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Students in Economics Facing a Digital Divide

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Abstract

The digital divide in schools in developing countries is becoming increasingly evident as information communication and technology (ICT) has entered the educational system. However, access to ICT infrastructure alone does not guarantee that a person would be motivated to use it. The unequal access to digital technology is a digital divide. In Nepal, the COVID-19 pandemic caused limited access to ICT among low-income families and rural populations. This research aimed to inquire into the motivational access-based digital divide among 12 students in economics in Kathmandu Valley. The research problem of this study was: what are the ICT access levels for Class 12 economics students in Kathmandu Valley regarding motivational access? The researcher utilized a descriptive study design under quantitative methodology for the study. Closed structured questionnaires were used to collect primary data. Descriptive analysis is included in the analysis of data. It is used to calculate the percentage, frequency, mean, and standard deviation to assess the motivational access level of students through the Likert-scale data. The study's findings demonstrated a digital divide among students regarding motivational access. There is no distinct difference between the students regarding school type (private and community). The digital divide between gender, rural and urban origin, ethnicity, and parents' employment conditions is evident. This study implies that parents and concerned authorities should provide favorable environments to increase motivational access to ICT, which reduces the digital divide in terms of motivational access.

Keywords: motivational access, ICT, empirical study, economics students, Kathmandu Valley

Students in Economics Facing a Digital Divide

The digital gap, which is described as a societal inequality between persons regarding access to ICT, frequency of use of technology, and the ability to use ICT for varied purposes, becomes more evident with the rise in ICT use (Ercikan et al., 2018; Van Deursen & Helsper, 2015). The digital gap in schools in underdeveloped nations is becoming increasingly apparent as ICT permeates the education sector (Chen, 2015; Olaore, 2014). The COVID-19 pandemic has made this situation worse. There is no guarantee that someone with ICT infrastructure would also use it or have ICT skills (Chisango et al., 2020). All types of the digital divide, i.e., motivational, material, craft, and usages, are better described and explained using a broader definition of ICT access. This refers to the entire process of using a specific technology. Here, the motivation for and attitude toward obtaining material access comes before the actual material access itself. Material access also refers to the ongoing process of gaining access to new versions of peripheral devices, subscriptions, and software and hardware, rather than a single decision to accept and buy a specific technology. Physical access cannot be obtained if people cannot use the technology. As a result, access also requires knowledge and abilities(Van Dijk & AGM, 2017).

Inequalities in the access to and usage of ICTs are now perceived, notwithstanding the lack of a firm understanding of the employment conditions and degrees of science and technology students will face in the future(Gonzales et al., 2020; Robinson et al., 2015; Robinson, 2021). Right now, this is a severe issue. Beyond the classroom walls, the importance of including digital competency in the young generation's education cannot be overstated (Ciampa, 2014; West et al., 2019). Because of this, there is a discussion about the digital divide between students who utilize ICT in one or more contexts, such as the home and the classroom. Students' motivation and interest in all facets of daily

life are impacted by the variety of knowledge and resources produced by technology and the internet, which are rare and have created little scientific understanding (Bagon & Vodopivec, 2016; Romero López et al., 2019).

According to Van Dijk (2012), four distinct stages can be used to categorize the digital access gap: motivation access, material access, skill access, and usage access. The digital gap is explained by how motivation, devices, skills, and usage interact (Jupin, 2019; Soomro et al., 2020; Van Dijk, 2012). The motivation gap is caused by a lack of willingness to use ICT tools, a requirement for adopting ICT (Ben Youssef et al., 2022; Dhawan, 2020). The digital divide among students gets wider since some do not want to learn new technology. The lack of motivation to utilize technologies is allied with a decreased willingness to use ICT resources, such as Internet connections, social media platforms, and search engines; this is correlated with several socioeconomic characteristics (Ghobadi & Ghobadi, 2013; Vicente & López, 2010; Yu et al., 2016). For instance, compared to their more active counterparts, students less willing to access or use ICT are more likely to be passive technology users.

In the Nepalese context, there are differences among people, especially those from vulnerable and marginalized groups, with access to the fundamental rights protected by Nepal's constitution (Arora, 2022; Sijapati, 2017). For example, the digital divide, the COVID-19 outbreak in communities with low incomes, residents of rural areas, and minimal access to information, communication, and technology (ICT), which perpetuates inequality among the people, is one of the recent issues (Gurung & Paudel, 2021). The digital gap is caused by various socioeconomic factors that interact with one another in Nepal (Jha & Pandey, 2016; Mathrani et al., 2022; Quibria et al., 2003). While examining the digital divide, differences based on gender are equally crucial to take into account. Since it offers opportunities in challenging circumstances, using

technology in teaching and learning is the best solution. It does, however, greatly divide students (Antonio & Tuffley, 2014).

As part of the SSDP 2016-2023 Program, Nepal has started several technological efforts, including enhancing ICT infrastructure at schools and universities, ICT-enabled teaching and learning, and integrating the education management information system (EMIS). A more significant technology push is necessary to add programs for skill development and awareness (Karki, 2019) to address persistent issues, boost institutional capacity, close the nation's digital gap, and optimize the impact of ICT in the sector. However, Nepal lacks research on the digital divide among students regarding motivational access.

Objective of the Study

The objective of the study is to investigate the motivational access-based digital divide among class 12 students in economics in Kathmandu Valley.

Methods and Materials of the Study

This article is based on a field investigation carried out during November and December 2022. The fieldwork has been placed for ten days. The research temporarily has used a descriptive study design. Primary data was gathered through closed structured questionnaires.

A quantitative methodology was applied to gather and analyze the data from each respondent in this study. The researcher created a questionnaire independently, then edited it by experts and polished it before distributing it to the intended responders. The survey was made to satisfy the study's goals about the motivational access-based digital divide among economics class 12 students in public and private schools. A simple random sampling procedure was used to select the respondents in this study.

Respondents were assessed using a self-developed cross-sectional survey questionnaire with four sections and 44 items. The survey used a Likert scale with five possible outcomes: five strongly agree, four agree, three neutrals, two

disagree, and one strongly disagrees. The sample for the study was randomly chosen from 125 economics students, of which 61 were girls and 64 were boys. Ages ranged from 15 -22. All respondents were from Kathmandu Valley, though their origination was also from rural areas. The sample answered the statements, basing their decisions on their perceptions.

For analysis, the Statistical Packages for the Social Sciences (SPSS) was used to compile the data collected from the respondents. Descriptive research is included in the study. The researchers used descriptive analysis to examine the frequency and percentage of the general population in the demographic background. Additionally, it is used to calculate the percentage, frequency, mean, and standard deviation to assess the motivational access level of students.

Results and Discussion of the Study

The researcher collected the data from 125 respondents studying economics in class 12 in Kathmandu Valley. The collected data were put in SPSS, managed, coded, and analyzed based on the research objective. The sample characteristics and motivational access of students present below.

Characteristics of the Sample Variables

Among the respondents, 50.4% of students were from community schools and 49.6% from private schools. Regarding the age factor, the highest percentage (67.20) were from the 18-20 age group, followed by 15-17 years (30.40%), and only 2.4 percent of respondents were in age from above 20 years. Similarly, in gender, 51.20 % were male students, and 48.80% were female. In the case of ethnicity, 56.8% were in Janajati, followed by Chhetri, which was 17.60 percent, 15.20 % were from other ethnic groups, and the lowest was in Brahmin, i.e., 10.4%. Respondents were 58.4% in rural origination and 41.6% in urban-based origination. Regarding the parents' employment situation, 24.0% had business followed by agriculture, i.e., 16.8%, then 11.2 % had government services, 8 %

had private service, and abroad, 4 % were unemployed, and 28.8% had other occupations.

Table 1

Socio-demographic characteristics of Respondents

		Numbers	Percent
Type of School	Community	63	50.4%
	Private	62	49.6%
Ethnicity	Chhetri	22	17.6%
	Brahmin	13	10.4%
	Janajati	71	56.8%
	Other	19	15.2%
Gender	Male	64	51.2%
	Female	61	48.8%
Origination	Rural	73	58.4%
	Urban	52	41.6%
Parent's employment situation	Government service	14	11.2%
	Private Service	10	8.0%
	Abroad	10	8.0%
	Business	30	24.0%
	Agriculture	21	16.8%
	Unemployed	4	3.2%
	Other	36	28.8%

Status of Motivational Access of Students to ICT

It is essential to understand the status of motivational access of students to ICT in the changed context of technological development. It can be seen as follows:

Table 2

Motivational Access of Students to ICT

S.N.	Statements	Mean	Standard Deviation
1.	They are an entertaining way to pass the time	3.53	1.036
2.	They let me connect with people who are important to me	4.30	0.696
3.	They can help me to take part more in my study	4.27	0.652
4.	They help me to stay on top of news, sports, or events	3.90	0.875
5.	They allow me to share my ideas and the things which I create	4.17	0.693
6.	They make life easier	4.06	0.676
7.	Knowing how to use technology is beneficial when trying to get a job	4.15	0.524
8.	I feel that people pressure me to constantly connected	2.78	1.062
9.	There are a lot of things on the internet that are good for people like me	4.06	0.600

Respondents were asked to respond to the motivational access on ICT used through 9 statements on a five-point Likert scale (i.e.5=Strongly Agree, 4= Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree) to rate their level of agreement on nine statements. In Likert-scale data, the mean is very significant, and the scale of data strongly disagrees from 1-1.8, disagree from 1.81-2.60, neutral from 2.61-3.40, agree from3.41-4.20, and strongly agree from 4.21-5. The statements are presented in Table 2. The result showed that the responses mean ranges from 3.53

to 4.30, indicating that the students had an agreeing to strongly agreeing regarding the motivational access of ICT use., but the mean score of the negative item (I feel that people pressure me to connect constantly) is 2.78. It means the students responded to neutral in negative items. The standard deviation also showed better motivational access of students in ICT use because the value of the standard deviation of negatives is greater than 1. Still, other statements had less than one.

Motivational Access Based on Gender

Table 3 below reveals descriptive statistics of gender-based motivational access of students of ICT. Nine things were asked for a response on motivational access to ICT. The mean score of male students was higher than that of female students in all statements. It shows that male students' motivational access is more elevated than female students. Suppose we see a standard deviation of both genders. In that case, the value of male students is less than that of female students, which shows the consistency of responses of male students is better than that of female students; this result is similar to Van Deursen et al. (2019). However, the mean score of all other statements was higher for the male and female students; the mean score for the negative statement, "I feel that people pressure me to connect constantly," was low in both gender, i.e., 2.97 for male and 2.57 was female show the good responses of students.

Table 3

Gender-based motivational access of students

	Gender								
	Male			Female			Total		
	Mean	Std.	Deviation	Mean	Std.	Deviation	Mean	Std.	Deviation

They are an entertaining way to pass the time	3.55	0.904	3.51	.906	3.53	1.036
They let me connect with people who are important to me	4.41	.526	4.18	.827	4.30	.696
They can help me to take part more in my study	4.31	.687	4.23	.616	4.27	.652
They help me to stay on top of news, sports, or events	3.97	1.054	3.98	.645	3.98	.875
They allow me to share my ideas and the things which I create	4.30	.706	4.03	.657	4.17	.693
They make life easier	4.09	.771	4.02	.562	4.06	.676
Knowing how to use technology is beneficial when trying to get a job	4.17	.521	4.13	.532	4.15	.524
I feel that people pressure me to constantly connected	2.97	1.007	2.57	1.087	2.78	1.062
There are a lot of things on the internet that are good for people like me	4.11	.645	4.00	.548	4.06	.600

Motivational Access Based on School Type

Respondents were asked to respond to the nine statements to investigate their motivation for ICT based on school (community and private). The

motivation level of community school students was better in five statements, and private school students showed better motivation in three statements. The motivation for negative statements was at the same level. The result indicates, however, the material access may be different. Still, in the case of motivational access for students, there is no significant digital divide between community and private school students. It can be shown in the following table:

Table 4

School-based motivational access of students

	Type of School					
	Community		Private		Total	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
They are an entertaining way to pass the time	3.25	1.177	3.81	.786	3.53	1.036
They let me connect with people who are important to me	4.22	.771	4.37	.607	4.30	.696
They can help me to take part more in my study	4.27	.574	4.27	.728	4.27	.652
They help me to stay on top of news, sports, or events	3.98	.907	3.97	.849	3.98	.875
They allow me to share my ideas and the things which I create	4.19	.737	4.15	.649	4.17	.693
They make life easier	4.03	.803	4.08	.522	4.06	.676
Knowing how to use technology is beneficial when trying to get a job	4.21	.481	4.10	.564	4.15	.524

I feel that people pressure me to constantly connected	2.94	1.091	2.61	1.014	2.78	1.062
There are a lot of things on the internet that are good for people like me	4.10	.499	4.02	.689	4.06	.600

Ethnicity-based motivational access of students

The researcher investigated the motivational access of students to ICT based on their ethnic group also. Based on ethnicity, his study showed a digital divide among students in motivational access. Among the students of different ethnicity, Brahmin students have conducted the greater motivation in all statements of motivation of ICT. The range of the mean of Brahmin students was 4.15 to 4.62, besides the negative statement followed by Janajati (3.5-4.27), other (3.09-4.23), and Chhetri (3.07- 4.17). It shows the digital divide condition in ICT regarding motivational access among different ethnic groups of students. The overall mean and standard deviation of different ethnic groups of students are shown in Table 5. This result is similar to Cruz (2020). It is stated in Table 4 below:

Table 5

Ethnicity-based motivational access

Ethnicity	Chhetri	Mean	3.79
		Standard Deviation	.39
		Row N %	17.6%
	Brahmin	Mean	4.24

	Standard Deviation	.38
	Row N %	10.4%
Janajati	Mean	3.92
	Standard Deviation	.32
	Row N %	56.8%
Other	Mean	3.85
	Standard Deviation	.51
	Row N %	15.2%

Origination-Based Motivational Access of Students

The digital divide between the students is clearly shown in Table 6 based on origination. Students of Kathmandu Valley, whose origination was a rural area, was less motivational access to ICT than urban origination. The consistency of responses was also high in urban origination than in rural. The result of the study is similar to other studies in the Nepalese context and other countries (Baral, 2022; Cruz, 2020; Dawadi et al., 2020; Goh et al., 2016; Gurung & Paudel, 2021; Rana & Rana, 2020). It is stated as below:

Table 6

Origination-based motivational access of students

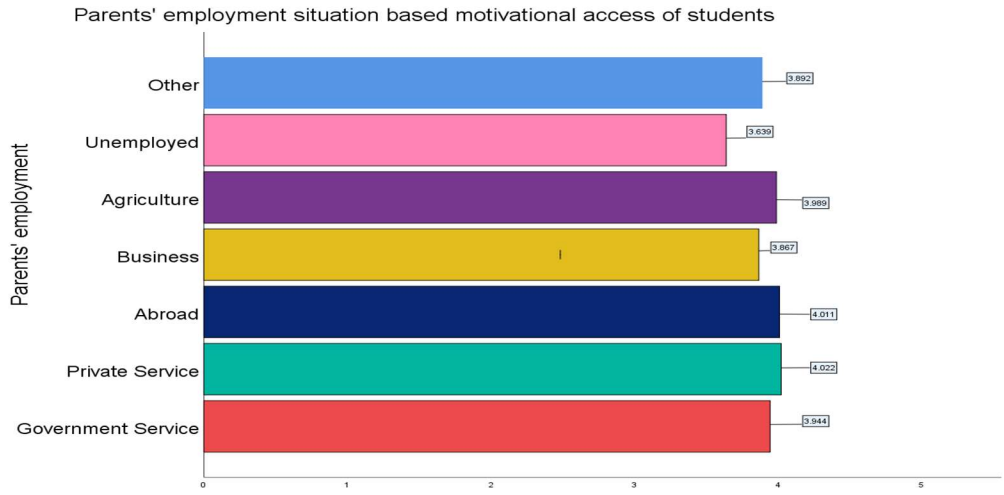
Origination	Mean	N	Std. Deviation
Rural	3.8676	73	.39312
Urban	3.9936	52	.37561

Total	3.9200	125	.38943

Parent's Employment-Based Motivational Access of Students

Students' motivational access level has been seen differently based on their parent's employment situation. There was low motivational access for economics students whose parents were unemployed and employed in business and government services. Besides these, the motivation access was investigated at the same level. The cause of the low motivation of unemployed parents' kids may be the low affordability of ICT tools and other equipment for use. The main reason may be the economic capacity of the family (Cruz, 2020; Liesa-Orús et al., 2020; McLaren & Zappala, 2002; Rodríguez-Abitia et al., 2020; van de Werfhorst et al., 2020).

Figure 1



Conclusion

Concerning economics students in class 12, the current study sought to identify the motivational access-based digital divide component. According to the study, there is a digital divide among students. Compared to students at

community schools, students in private schools show more motivation to use Technology. Students from urban origins have better access than those from rural backgrounds, and the consistency of responses is also higher in urban origination than in rural students. The result shows that male students' motivational access is more elevated than female students. Still, in the case of motivational access for students, there is no significant digital divide between community and private school students.

On the other hand, among the students of different ethnicity, Brahmin students have shown greater motivation in all statements of motivation of ICT. It shows the same national status of ethnic group students. The study's most significant finding is the poor motivational access of students with unemployed parents, which illustrates the link between a family's financial situation and a student's incentive to use ICT. Governments and educational institutions are responsible for inspiring students by creating an environment where they can access ICT in a motivating and conducive way to improve their ICT proficiency. Children will be more motivated to utilize ICT and aware of its significance if parents give them the necessary resources and encouragement for academic goals. Federal and local governments must assist students who require assistance but are unable to complete their education because they do not have access to ICT resources for motivational access in ICT.

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