

Women and rural people's participation in tertiary education through Internet resources in India: A narrative inquiry

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India has a large formal higher education system, however the enrolment of women and rural people in universities is not substantial. Women enrolment in tertiary education was reported only 41.5% of the total enrolment in the academic year 2010-2011 and only 7% population in rural areas have a higher education. Many socio-cultural barriers prevent people from accessing higher education in India. The integration of the Internet into the higher education sector has the potential to improve access to tertiary education in India regardless gender and area. Using personal narrative and interview data, this article explores how Internet resources can be used to enhance women and rural people's participation in tertiary education in India.

Introduction

India has a large formal higher education system (Ashish & Atanu, 2012) and higher education is imparted in Universities and other higher education institutions facilitated by both the government (Center and State) and private sectors in India. There are a total of 659 universities, 33023 colleges and 12748 diploma-awarding institutions (Central, State and Private) in India (Ernst & Young, 2012). In terms of number of institutions, India has the largest higher education system and the privatisation of the educational sector has increased the number of higher educational institutions in India (Ernst & Young, 2012).

Despite this, women's participation in tertiary education is low and women enrolment in tertiary education was reported only 41.5% of the total enrolment in the academic year 2010-2011 (Nath, 2014). In this context, Aneja (2015) described that there are many reasons that lag Indian women behind in terms of their participation in tertiary education. Firstly, Aneja (2015) described that gender disparity is an obstacle for women in achieving higher education. Gross Enrolment Ratio (GRE) of men in tertiary education is found higher (20.8%) than women (17.9%). Secondly, due to the lack of governmental higher education institutions, many women are unable to afford higher study expenses of private educational institutions. Therefore, the financial condition of some families is a problem that leads to the less women participation in tertiary educations. Thirdly, due the lack of travelling facilities, many of rural and urban women cannot attend tertiary education institutions. Lastly, Aneja (2015) demonstrated that women are considered as the subject

of sexual and social harassment and due to this, women are not encouraged to access higher education.

Besides this rural people's participation in tertiary education is also low. GRE of rural people in higher education in India is only 7% of total enrolments (Chakraborty & Konwar, 2013). Also there are many reasons behind the low GRE of rural population. Firstly, Most of the higher education institutions are urban-centric (Chakraborty & Konwar, 2013) and secondly, the institutions situated in rural areas lack quality in their programmes. Thirdly, the inadequate mobility facilities are huge problems for rural people to access tertiary education in urban areas (Aneja, 2015).

All the above-discussed issues can be considered as socio-cultural and political barriers that lead to impediment of women and rural people's participation in tertiary education. To remedy these kinds of issues and barriers, it has been suggested that online courses could make tertiary education accessible to all (Balakrishnan, 2010; Bostus, Mear & Williamson, 2015). For this purposes, the Internet-based technologies should be established in Indian higher educational institutions. This article explores how Internet facilities can be used to improve tertiary education opportunities to women and rural people in India.

My background and dispositions, my theorising about the Internet and my practices on the Internet are integral to the conceptualisation of this article. In this context, it is important for the reader to know something of my demographic and educational background to understand why and how I came to conduct this research.



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My personal narrative story: a glimpse

I am from a middle class family in a rural area of the Punjab state of India and I was schooled in the government education system during the 1990s. Except for my elder sister, none of my family members had gone to university and only a few of my year ten classmates had ambitions to pursue higher education. The rural background and lack of awareness about higher education always remained a barrier to people, especially to girls or women of my village undertaking higher education.

During my undergraduate period in India, there was no college or university near my village. Moreover, public transportation was not available. Usually, people walked twenty to thirty minutes to catch a bus or auto-rickshaw. Due to transportation difficulties, people avoided going to urban areas to pursue their studies. My father bought me a vehicle so that I could attend my college in the nearest large town. However, not all people can afford private vehicles. I had to travel one to two hours to attend my college. To remedy these kinds of mobility issues, online courses could make tertiary education accessible to all (Balakrishnan, 2010).

I had not used the Internet until the Master of Philosophy year. Moreover, computers or Internet facilities were not available to the students in my educational institutions. As I was enrolled in the Master of Philosophy degree, I had to write a minor thesis in the third semester of the degree. My guide (in India, a research supervisor is called a guide) suggested that I use the Internet to search for relevant material for my research project. I did not have Internet access at the University, so I accessed the Internet at a cyber café located near the university. I used the Internet for the first time in the Master of Philosophy degree in 2010. As I began to use the Internet, my interest developed. After my interaction with the Internet, I realised that Internet resources can be used to make tertiary education accessible to all regardless area or gender. This article describes the role of the Internet in enhancing tertiary education opportunities to women and rural people in India.

Research design and theoretical overview

This article mainly focuses on how Internet as a part of technology can be used to enhance participation of women and rural population in tertiary education. A number of theories have been put forward to explain the meaning of technology and its' (technology's) impact on society. Two such theories are technological determinism (Veblen, 1920) and the Social Construction of Technology (SCOT) theory of Bijker and Pinch (1986). The former theory considers technology as an agent of social change. Technological determinism stresses that dominant

technologies mould societies' behaviours and interactions. It contends that technologies exert an impact on the world independent of human choice, and people seem unaware of their technological choices (Dafoe, 2015). Furthermore, the theory tends to assert that new innovations come into existence autonomously in order to exceed the power and utility of the previous technology.

Technological determinism could provide a conceptual framework for this study, where the Internet can be seen as a digital technology resulting in development in the field of access to tertiary education; however, the development of any society or specific field does not rely on technology only (Bijker, 1995), as society plays a significant role in technological development. Technological determinism does not take societies' perceptions into consideration when explaining the development of the societies through technology. The implementation of technology depends on people's perceptions about the technology that leads to further innovation of new technology.

Bijker (1995) argues that technological innovation is not an autonomous process based on designers' myths. Instead, it is a result of the implementation and use of technology by societies. The societies are the main actors that use the technologies and give meaning to the technology, which results in innovation of new technology and innovative uses of the existed technologies. In this way, the study of different individual's perspectives about technology enables a researcher to highlight the advantages/disadvantages of the technology, which can be useful in expanding the scope of the use of that technology.

On the other hand, this study is able to draw upon the SCOT theory of Bijker and Pinch (1986) as the conceptual framework to explain tertiary education students' perceptions about Internet use to enhance access to tertiary education in India. The SCOT framework suggests that both adoption and innovation of technology depend on an individual's perceived meaning about the technology, which further depends on the usefulness of the technology. A researcher should go beyond the internal functionalities of the technologies to consider the extent and manner in which the technology is being used by the societies (Carr, 2014). Hence, the SCOT theory presents an appropriate framework to examine the innovative uses of the artefact (e.g., the Internet, in this article) through analysing individuals' perceptions

Initially, the core formation of the SCOT theory consisted of four central concepts: relevant social group, interpretative flexibility, closure and stabilization, and wider context. In 1987, Bijker added and introduced the concept of technological frame for the first time. As the main focus of this article is to describe participating

tertiary education students' views about the uses of the Internet in enhancing access to tertiary education in India, therefore only interpretative flexibility is employed to analyse and discuss the results.

Interpretative flexibility

The notion of interpretative flexibility is based on the first stage of the Empirical Programme of Relativism (EPOR) (Russell, 1986) that focuses on the social construction of scientific knowledge. In the SCOT theory, the EPOR demonstrates that the technological artefact is socially constructed and interpreted. A researcher examines all interpretations made by social groups in order to explain the various uses of that artefact.

Interpretative flexibility does not mean only to provide flexibility to individuals in describing how they think or interpret technological artefacts (Bijker & Pinch, 1986), but also there is flexibility in how an artefact is used differently by various social groups. There are different ways of using the same technology. For example, technological experts or skilled people use mobile phones differently to non-skilled people. Technologically skilled individuals may prefer to use mobile phones for online activities such as browsing, accessing e-mails, surfing on social networking sites and many more. On the other hand, technologically non-skilled people may prefer to use mobile phones for making phone calls and texting messages only. Thus, interpretative flexibility focuses on different use of the same technology. This article employs interpretative flexibility to explain how Internet resources can be useful to enhance access to tertiary education in India.

Research methodology

The qualitative research methods are used in this study as Bijker and Pinch (1986) considered interviews the most favourable tool for obtaining information about a phenomenon from social groups. Personal narrative and semi-structured interviews are employed as a qualitative data collection tool.

Sample

A total of six interviews (three men and three women) were conducted with Bachelor of Education students studying in different Bachelor of Education colleges of Punjab (India). A pre-set of semi-structured questions were prepared and used for the interview process. All names used for interview participants were pseudonyms and do not reveal the identity of any participant in this study. All participants were 20-30 years of their age.

There were a number of reasons for choosing only Bachelor of Education students. Firstly, Campbell and Kent (2010) described that use of the Internet has the potential to improve both teaching and learning opportunities. The Bachelor of Education students play a

dual role, as a student and as future teachers. It was appropriate to examine how Bachelor of Education students as future teachers describe the role of the Internet in accessing tertiary education.

Secondly, Bachelor of Education students are trained for teaching and by the end of the degree it is assumed they will be starting to teach in schools. Examining Bachelor of Education students' perceptions about Internet use provided an insight into how useful/not useful they find the Internet for in tertiary education settings. Lastly, as this study was catalyst to my personal narrative, therefore, my narrative was used along with interview data.

Data analysis

The content of the textual data including verbatim interview transcriptions and personal narrative account were analysed employing interpretative flexibility component of the SCOT Theory's framework. I used content analysis to identify themes, patterns and categories contained within the text.

In the first stage of content analysis, themes were coded according to the frequency of occurrence of certain words and phrases. The words and phrases were coded based on the interpretative flexibility component in relation to the research questions in this study. At the second stage, all codes were alongside the same codes in the other interviewees' transcription to ensure similarity (authenticity) in my coding. For example, all participants mentioned that the Internet could be used to enhance the access to tertiary education in rural areas. The data was coded as "the Internet use and tertiary education access in rural areas".

At the third stage of content analysis, the main themes were highlighted and coded in my field text data (personal narrative). For example, in the field text I narrated my Bachelor of Education experience where I described that I did not use the Internet, I coded it as 'no Internet use'. Similarly, I coded themes in my field text data. At the fourth stage, I compared and contrasted all themes of interviews' coding to my field text data. If I found the similar themes in interviews' coding and my field text data, I coded them as 'same experience' and for opposite themes, I coded as 'opposite experience'. In this way, I checked all interviews' coding alongside the main themes of my field text data.

Use of the Internet in enhancing access to tertiary education in India

Despite having a larger educational system in India, many socio-cultural barriers prevent people from accessing higher education in India (Balakrishnan, 2010). Some people leave their studies because of their job priorities and sometimes, family responsibilities also do not allow

them to continue their studies. In those cases, Internet sources can be used to provide them with online education. In line with my personal view, Neha expressed a similar opinion:

In a country like India, you sometime across people who don't have access to higher education simply because of some restrictions of culture and some family norms don't allow to go to the place of study or maybe there are some privacy issues or safety issues. So in that case these online modules and this Internet has been a boon in a sense because you are sitting on your own place, the condition that you should not go outside and study is also been fulfilled because everything is given to you by sitting on one place. You are been provided with the text, you are been provided with the online lectures there are. Whatever is happening in the real classroom happens in that virtual classroom.

The access to tertiary education could be enhanced through using the Internet in India, regardless of time and place (Battacharya & Sharma, 2007; Dange, 2010). For example, Meena and Rahul reported that by using the Internet, they could get any relevant knowledge from any source at any time, which improved their learning. In this way, the students did not have to depend on the structured classroom teaching and learning system. The online courses require a different type of involvement from teachers, where delivery of the programmes happens in a flexible learning environment regardless of time boundaries (Bostus, Mears & Williamson, 2015). People, especially women, could enrol themselves in online teaching-learning classes to accomplish their tertiary education. How the Internet can play a role in enhancing tertiary education among women in India is another pertinent issue in my study, which follows next.

Women's participation in tertiary education through the Internet

The level of women's tertiary education needs to be improved, as the enrolment of women in tertiary education was only 41.5% of the total enrolment in the academic year 2010 - 2011 (Nath, 2014). This is not surprising, as I witnessed in my village that girls were not permitted to go to urban areas for their higher education. There were several reasons underlying this phenomenon, including lack of transportation and negative parental attitudes towards women education. Girls were generally much protected so that they would not bring shame to the family. There are whole sociological and cultural beliefs attached to this stigma that is beyond the scope of this thesis; however, it is important to note that creating opportunities for women to learn and earn qualifications in the safe confines of their homes is a way around this issue. Thus, I believe that Internet facilities in targeted

rural areas have the potential to improve the level of tertiary education among women.

In line with my belief, all of the interview participants agreed that the Internet could have a great impact on tertiary education levels among women in India. For example, Aman articulated that in India, most of the parents did not allow their girls to attend educational institutions because of security concerns. Moreover, Neha described, "the Internet makes easy access for those girls, for those people, who cannot go through the normal process". The participants in this study voiced that an online education system could be very helpful in enhancing women's literacy in India.

Meena believed that if good Internet facilities were available at their home, then the girls and women could enrol themselves in online courses and accomplish their studies. Most women drop out of their studies because of their family responsibilities and due to the lack of provision of higher education institutions near their home (Gupta & Rao, 2006). I argue that Internet resources could enable women to pursue their higher education whilst simultaneously allowing them to fulfil their obligations and responsibilities as home-makers. Beyond their study aspirations, they can develop career opportunities by using the Internet. For example, Rahul explicated:

Women in our country, or everywhere in the world, they have more work at home. So, if they remain at home, they can't get the knowledge about their personality, career and all things. If you make them accessible to the Internet at home they can easily attach to the world, they can easily grow.

Similarly, Aman explained if the Internet is available to women, they could update their educational level in order to enhance their knowledge area. Furthermore, Jot pointed out, "if they have a good Internet connection at their home then they can do the entire learning process in their homes than give an examination in corresponding course". Based on my own experience in obtaining an education, especially coming from a rural background, I am of the strong belief that Internet literacy is essential for women in order to enhance their educational standing. Like me, Komal has a strong opinion about educational opportunities available through the Internet for rural women:

I live in a village and there are many girls in my village who want to go for higher education, but because of expensive and old mentality of the people of villages or their parents, they are not permitted to go outside from their houses to have the higher education. The online education system or the Internet can help those girls to gain their Bachelor and Master degrees in their

homes. So, online tertiary education can be promoted through the Internet.

However, furthering Komal's voice, the interview participants also added that optimum use of the Internet is key in enhancing access to tertiary education for rural people and women in India. In this regard, Gorla (2012) described the Internet as having the potential to improve tertiary education in India by providing online distance learning opportunities to people, though this access needs to be used wisely.

If I had had Internet access, knowledge and skills during my own studies in India, I would have overcome the disadvantage of being a student from the rural part of India. The participants in my study, accordingly, found the Internet to be very useful for the people of rural areas and women to access tertiary education from the remote places they come from. The participants seemed to believe that Internet sources have the potential to improve tertiary education access among rural people. In the next section, the role of the Internet in enhancing rural people's access to tertiary education is explained.

Internet use and access to tertiary education in rural areas

According to the World Bank (2011), 68.70% of India's population live in rural areas. When I was studying my degrees in India, higher education was not adequately accessible to the rural population. As described earlier, I was born and grew up in a rural area of India. I remember that in my village, most of the people were illiterate and only a few of them had primary school education also only a few of my peers had a secondary school education. As described earlier, GRE in higher education in Indian rural areas is only 7% (Chakraborty & Konwar, 2013), which indicates that India has a low level of the tertiary education. If we examine the reasons behind this scenario, it is possible that inadequate tertiary education facilities contribute to this situation. In line with this argument, Chakraborty and Konwar (2013) reported that in India, most of the higher education institutions are urban-centric, whilst the institutions situated in rural areas lack quality in their programmes. This statement reflects the policy changes in India where the twelfth five-year plan of India (2012 - 2017) envisages improving the quality and access of higher education in rural areas (Shaguri, 2013).

It seems reasonable to suggest that if Internet facilities are provided in rural areas, it is more likely that rural students will have better opportunities to continue their higher education. Echoing this suggestion, this study's participants (Aman, Jot, Komal, Neha, and Roop) had the opinion that the provision of Internet facilities could create pathways to access tertiary education in rural areas. As the members of a social group, interview participants provided their different opinions on how the

Internet resources could be used in enhancing access to tertiary education. For example, Neha stated:

Educational opportunities are opening up, plus when you are living in a remote area, you cannot go to the place to the educational institute far off. In remote areas if you provide such facilities like Internet or some online system definitely increase the educational opportunities.

On how rural students could access tertiary education with the help of the Internet, Aman said that in rural areas, students could join online classes in order to pursue their studies. In addition, Jot articulated:

Here are many tuition centers, which are providing online lectures. So, if a student is living in a remote area, he can very easily get access to the lecture of a very eminent person, which otherwise infeasible for him who is living in a remote area.

In this study, participating tertiary education students as a social group interpreted that the efficient use of the Internet in imparting tertiary education to people who dropped out of their studies due to barriers (rural background, family responsibilities, job priorities and so on) could make tertiary education accessible to them. It appeared that the participants had the strong belief that the rural tertiary education level might be upgraded through online distance learning. Online distance learning or online correspondence learning enables people to pursue their education without attending the educational institutions on a regular basis (Deane, Galyen & Moore, 2011). Thus, students can complete their studies at their home regardless area and gender.

Discussion

The concept of interpretative flexibility enables manufacturers to study the different perceptions of different social groups, which can result in improving the design of the technology so that all societies could benefit from the technology (Bijker & Pinch, 1987). The improved designs and provision of the technology to all societies could allow people to benefit from the technology. Therefore, the study of individuals' opinions on how a specific society can benefit from a specific technology is useful for manufacturers when analysing societies' needs. Similarly, with analysing the impact of Internet use on access to tertiary education, it can be concluded that the interview participants pointed out the need to provide Internet facilities to women and people who dropped out of their studies due to family responsibilities. In addition, Bostus et al, (2015) described that "online classes can prove to be less intimidating, and those students can experience a sense of flexibility when facing overwhelming daily challenges such as work or family demands" (p. 138). Bostus et al's comment is interesting

as they have highlighted issues around the intricacies of accessing online education.

Also, the study highlighted the need to establish Internet resources in rural areas and provide online Internet facilities to who wish to continue their tertiary education. It indicates that the integration of the Internet into tertiary education systems and into rural areas could enable many more women and people to engage in tertiary education online.

Implications of the study

This study demonstrated that the quality and access of tertiary education in India could be improved by using Internet facilities. Indian tertiary education policymakers are recommended to equip tertiary education institutions with upgraded and free Internet facilities. The free access in tertiary education institutions can motivate students to use the Internet as an online learning practice.

In India women participation was found less as compared to men (Nath, 2014) and education policy makers aimed to enhance women tertiary education level in India. Policy makers can provide special Internet provisions to women students who wish to accomplish higher education. The Internet provisions can make women enable to complete their education from homes without scarifying their family and other responsibilities.

Indian tertiary education policy makers always aim to enhance the education level among rural population. For this, Internet resources can be used. The tertiary education policy makers are recommended to provide Internet facilities in rural areas which can solve travelling issues of rural population, which they face to attend tertiary education institutions located in urban areas. In addition, the provision of good Internet facilities in rural areas can help rural students to access the updated learning materials from online resources. In this way, online learning facilities can open new gateways of learning to rural students.

Limitations and suggestions for further research

The sample in this study was selected from tertiary education students who were doing a Bachelor of Education degree from education colleges in the Punjab state of India. The results of this study had to be cautiously interpreted against the educational colleges of India, as the bigger context of the study. Therefore, the interpretations of the findings are specific to the context of Bachelor of Education Colleges of the Punjab state in India that participated in this study.

In association with the limitations of the study, future research could extend the current study to include other

states of India that encompass different contexts of Internet use within different Indian states. Moreover, future research could include other faculties (engineering, commerce, medicine and so on) besides education students to explore the role of the Internet in enhancing access to tertiary education in India.

Another area for further research could also be how Internet facilities may enhance the literacy rate of women in India, whether Indian women are literate to use the Internet, or whether Indian women have Internet skills or not. I am also interested in exploring how Internet facilities may improve rural education in India, and whether Indian rural people are sufficiently Internet skilled to benefit from online distance courses.

Notes

1. Tertiary education refers to higher education in any field, regardless of the specific subject area
2. For the purpose of this article, the term rural area is used for the areas that are located outside outside the cities and towns. See detail of rural area: https://en.wikipedia.org/wiki/Rural_area#India
3. In this study, the term Indian students refer to individuals who are Indian citizens and who study in Indian educational institutions.

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