, the internet, and other gadgets of information technology are generally not available in homes and thus very few of the parents have arranged such facilities for their children. Additionally, there are certain restrictions for the use of these accessories, particularly in the case of female students.

Gender bias in the ICT usage

This study also found diverse responses from the participants about the biased female students felt or observed in the society for access to ICT resources and ICT education. For example, a female student commented, “in our society female students are generally discouraged to avail ICT-related opportunities while there are no such restrictions for male students, and they are freely availing the ICT opportunities. In my opinion, this is clear discrimination”. Another female student commented that, “boys use ICT facilities more than us because, if a technical problem occurs, they can easily go to the market and solve the issue. We [girls] cannot go to the market easily.” Another female student claimed that, “the parents and the general society thinks that female should not use computers and internet facilities” (Focused Group Discussion). Another female student highlighted the issue of son preference in society and said, “Parents prefer our brothers and are ready to provide them what they wish. In our home when for the first time a computer was purchased, that was for my brother and we were not allowed to use it. Later on, we, the sisters, had restricted access to that computer. Parents think that this is for boys, it is not for girls. If there is the latest mobile phone, it is for brothers not for sisters! Laughing!” (Focused Group Discussion). The male students participating in the discussion agreed with the comments and claims of the female students however, they tried to relate this bias with the overall social development of the society. In this regard, a male student argued that,

“Providing the opportunities of ICT is somehow related to the overall development of our society. This will be a gradual process and progressively females will get equal opportunities because our area is underdeveloped, and there are no modern facilities. After a decade here will be equal opportunities for girls like the bigger cities in the country” (Focused Group Discussion).

Another male student said, “There are no gender differences by parents for overall education, but in case of the provision of ICT facilities, they prefer boys. In my opinion, equal opportunities should be provided to both genders for the usage of ICT facilities” (Focused Group discussions). In an interview, Teacher 6 claimed that their institution is committed to providing equal opportunities for both boys and girls for ICT education. He maintained,

“I have not seen a case of bias in my institution. There is no bias in our organization. Society is also permitting female use ICT facilities; however, I must say that it is a slow process and we need to speed it up” (Interview).

Teacher 3 shared her observations and said, "I have seen that in my class boys perform better at ICT. It could be due to the reason that they have better exposure to ICT at home and in the society" (Teacher Interview).

Teacher 5 in her interview claimed that "the institutions are providing equal opportunities to both girls and boys; however, the problem starts at their homes. Parents are resistant to openly expose female students to the internet and other information technology-related equipment. This hampers their preparation and homework activities related to ICT education" (Teacher Interview).

Mixed responses were received from the parents. Parent 1 believed that "boys frequently use ICT because they have more free time at home whereas, girls cannot give time due to their extensive involvement in domestic chores". Parent 4 claimed that "the society is still favoring the boys, so they easily convince their parents to use ICT equipment at home. The girls face more difficulty to persuade their parent to freely use the internet" (Parent Interview). Parents 3 claimed that "Parents are not biased, they provide same facilities to both genders, but in society, the female is discouraged to use ICT facilities in their daily life" (Parent Interview).

The data indicates that there is an obvious bias while using ICT. Female students are facing different kinds of reasons and challenges for accessing the ICT as compare to male students. There are gender preferences for ICT usage. Usages of mobile phones, computers by the female are not considered desirable which reduces their level of performance in ICT education.

Cultural barriers for the use of ICT

There are many visible barriers to ICT integration in education such as infrastructure, geographic constraints, and language barriers. Among these barriers, one unseen barrier, which is difficult to address is social and cultural. Socio-cultural norms are one of the most powerful barriers preventing female students to easily access to ICT is still ignored or under-research in this part of the world. A male student highlighted the cultural barrier in his words, "in our general society, parents feel proud of the ICT knowledge and skills of their sons while the familiarity of daughters is considered undesirable. For instance, when a girl is browsing through the net, people seem to become conscious and suspicious to know what she may be looking for" (Focused Group Discussion).

A female student commented: "ICT has both advantages and disadvantages, without proper training, the use of ICT may cause obscenity in the society. Common people do not have enough knowledge or information, but the young generation who are using may face troubles due to the misuse of the internet. For example, nowadays, young people are all the time busy with mobile phones, which is creating misconceptions about ICT education" (Focused Group Discussions).

Some of the male students believed that there was no discrimination in their homes for availing ICT facilities. A male student claimed; "We share our tools with our siblings and there are fewer gender inequities in our family. However, the majority of the female students in the discussion argued that as compared to the boys they faced restriction in the use of ICT facilities. Similarly, Parent 4 stated, "I do not allow my daughter-in-law to use a cell phone. You know! in a social gathering, a leader highlighted the misuse of mobile phones; therefore, I told my family members that they could use my cellphone to make calls, but they were not allowed to keep a personal phone and internet" (Parent Interview).

The data suggest that there exists a socio-cultural barrier for girls in ICT usage. Although some respondents showed positive remarks still the majority accepted that a negative mindset has developed in the society for female ICT education. There is a stereotype thinking that prevails that the ICT sector is better suited for males.

Ways of Increasing Women's access to the ICT

In their focused group discussions, the majority of the students, both male, and a female believed that the female students must be provided ICT facilities both at home and in their institutions. In this regard, a female student argued that "Girls must have equal access to the ICT facilities at home. Parent should trust their daughters that they will use it positively for educational purposes". Another female student stated,

"The educational institutions can play a very important role. They should provide enabling environment for us so that we can easily opt for ICT education. They can even give awareness to our parents and tell them that this is an equally rewarding area for girls. The institutions can give awareness to the society for the importance of ICT education for girls" (Students Focused Group Discussion).

Teacher 3 showed her reservation for low enrolment of female students in her class and stated,

“The female enrollment in ICT education is very low in Grade 11 and 12. Medical and engineering are the most favored education for females in this institution. Only very few doctors come back to this remote region whereas, the few students of ICT who were educated from this region are serving the area. I am trying to change this trend. I am motivating the students in my class. As a result, half of the class is interested to get admission in ICT education, but their parents are still resisting” (Teacher Interview).

Teacher 1 suggests “institutions must encourage female students to join ICT. They should arrange a joint session for female students and parents about the misuse of the internet and ICT and the ways for addressing them. This will give confidence to the parents for enrolling the female students in ICT education” (Teacher Interview). Similar suggestions came from parent 1. According to him, “the institution and the faculty must introduce ICT sessions in junior classes for their awareness and motivation. Secondly, make efforts to aware the society about positive features of ICT, and ways to prevent from the drawback of ICT through teachers-parents meeting” (Parent Interviews).

Hence, the data indicates that increased female participation in ICT education can be enhanced through encouragement and motivation for the female student and awareness-raising of the parents.

Discussion

Analysis of the data showed that all the research participants (students, teachers, and parents) advocated the importance of ICT in education. The findings also showcased that female student comparatively faced difficulties in accessing the ICT facilities. The analysis revealed that computers, the internet, and other gadgets of information technology are not common in every home and very few of the parents have arranged them for their children. This is mainly because of the remoteness of this mountainous region where the basic facilities like electricity and internet are not regularly available. Secondly, these ICT facilities have recently been introduced in the region therefore, every household does not have these gadgets. However, the encouraging sign is that people are getting aware at a brisk pace and the message of ICT education is spreading. Ertmer, Ottenbreit-Leftwich, and York (2006–2007) argued that limited access to various aspects such as hardware, quality software, the Internet, and technical, administrative, and peer support are the extrinsic barriers for ICT education. Additionally, there are certain restrictions for the use of these accessories particularly in the case of female students. These restrictions are also because of the lack of awareness among the first-time young users and the apprehension of the adults who are aware of the misuse of ICT and unaware of the positive contribution that ICT can make to the development of society. The findings of this study are in line with Primo (2003) who argued that certain factors lead to the understanding of a group of society who believes that certain activity is not for a particular section of society and try to refrain. In this case, such factors are the nature and role of technology, perceptions about the accessibility of the technology, and the insecurities based on social markers of gender identity. Hence, negative personal beliefs, lack of previous success with technology, and low self-efficacy are the prominent barriers for ICT education (Ertmer, Ottenbreit-Leftwich, and York (2006–2007)).

The mountain community is gradually opening and mass education for women has prospered in the last two decades. People are willing to educate the women of the society, yet still, it is a patriarchal society where preference for a son is present in one or the other way. This preference is deeply rooted in the social and cultural dynamics of the region as traditionally parents in their old age are exclusively dependent on their sons for support and care. It is like, parents who seem to enjoy the returns on the educational investments on their sons and daughters are excluded from this responsibility (Benz, 2013). This study explored that, there is an obvious bias while using ICT. Female students are facing different kinds of challenges for accessing the ICT as compared to male students. There are gender preferences for ICT usage. Usages of mobile phones, the internet, and computer by the female are not considered desirable which reduces their level of performance in ICT education. In addition, females cannot get access to the internet cafes in the market as it is considered undesirable by society. Also, females get less time to use ICT gadgets as they are more involved in domestic chores as compared to their male counterparts. These findings are strongly supporting those found by Gurumurthy (2004) who listed some socio-cultural factors that impede women's use of ICT in rural areas. These factors were the discrimination against women's access to technology, less

possession of communication assets such as radio and mobile phones by females, and limited access of females to information centers located in crowded marketplaces. In addition, women's multiple roles and heavy domestic responsibilities also tend to limit their time for the use of ICT.

Parents are ready to educate their daughters yet like to do so in a sheltered way following the traditional values of this mountain community. Within this socio-cultural environment, people are receiving information about the misuse of ICT in and outside the country through different sources like electronic media. Building on this information, a negative environment is developing for ICT education. However, Zhan (2007) argued that it is not the ICT that is negative rather the use and misuse of ICT largely depend on the culture which influences the design, use, management of information, communication, and learning systems. Hence, the data suggest that there exists a socio-cultural barrier for women in ICT usage. Although, some respondents showed positive remarks still majority accepted that negative perception has developed in the society for female ICT education. A stereotype thinking prevails that the ICT sector is better suited for males. However, research has proved that though women faced serious economic, social, and cultural obstacles for accessing, using, and getting benefits from ICT, yet they have excelled in ICT and we have many examples of women being at the forefront in this field (Primo (2003).

The data analysis indicated that increased female participation in ICT education can be enhanced through encouragement and motivation for female students. The educational institutions can ensure this motivation and encouragement by developing enabling and conducive learning environment for ICT education. Wagner, et.al (2005) argued that women's access to ICT inside and outside of the educational system is significantly reduced as compared to their male counterparts. A comfortable learning environment for ICT education can be ensured by resolving the issues such as lack of a safe place of access, improving awareness and literacy, and ensuring useful outcomes. Additionally, these educational institutions need to spread awareness among the parents, communities, and the larger society for the important role of ICT and the benefits for female students.

UNICEF in collaboration with the Provincial Planning & Development Department of Gilgit-Baltistan surveyed in 2016-17 and found that only 20.9-percent households in the region had a computer in their homes, which reflects the alarming unavailability of computers for both genders in the region. Especially, the women stratum of the society is facing additional challenges of son preferences for resources, cultural obstacles, stereotype thinking about the misuse of ICT. Hence, things are difficult for females for ICT, but the encouraging sign is that the availability and access to ICT are increasing though the pace is slow in this remote mountainous region. The government needs to come up with a viable solution to speed up the process. A comprehensive mechanism is needed to increase women's access to ICT (Shrestha, 2007; Zirima, 2017).

Conclusion

By and large, all of the students, teachers, and parents who participated in this study, showed positive perspectives and perceptions for the use of information communication technology in teaching and learning. They also are highlighting the criticality of ICT for future socio-economic development and prosperity. Parents were also positive for the contributions of ICT in the development of human society and its undeniable role; however, some of the parents also showed fear and reservation for the misuse of information technology. Hence, they showed hesitation and reluctance for considering it as one of the most important strands of education for female students. This is understandable as this mountainous region is recently exposed to information and communication technology. It has been mentioned by Assié-Lumumba and Sutton (2004), the globalization and education, and gender and education will mature over time and hope that efforts to understand how education contribute to advancing human capabilities and dignity.

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