

Examine The Digital Disparity Among High School Students in Chosen Provincialized Higher Secondary Schools and Selected Private Junior Colleges within the Lakhimpur District of Assam

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Abstract

This study investigates the existing digital divide among higher secondary students in selected provincialized higher secondary schools and private junior colleges in the Lakhimpur District of Assam. The research also proposes measures to address the identified digital disparities. Data were gathered through a survey method employing questionnaires. The findings reveal a significant digital divide among students, with private junior college students exhibiting greater internet usage compared to their provincialized school counterparts. Additionally, within various academic streams, Science students demonstrate higher awareness of internet usage than Arts students. Provincialized higher secondary school students cite the unavailability of internet facilities in their schools, homes, and localities as the primary reason for not using the internet. Lack of access, interest, training, and perceived lack of necessity are identified as other reasons for non-usage. The study concludes with recommendations aimed at closing the digital gap.

Keywords: digital divide, higher secondary school students, internet use, Assam.

Introduction:

The fundamental needs of human beings, encompassing food, clothing, and shelter, are widely acknowledged. In addition to these essentials, information stands as the fourth primary asset critical for progress. Information and Communication Technology (ICT) plays a pivotal role in facilitating the dissemination of information. The evolution of ICT, coupled with the widespread use of digital media, contributes to the development of the digital age. In contemporary society, reliance on ICT and digital media for acquiring information is pervasive. However, a dichotomy exists between those who effortlessly access information with a single click and those who encounter barriers in obtaining the information they need. This disparity in information access is commonly known as the "Digital Divide."

Introduction

The Digital Divide refers to the disparities between individuals who possess the means to access and utilize modern Information and Communication Technology (ICT), including computers and the internet, and those who lack such resources. This gap encompasses not only physical access to technology but also

disparities in the skills and knowledge required to effectively engage with ICT to enhance knowledge and achieve desired objectives (Wikipedia, 2010). Numerous global studies have explored the concept of the digital divide. Kineston and Kumar assert that factors such as education, language, culture, and region contribute to the existence of the digital divide. Gardner and Oswald emphasize financial conditions, educational qualifications, gender, age, and regional disparities as visible aspects of the digital divide. Blaiso (2008) and Crosby and Johnson (2002) highlight regional disparities as a key factor in the digital divide. Gebremichal and Jackson (2006) identify a significant digital divide between urban and rural populations in Sub-Saharan Africa. Gender-based distinctions in technology usage are noted by Bimber (2000) and Mishra, Yadav, and Bisht (2005), with males exhibiting higher technology usage than females. Lazinger, Bar-Ilan, and Peritz reveal distinctions in the digital divide based on subject backgrounds, noting that science students tend to use the internet more than arts students. Akbar (2001) identifies multiple reasons for the digital divide, including lack of awareness, limited access, economic constraints, literacy barriers, and conventional attitudes. In the Indian context, a considerable gap exists between internet users and non-users. Several challenges contribute to the low-level consumption of the internet in India, including the uneven growth of the technology sector, inadequate infrastructure, awareness issues, literacy barriers, and language differences.

Internet Service in India and Lakhimpur District:

The advent of the internet in India for public use can be traced back to August 15, 1995, when Videsh Sanchar Nigam Limited (VSNL) formally introduced internet services. Presently, various internet service providers operate in India, including BSNL, Airtel, Reliance Jio, and Vodafone.

Lakhimpur, an administrative district in Assam, is situated with its headquarters in North Lakhimpur. Geographically, the district is bordered by Siang and Papumpare District of Arunachal Pradesh to the north, Dhemaji district and the Subansiri River to the east, Majuli district to the south, and Biswanath district to the west. Lakhimpur is subdivided into four divisions: North Lakhimpur, Bihpuria, Narayanpur, and Dhakuakhana.

In Lakhimpur, residents have access to internet services provided by BSNL, Airtel, Reliance Jio, and Vodafone. Additionally, there are several commercial cafes offering internet access, and Common Service Centres are also available within the district. These facilities contribute to enhancing internet connectivity and accessibility in Lakhimpur, aligning with the broader landscape of internet services in India.

Table: 1 common service centres in Lakhimpur district

| Name of the Block | No of Common Service centres |
|-------------------|------------------------------|
| Lakhimpur | 26 |
| Baginodi | 13 |
| Dhakuakhana | 11 |
| Ghilamora | 14 |
| Narayanapur | 28 |
| Nowboisha | 16 |
| Telahi | 8 |

Common service centers offer a diverse range of public services, including Aadhaar card registration, Aadhaar enrollment, E-Aadhaar services, passport assistance, LIC services, and E-Nagrik facilities.

Additionally, they provide E-district services such as the application for birth and death certificates, ration cards, and PAN cards, among others.

Internet facilities in Provincialized Higher Secondary Schools and Private Junior Colleges

Disparities exist between provincialized schools and private junior colleges in terms of their financial backing. Provincialized higher secondary schools receive financial support from the government for academic activities and infrastructure development, and the government regulates the fee structure for students. In contrast, private junior colleges do not benefit from government grants. Students in private junior colleges pay higher tuition fees, contributing to the well-maintained infrastructure of these institutions. Admission to private junior colleges is often selective, favouring students with outstanding academic records.

Upon assessing the facilities offered by provincialized higher secondary schools and private junior colleges, it becomes evident that private institutions are more contemporary. They feature advanced computer facilities, libraries staffed by professional librarians, and well-equipped laboratories. Private junior colleges outpace provincialized schools in terms of technology infrastructure and internet provisions.

Objectives of the Present Study:

1. To investigate the digital divide among higher secondary students in selected provincialized higher secondary schools and private junior colleges in Lakhimpur district, Assam.
2. To compare the digital divide among higher secondary students based on:
 - a. Gender (girls/boys)
 - b. Stream of study (science/arts)
3. To offer essential insights and assistance to address and mitigate the identified digital divide among students in the study area.

Scope of the study:

The study holds significant importance as it aims to provide insights into the computer skills and competency levels of students in utilizing the internet. Additionally, the scope extends to evaluating the existing ICT infrastructure in provincialized higher secondary schools and private junior colleges. This research sheds light on the challenges faced by both types of higher secondary schools in establishing a student-friendly ICT environment.

Area of the Study:

The study is focused on Lakhimpur district, which is home to numerous provincialized higher secondary schools and private junior colleges. Due to practical constraints, the research cannot encompass all institutions in the district. Consequently, three provincialized higher secondary schools and three private junior colleges have been selected for this study. Prior permissions were obtained from the respective Principals to conduct surveys within these institutions. It is noteworthy that participating students in the survey have expressed the importance of maintaining the confidentiality of all collected data.

Limitations of the Study:

Despite earnest efforts to collect data from selected areas and gather relevant books and journals related to the study, the study's depth and the attainment of a comprehensive solution within the limited time frame may be challenging. The intricacies of the topic demand a more profound investigation, and visiting only three Provincialized Higher Secondary Schools and three Private Junior Colleges might not suffice for acquiring exhaustive data within the stipulated period.

Methodology:

To address the objectives concerning the "Digital Divide among higher secondary students in selected provincialized higher secondary schools and private junior colleges in Lakhimpur district, Assam," a structured questionnaire was distributed among higher secondary students. Personal interviews and observations were also conducted to supplement the data collection process. A 100% response rate was achieved from the students.

Secondary data was gathered from various sources, including books, e-journals, articles, and internet resources. A total of 600 questionnaires were distributed among students, and completed questionnaires were personally collected. Out of the distributed questionnaires, 339 were deemed relevant for analysis. Manual calculations were employed to analyze the responses, and MS-Excel was utilized to create necessary graphs for presentation.

Data Analysis and Interpretations:

In the course of the study, a set of questionnaires was administered to students, 300 questionnaires distributed among Provincialized Higher Secondary School students and an additional 300 among Private Junior College students, resulting in a total of 600 questionnaires disseminated. Out of these, 123 responses were received from Provincialized Higher Secondary School students, and 216 responses were received from Private Junior College students.

The analysis and interpretation of these collected responses will provide valuable insights into the digital divide among higher secondary students in the specified schools and colleges within Lakhimpur district, Assam.

Tab: 1 Background Information School Type

| | Provincialized higher Secondary School (N=123) | Private Junior College(216) |
|------------------------|--|-----------------------------|
| Number of Males | 67 | 114 |
| Number of females | 56 | 102 |
| Arts | 75 | 98 |
| Science | 48 | 118 |
| Total Males | 181 | |
| Total Females | 158 | |
| Total Science Students | 166 | |
| Total Arts Students | 173 | |
| Total Rural Students | 123 | |
| Total Urban students | 216 | |

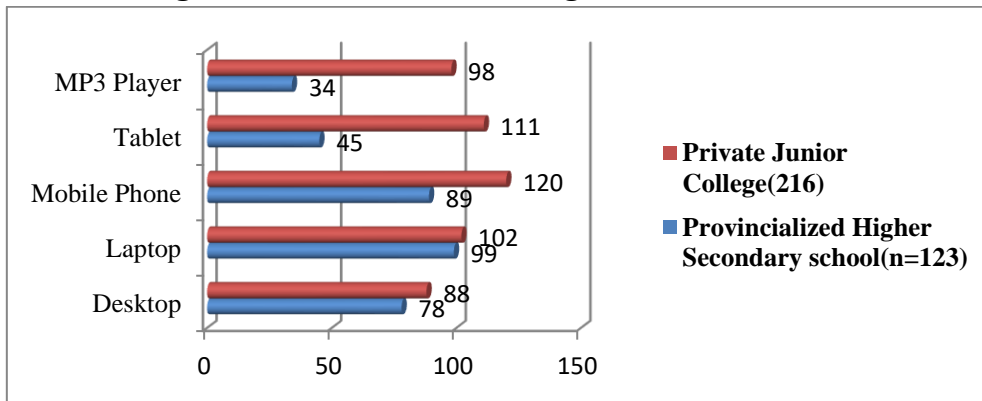
10.2. Digital divide between provincialized school students and private junior college students

Tab: 2 shows the student’s using skill of different ICT devices

| ICT devices | Provincialized Higher Secondary school(n=123) | Private Junior College (216) |
|--------------|---|------------------------------|
| Desktop | 78 | 88 |
| Laptop | 99 | 102 |
| Mobile Phone | 89 | 120 |

| | | |
|------------|----|-----|
| Tablet | 45 | 111 |
| MP3 Player | 34 | 98 |

Fig: 1 shows the student’s using skill of ICT Devices



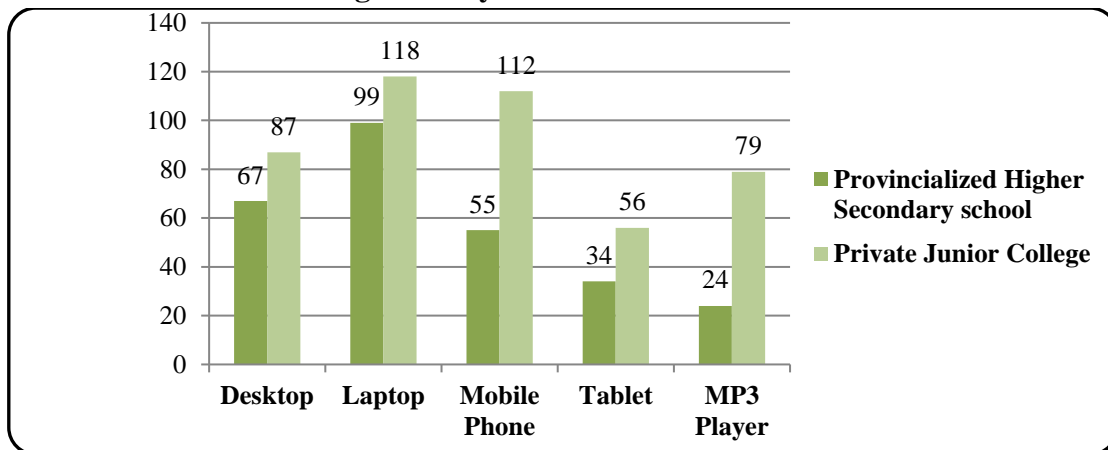
After analysing Table 10.2 and Figure 1, it becomes evident that Private Junior College students exhibit a higher proficiency in using various ICT devices compared to their counterparts in Provincialized Higher Secondary Schools.

Analysis of own ICT devices

Table 3: Analysis of own ICT Devices

| ICT devices | Provincialized Higher Secondary school | Private Junior College |
|--------------|--|------------------------|
| Desktop | 67 | 87 |
| Laptop | 99 | 118 |
| Mobile Phone | 55 | 112 |
| Tablet | 34 | 56 |
| MP3 Player | 24 | 79 |

Fig: 2 Analysis of own ICT devices



Following the examination of Table 1.3 and Figure 2, it is evident that Private Junior College students possess a greater number of personal devices compared to students in Provincialized Higher Secondary Schools.

Analysis of Internet users

Tab: 4 Analysis of Internet user

| Questions | Provincialized Higher Secondary School(n=123) | Private Junior Colleges (n=216) |
|---|---|---------------------------------|
| Are you an internet user? | 70(56%) | 195(90.27%) |
| Do you have your own internet connection at home? | 10(8.13%) | 176(82.2%) |
| Do you have internet café in your surrounding? | 15(12.19%) | 193(90.2%) |
| Do you have computer training? | 25(20.3%) | 122(57.3%) |
| Do you use internet in your free time? | 20(16.2%) | 202(94%) |

Table 4 reveals significant differences between Private Junior College students and Provincialized Higher Secondary School students in terms of internet usage. Approximately 90% of Private Junior College students utilize the internet, whereas only 56% of Provincialized Higher Secondary School students are internet users. Notably, a higher percentage (82.2%) of Private Junior College students have internet connections at home compared to a mere 8.13% for Provincialized Higher Secondary School students. Furthermore, the data indicates that a greater percentage (57.3%) of Private Junior College students have received computer training, contrasting with only 20.3% of Provincialized Higher Secondary School students who attended computer training sessions. In terms of utilizing internet in their free time, about 94% of Private Junior College students engage in this activity, while only 16.2% of Provincialized Higher Secondary School students use the internet during their leisure time.

Internet users by stream

Tab: 5 Internet users by stream

| Internet users by stream | Science | Arts |
|--------------------------|----------------|----------------|
| Yes | 155/166(93.3%) | 102/173(59%) |
| No | 11/116(7%) | 71/173(41.04%) |

Table 5 highlights a significant disparity in internet usage based on academic streams. The data reveals that a substantial percentage, approximately 93.3%, of students in the science stream utilize the internet, whereas only 59% of students in the arts stream engage with the internet. This stark difference underscores a notable contrast in internet utilization between these two academic streams.

Internet users by gender

Tab: 6 Internet users by gender

| Internet users by gender | Male | Female |
|--------------------------|--------------|--------------|
| Yes | 160/181(88%) | 124/158(78%) |
| No | 21/181(12%) | 34/158(22%) |

Table 6 indicating that the majority of both male and female respondents use the internet, with 88% of males and 78% of females indicating internet usage. A smaller percentage of males (12%) than females (22%) do not use the internet. These findings suggest that, in the surveyed group, a higher proportion of males use the internet compared to females. It's also worth noting the overall high internet usage across both genders. Further investigation could explore the reasons behind the gender-based differences in internet usage.

Internet users by rural and urban

Tab: 7 Internet Users by Rural and Urban

| Internet users by Rural and Urban | Rural | Urban |
|-----------------------------------|----------------|---------------|
| Yes | 75/123(61%) | 211/216((98%) |
| No | 48/123(39.02%) | 5/216(2.3%) |

Tab: 7 data reveal a substantial urban-rural divide in internet usage. A higher percentage of respondents in urban areas (98%) use the internet compared to their rural counterparts (61%). Conversely, a notable proportion of respondents in rural areas (39.02%) do not use the internet, while the percentage is significantly lower (2.3%) in urban areas. This disparity underscores the existing digital divide between rural and urban areas in terms of internet access and usage. Further exploration could delve into the factors contributing to these discrepancies. shows that about there are about 61% rural internet users and 98% urban internet users. When we compare internet non users, we see 39.02% internet non users from rural area but it is only 2.3% in urban area.

Discussion:

The findings from the study illuminate a pronounced digital divide among students, particularly between those attending provincialized higher secondary schools and private junior colleges. The gender-based disparity is evident, reflecting a digital divide between boys and girls. Furthermore, the study identifies a notable digital gap existing between students enrolled in science and arts streams. The urban-rural divide is prominently displayed, with urban students exhibiting higher internet usage compared to their rural counterparts. One noteworthy observation is the limited presence of digital devices among provincialized higher secondary school students, with laptops being the exception. Despite the possession of laptops by rural students, their efficiency in using the internet remains suboptimal. In contrast, urban students show a considerable prevalence of internet usage. These findings emphasize the multifaceted nature of the digital divide, encompassing factors such as educational institutions, gender, academic streams, and geographical locations. The identified disparities call for targeted interventions and initiatives to bridge the digital gap and ensure equitable access to information and technology for all students. Addressing these discrepancies is crucial for fostering inclusive educational environments and preparing students for the demands of the digital age.

Suggestions:

- 1. Creation of Awareness:** Organize orientation programs conducted by knowledgeable individuals to raise awareness among students about the use of computers and the internet for educational purposes.
- 2. Facility Development:** Institutions and the government should take steps to develop browsing centers within campuses, ensuring proper maintenance and staffing to optimize computer and internet facilities.

3. **Computer as a Subject:** Introduce computer education as a subject in both provincialized higher secondary schools and private junior colleges to enhance students' digital literacy.
4. **Anundoram Borooah Award:** The government should arrange short-term courses to train students on the effective use of computers, especially those who receive the Anundoram Borooah Award.
5. **Computer Training:** Initiate free computer training programs for students, addressing the financial constraints that may hinder their access to such training.
6. **Establish NIELIT Centre:** Work towards establishing a NIELIT (National Institute of Electronics & Information Technology) centre in Lakhimpur district to provide specialized training to students, especially from SC&ST communities.
7. **Changing Attitudes:** Conduct information and awareness programs to change the attitude of students, particularly in arts streams, towards the importance of computer education.
8. **Expand Common Service Centers and Internet Cafes:** Increase the number of common service centers in rural areas and provide financial assistance to encourage the establishment of internet cafes by young unemployed professionals.
9. **Addressing Insecurity:** Implement awareness campaigns to address feelings of insecurity, particularly among female students, in using public internet cafes and common service centers.
10. **Internet Service Providers:** Encourage internet service providers to decrease charges to make internet access more affordable for all sections of society.

Conclusions:

Digital divide acts as a hindrance to the progress and development of the younger generation, society, and the nation. Access to the right information at the right time is crucial for informed decision-making and shaping the future. Government bodies at both central and state levels need to actively participate in initiatives to eliminate the existing digital divide. While policy-making is essential, effective implementation at the grassroots level is equally crucial for achieving balanced societal development.

References

1. Akbar SU (2001) *Bridging digital divide: electronic medical information systems Bangladesh aspect*. In Regional Conference on Medical Librarianship: Building the Virtual Health Sciences of the Eastern Mediterranean, Tehran: 11–13 November 2001. Retrieved August 22, 2018 from <http://www.emro.who.int/lin/media/pdf/Shahid%20Uddin%20Akbar.pdf>.
2. Bimber, B (2000) Measuring the gender gap on the Internet. *Social Science Quarterly* 81(3) [PAGES].
3. Blaiso GD (2008) Urban-rural differences in Internet usage, e-commerce, and e-banking: evidence from Italy. *Growth and Change* 39(2) 341–367.
4. Chawla R (2003) *Report of information and communication technologies (ICTs) in Kashmir*. [Cited in Loan, 2010: source URL no longer functioning].
5. Crosby LA and Johnson SL (2002) *The globalization of relationship marketing*. *Marketing Management* 11(2)10–11.
6. Cullen R (2001) Addressing the digital divide. *Online Information Review* 25 311–320.
7. Department of Information Technology (2010) *Community information centres (CIC project)*. Retrieved June 23, 2018, from <http://jkit.nic.in/aboutus.htm>.
8. Loan FA (2009) *Growth and development of the Internet in India with special reference to Kashmir Valley*. In National Convention Knowledge Resources in India with Special Reference to JandK State.

Srinagar: University of Kashmir, 11–13 May 2009.

9. Dickerson MD and Gentry JW (1983) Characteristics of adopters and non-adopters of home computers. *Journal of Consumer Research* 10(2) 225–235.
10. e-Governance in India (2006) Achievement note on 487 CICs of NORTHEAST and 135 CICs of J & K. Retrieved Aug 22, 2010 from <http://egovindia.wordpress.com/category/cics-jammu-kashmir/>.
11. Gardner J and Oswald A (2001) Internet use: the digital divide. In A Park et al. (eds.) *British social attitudes: the 18th report: Public policy, social ties*. London: Sage. pp.159–173.
12. Gebremichael MD and Jackson JW (2006) Bridging the gap in Sub-Saharan Africa: A holistic look at information poverty and the region's digital divide. *Government Information Quarterly* 23 267–280. Retrieved Aug, 10, 2018, from www.sciencedirect.com.
13. Internet World Stats (2018a) *The Internet big picture: World Internet users and population stats*. Retrieved Aug 9, 2018, from <http://www.internetworldstats.com/stats.htm>.
14. Internet World Stats (2018b) *India: Internet usage stats and telecommunications market report*. Retrieved June 14, 2018, from <http://www.internetworldstats.com/asia/in.htm>.
15. Kineston K and Kumar D (2003) *The four digital divides*. Retrieved Aug, 22, 2018, from http://www.mit.edu/people/kken/PAPERS/Intro_Sage.html.
16. Lazinger SS, Bar-Ilan J and Peritz BC (1997) Internet use by faculty in various disciplines: A comparative study. *Journal of the American Society for Information Science* 48(6) 508–518
17. Loan FA (2010) *Internet usage habits of second generation college students*. In S Kataria, J Poul and S Ram (eds.) *Proceedings of International Symposium on Emerging Trends and Technologies in Library and Information Services 2010*. Himachal Pradesh: pp.192–196.
18. Mishra OP, Yadava N and Bisht K (2005) Internet utilization pattern of undergraduate students. *University News* 43(13) 8–12.
19. Wikipedia *Digital divide*. Retrieved Aug, 25, 2018, from http://en.wikipedia.org/wiki/digital_divide