INTERNET USAGE OF TEENAGERS IN NEPAL FOR EDUCATIONAL PURPOSES

AN ANALYSIS OF INTERNET USAGE BEHAVIOUR OF 15-17-YEAR-OLD STUDENTS AT SELECTED SCHOOLS IN KATHMANDU

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INTERNETNUTZUNG BEI JUGENDLICHEN IN NEPAL FÜR BILDUNGSZWECKE

EINE UNTERSUCHUNG BEI 15-17JÄHRLIGEN SCHÜLER/INNEN IN AUSGEWÄHLTEN SCHULEN IN KATHMANDU

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Statutory Declaration

I declare on oath that I completed this work on my own and that information which has been directly or indirectly taken from other sources has been noted as such. Neither this, nor a similar work, has been published or presented to an examination committee.

Vienna, February 12th, 2016

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Samyam Acharya
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Abstract (English)

In Nepal the Internet penetration rate is just about 15%. The digital divide extends not only to access to ICTs but also users’ ability to exploit these to ease their lives. This study aims to examine how the Internet is exploited as an educational resource by Kathmandu Valley’s urban youth and whether there is a digital divide between students living in central and peripheral locations even within the Valley, one of South Asia’s most rapidly growing urban areas.

In this study, students between the ages of 15 and 17 were surveyed at three different schools: Phulchoki English School (Badikhel, Lalitpur), Pushpanjali Secondary School (Godawari, Lalitpur) and Rayners’ High School (Minbhawan, Kathmandu). Participants answered questions regarding their access to and use of the Internet and more specifically about their use of the Internet for educational purposes. It was expected that students at Rayners’ High School would make greatest use of the Internet because of its central location and access to better Internet facilities, followed by Pushpanjali and Phulchoki. This was found to be true but much fewer students use the Internet for educational purposes than was expected, even at Rayners’. It is very likely that students, guardians and possibly teachers view the Internet as a medium of entertainment, not an educational resource.
Abstract (German)

In Nepal haben nur etwa 15% der Bevölkerung Zugang zum Internet. Die digitale Spaltung bezieht sich nicht nur auf den Zugang zu Informations- und Kommunikationstechnologien, sondern auch auf die Fähigkeit der Nutzer diese zu nutzen, um ihr Leben zu erleichtern. Das Ziel dieser Arbeit ist, zu untersuchen, wie das Internet als Bildungsressource von Jugendlichen in Kathmandu genutzt wird und ob eine digitale Spaltung zwischen SchülerInnen in zentralen und peripheren Stadtgebieten vorhanden ist.

Als Teil der Arbeit wurden SchülerInnen im Alter von 15 bis 17 Jahren aus drei verschiedenen Schulen mittels Fragebögen befragt: Phulchoki English School (Badikhel, Lalitpur), Pushpanjali Secondary School (Godawari, Lalitpur) und Rayners’ High School (Minbhawan, Kathmandu). Die TeilnehmerInnen beantworteten Fragen bezüglich des Internets. Insbesondere konzentrierten sich die Fragen auf die Themen Zugang, generelle Nutzung und Nutzung für schulische Zwecke. Erwartet war, dass SchülerInnen der Rayners’ High School am meisten, SchülerInnen der Pushpanjali Schule am zweitmeisten und SchülerInnen der Phulchoki Schule am wenigsten Gebrauch vom Internet machen. Die ausgewerteten Fragebögen haben diese Annahme bestätigt, aber es ist auch zutage gekommen, dass das Internet hauptsächlich zu Freizeitzwecken verwendet wird und nur selten für schulische Aufgaben. Es ist sehr wahrscheinlich, dass die SchülerInnen, Erziehungsberechtigten und möglicherweise LehrerInnen das Internet als ein Medium für Unterhaltung sehen, nicht als Bildungsressource.
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1 Introduction

1.1 The digital divide in Nepal: A brief overview

Access to the Internet is now ubiquitous in industrialised western countries, yet many people in less economically developed countries (LEDCs) have never used or even heard of the Internet. A prime example of this is Nepal, where only 15% of the population use the Internet.\(^1\) In more economically developed countries (MEDC) such as Austria this number is at 81% (2014).\(^2\) The disparity in access to and use of information and communication technologies (ICTs) between MEDCs and LEDCs is referred to as the ‘global digital divide’.\(^3\) The International Telecommunication Union (ITU), which is the United Nations agency for ICTs, defines the digital divide as “the separation between those who are connected to the digital revolution and those who have no access to the benefits of the new technologies”\(^4\).

I have also personally witnessed a distinct digital divide between the people (Internet users) in Nepal, where I am originally from, and Austria, where I live now. The Internet user in Nepal is limited to a certain geographic location, economic class, social status and age group while in Austria it is more or less diversified. Similarly, the exploitation of information is also limited and sometimes restricted in Nepal while it is unlimited and free in Austria. Furthermore, many people in Nepal who have Internet access are not aware of the capabilities of the Internet. It is mostly used by the young population living in the urban areas for social media and video sharing. In Nepal the Internet is mainly seen as just a medium of communication. In contrast to this, in Austria, it is used as an inevitable tool for our daily lives. People have more experience and awareness of the ways the Internet can be used since it is so ubiquitous in our surroundings.

While it is clear that there is a deep, digital chasm separating Nepal from more developed western countries, what the aforementioned facts do not reveal is that Internet usage has been steadily increasing in Nepal over the past six years. In 2010 less than 2% of the population were using the Internet, which rose to 13% in 2013, and by 2014 15% of the population were using the Internet.\(^5\) The main reason for this rapid growth of Internet users might be the evolution of social media in

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the past decade. Social media websites such as Facebook have attracted primarily young people to use the Internet. While there were approximately 2 million Internet users in 2013, among them there were 1,890,820 Facebook users of which the largest age group was 18-25-year-olds. Since the number of Internet users is increasing very rapidly every year, the number of teenage Internet users is also growing faster. We are therefore witnessing a particularly interesting phase in the penetration of ICTs in Nepal, which is one of the main reasons why it is worthy of closer investigation on this issue at this time.

A further important point to note is that the digital divide cannot only be observed on an international level, but also “within [smaller] communities where people are separated by economic and knowledge barriers.” Nepalese society itself is divided along religious, cultural, socioeconomic and physical lines and these are reflected not least in the penetration and use of ICTs. For example, Nepal’s Internet services are more concentrated in the Kathmandu Valley because elsewhere the mountainous terrain creates many “shadow zones,” that is, areas which the signal of an antenna cannot reach because of physical barriers. Furthermore in Nepal, as in other developing countries, essential services such as healthcare, education, transportation, agriculture, clean water and other facilities are prioritised, overshadowing the development of ICTs. This is especially the case in rural areas, because the infrastructure there is underdeveloped and the government prioritises improving these basic structures over digital ones. This too has the effect of concentrating IT services in metropolitan areas. In contrast to rural areas, vital infrastructures are well developed in the city. Hence there is more concentration on the development of ICTs. Although Nepal has a hydropower potential of ca. 83,000 MW, as of 2014, the country only produces 791 MW electricity exceeds the present demand (1201 MW) of the country which results in more than 12 hours of power cuts during the winter season also affects the duration of Internet availability in Kathmandu.

Apart from physical and infrastructural factors, surveys carried out in a range of locations and contexts also identify, to varying degrees, income per capita, regulation (i.e. government policies regulating Internet usage) and educational attainment as further determinants of Internet use and

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8 Author interview with Dr. Madhu Sudan Acharya, 25 September 2015.


thus factors contributing to the digital divide.\textsuperscript{11} In fact, populations are not only divided according to whether they have access to digital technologies, but also according to their skills, knowledge and ability to exploit them.\textsuperscript{12} Education is a crucial determinant in this respect, which is one of the reasons I chose to explore Internet use in an educational setting.

### 1.2 Review of some relevant projects

In Nepal some projects have been set up whose aim is to try to close the urban-rural digital divide, for example The Nepal Wireless Networking Project, which has been running in the rural areas of Nepal since 2002. The aim of the project is to find ways to bridge the digital divide between the rural and urban areas of Nepal while it also aims to transform the socio-economic situation of the rural areas of Nepal by promoting the use of the Internet.\textsuperscript{13} The project has already established a wireless Internet connection in more than 140 remote mountain villages in districts such as Bajhang, Parbha, Khumbu, Dolakha, among others.\textsuperscript{14} The project’s aim of bridging the digital divide between the rural and urban areas inspired this study to examine the digital divide within the Kathmandu Valley depending on the degree of urbanisation of the school’s location. The Nepal Wireless Project also enables high school students to use the Internet for educational purposes and has cooperated with non-governmental organisations such as Open learning Exchange, Nepal Research and Education Network to create interactive online educational material based on government curricula.\textsuperscript{15}

In the urban areas where people have a good Internet connection, a few high schools have introduced their students to a Nepal-made educational website called “Smart School” (kullabs.com). The website is tailored to the government curricula and enables students to learn through interactive animation and YouTube videos. Some students have started to use the website for independent learning at home. The schools which are introducing their students to online independent learning at school are in minimal numbers. The Daffodil Boarding School and Daffodil Public School are two schools which are known to partially use the website during classes.\textsuperscript{16} The use of the website by schools in more urbanised locations and with higher standards of facilities than any of the schools selected in this study shows how the factors location, standard

\textsuperscript{11}Menzie D., Chinn et al., “The determinants of the global digital divide: a cross-country analysis of computer and internet penetration,” 40.


of facilities and educational attainment influence educational use of the Internet. It is possible that other schools will follow the example set by Daffodil and begin to make use of the platform as well. If websites like kullabs.com become part of school education in Kathmandu this could promote the use of the Internet at schools in the future.

1.3 Aims of the present study

Against the backdrop of a global digital divide, and the urban-rural digital divide within Nepal itself, this study aims to explore disparities in Internet use between communities on a much smaller scale. As it is primarily the urban youth who are making greater use of the Internet, it was deemed appropriate to compare Internet use among students of three separate schools situated in different locations in Kathmandu Valley.

Furthermore, as the survey was to be carried out at schools, and in order to limit the focus, it seemed relevant to ask about students’ use of the Internet specifically for educational purposes. The main objective of this study is to find whether young people primarily use the Internet to access social media, for instance, or as an educational resource. Are learning opportunities through the Internet being utilised? Is there a digital divide separating students of different schools located in different parts of the city? By investigating students’ use of the Internet to carry out school work or for other educational pursuits, we can also find out more about their digital literacy and whether they are acquiring the skills to exploit the Internet to gain more knowledge.

It is hypothesised that out of the three schools selected in the study, the students from schools in urban locations make the greatest use of the Internet for educational purposes. Due to their location in a more developed, urbanised area, the higher standard of facilities at the school and the higher educational attainment of the pupils, the students in schools in urban areas are likely to make the most use of the Internet. Likewise, it is expected that schools in more remote locations make less or no educational use of the Internet.

1.4 Structure of the study

The thesis is divided into four main chapters. The Introduction gives an overview on the digital divide and aims of the study. In the second chapter, the method of the study is described in detail. It contains the literature review, questionnaire preparation and data collection. The main part of the thesis is included in chapter three which comprises presentation of data, analysis and interpretation of the findings. This chapter is divided into sections according to the topic of the questions posed in the questionnaire. The first section deals with the penetration rate of Internet access among participants. It also closely analyses their reasons for not having Internet access.
Following this, the second section deals with the times when participants have Internet access. While the third section talks about the access to devices among participants of the study, the fourth section is about most commonly visited websites. The further sections deal with topics such as plagiarism, role of the teacher and the use of social media to share academic information by the participants. The final section is about the use of the Internet as a tool in the daily lives of the participants.

Finally, a conclusion from the analysis and interpretation is drawn in chapter four and the focus is returned to the original hypothesis (cf. p. 4 ‘1.2. Aims of the present study’). The conclusion also draws attention to any surprising or unexpected results. From here possibilities for further research in this area are identified.
2 Methods of work

In this chapter the methods used in this study are described in detail. The starting point of this study was preparation of its concept, finalisation of the topic, followed by literature review. After the review of literature, a set of questionnaire was prepared and data were collected for the analysis. The details of each of these activities are described in the following sections.

2.1 Literature review and preparation ofquestionnaires

Once the study topic was decided upon, I searched for literature on the Internet about similar studies and relevant projects which have been done in the past. I read papers on different studies about the use of Internet and other relevant topics. With the help of my supervisor I prepared the objectives of the study and methods to approach it.

2.1.1 Literature review

According to a study carried out in Turkey by Ruzgar in 2005, “36 percent of the students [interviewed] spent 1-10 hours per week on the Internet. In terms of activities online, sending/receiving e-mail topped the list followed by reading news and sports information and research for school-related work.” In another study carried out by Ayub et al. in 2014, showed that 44.8% of Internet users worldwide are from Asia. For example in Malaysia, which has the highest Internet penetration in Asia (61.7%), the majority of Internet users (19.2%) are 15-19-year olds. Additionally, a study conducted by CWIN-Nepal in which 1430 students from the inner city of Kathmandu participated, showed that in April 2009 94.7% students from private schools and 58.3% from public schools use the Internet. Of those interviewed, 59.5% were spending 1-4 hours a week on the Internet. This shows that, although the overall penetration of Internet in Nepal was about 2%, even in 2009 the urban population, were making the greatest use of the Internet in particular students attending private schools.

The study by CWIN-Nepal shows that the situation of Internet penetration in the inner city of Kathmandu is similar to the situation in a developed country such as Malaysia. However, people living in rural areas have limited access to the Internet and it is likely that the number of teenagers

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who use the Internet in rural locations is relatively low. The studies mentioned above justify the selection of the target age group of Internet users for this study.

These studies also show that the majority of Internet users are teenagers. Therefore, it is very likely that the majority of Internet users in Kathmandu valley are also from this age group. Furthermore, today, teenagers between the ages of 15 and 17 are the first generation of people to grow up exposed to the Internet and are likely to be more eager than other age groups to use the Internet. These factors encouraged me to investigate the Internet habits of 15-17-year olds attending different schools in Kathmandu.

2.1.2 Designing the questionnaire

In order to collect raw data for this study, a two page questionnaire containing 15 questions about pupils’ daily use of the Internet for educational purposes (see Appendix I) was prepared. The survey was carried out at respective schools anonymously but students were asked to write down their school’s name and gender. The questionnaire begins with questions about students’ access to the Internet. Since the primary aim of the questionnaire is to find out about their use of the Internet for educational purposes, the remaining questions were more specifically about their use of the Internet for school assignments.

The first question is one of the most important questions. It was a polar question asking the participant whether they had ever accessed the Internet. If respondents chose “No”, they were then directed to give a reason for this by answering a multiple choice question. This was done to find out the predominant factors influencing access to the Internet in the area and to give an impression of the distribution of Internet services in different parts of Kathmandu.

The second and third questions aimed to find out the times at which the participant can access the Internet and how often they do so. The objective was to compare how frequently the students of different schools use the Internet. I also wanted to find out if participants face any restrictions set by their parents to access the Internet or if they only have a connection at certain hours in the day.

The fourth and fifth questions were concerned with the means of access, for instance where the participants access the Internet from, be it from their homes, schools, and Internet cafés or from their smartphones. The aim here was to find out which location the Internet is most commonly accessed from and to find out where the participant is most likely to make educational use of the Internet.
Further on, the sixth and seventh questions were about the kind of webpages the participants often visit. Question six was a multiple choice question where the options were educational sites popular in Austria such as Sparknotes, Shmoop and Wikipedia. With the help of the responses we are able to check if the student has used one of the most famous educational platforms on the Internet. Participants who have never used websites such as Wikipedia are unlikely to have made educational use of the Internet. Furthermore, question seven was open-ended and invited students to write down the name of the website they most frequently visit. The responses would help me to find out whether the students mostly use the Internet for entertainment, social or for educational purposes.

After question seven, the participants were specifically asked about their educational use of the Internet. The eighth question was about plagiarism, while in the thirteenth question the participant was asked if they had used a search engine or the web encyclopaedia Wikipedia to complete an assignment. The objective of this question was to find out more information about how the participants use the Internet for school work. The response to these questions tells us if the participant is aware of plagiarism which would help to determine if the participant has experience on the Internet. The ninth and the tenth questions were about the teacher and whether he or she makes use of the Internet as part of his or her teaching. The objective of these questions was to find out if teachers influence or even encourage students to use the Internet, and whether this might influence students’ use of the Internet as a learning tool. My assumption is that if schools promote the use of the Internet and provide facilities and some training in this area for the students, this would help them to discover educational websites and teach them how to make use of the educational material available.

The eleventh question sought to find out if the participant and their friends had ever shared information using social media to help each other with their assignments. I hoped that this question would help me to determine whether the Internet facilitates social learning and cooperation outside of school, and to speculate about how social media affect students’ study habits. Questions twelve, fourteen and fifteen aimed to find out if and why students turn to the Internet as a resource for their academic work. I wanted to find out whether the students use the Internet to enhance their learning and how it affects their study habits.
2.2 Selection of schools

Nepal’s mountainous topography has a huge influence on access to education and Internet. Even in the country’s most developed area, the Kathmandu Valley, the geographic location of a student’s home heavily influences their educational opportunities. Since the settlements on the outskirts of the Valley are scattered, many students from rural areas live far away from their schools. The hilly topography makes daily travels for students difficult. Students have to hike on roads which are not pitched and during monsoon season it is almost impossible to go to school when the roads are entirely flooded.

Internet access is also determined by geographic location. Due to the scattered settlements and hilly topography the Internet is not widely available. Geographic location also determines factors such as illiteracy, poverty and topographic diversity which determine the availability of Internet in the Valley. For this reason, geographic location played an important role in the choice of the three schools. They are situated in different parts of the city, which means they are likely to be attended by students from different backgrounds, and access to services, such as the Internet, is likely to vary from school to school. This variation will enable us to draw comparisons between the students of each school and explain any disparities in the results.

In a LEDC, such as Nepal the Internet is a luxury for many and a need for others. For low-income families struggling to cover household expenses, the Internet is a luxury and for others who can afford to live in urban areas, it is a need. Hence it can be said that the use of the Internet depends on socio-economic status. The access to Internet may depend on geographic location. However, if a person can afford it, the Internet is available everywhere in Nepal, even on top of Mount Everest.21 Therefore, the use of the Internet primarily depends on the socio-economic status and development of the society.

At 0.62 the Kathmandu Valley has a higher Human development Index than any other region in Nepal. Of the three districts Kathmandu, Lalitpur and Bhaktapur, Kathmandu has a HDI of 0.63, which is the highest in the country. Similar to the HDI, the Household wellbeing Index is also the highest in the Kathmandu Valley at 41.95.22 Because of this, Rayners’ High School, located in Kathmandu was chosen for this study. Lalitpur district, where the other two schools are located, has a HDI of 0.601, while the third district in the valley (Bhaktapur) has the lowest HDI, with 0.57. Lalitpur is a sub-metropolitan area while the Kathmandu district is a metropolitan area. This

difference in HDI between the schools locations indicates that there is likely to be a digital divide between students living in different parts of the Valley.

2.3 General profiles of selected schools

One hundred students from three different schools participated in this study. Below is the number of students that were present on the day this study was done:

Phulchoki English School (Badikhel, Lalitpur) \(\rightarrow\) 16

Pushpanjali Secondary School (Godawari, Lalitpur) \(\rightarrow\) 61\(^{23}\)

Rayners’ High School (Minbhawan, Kathmandu) \(\rightarrow\) 23

![Number of Participants](chart.png)

*Figure 1: Number of participants from three different schools*

All three schools are secondary schools and one reason the age group 15-17 was chosen is that pupils of this age visit grades 9 and 10, which are the final grades in secondary school. To guarantee a large number of participants at each school, and to make the process more efficient for myself, I decided to invite students from grades nine and ten at each school to participate.

\(^{23}\)Due to a 7.9 Magnitude earthquake in April 2015, the main school building was destroyed. To keep the school running without the main building, sections of every grade were merged which led to overcrowded classrooms.
2.3.1 Phulchoki English School

Phulchoki English School (PES), Badikhel, is located in Lalitpur district of the Valley. The pupils there are from scattered settlements around Badikhel where the literacy rate above the age of 5 is at 72.71% (2014). It is the nearest school for many children living in the surrounding settlements some of which are not served by an Internet connection yet. Even for people who can afford it, Internet is a luxury in this area since most students’ parents are either factory workers or farmers (see appendix II ‘Occupation of parents at Phulchoki English School’). The school was set up and is sponsored by an Italian non-profit organisation and several other individuals to educate children living in poverty. With the help of this organisation, the school building has also been rebuilt in 2010 and the standard of facilities within the school building has risen. The school has a library, an IT room and a recreational area, but the school does not have an Internet connection. It was only a primary school for many years but in the past six years it has started to expand to a secondary school. This means that no one has ever graduated from this school, which makes it difficult to make claims about the educational attainment of its pupils. It also does not own buses like many other schools in the area do. These factors are responsible for the low number of students attending school. Since the school is located in a more rural area it will be interesting to compare the extent of Internet access and use there with the schools in more urbanised areas. It is expected that few students from this school have access to the Internet and that those who do generally do not use it for educational purposes.

2.3.2 Pushpanjali Secondary School

Pushpanjali Secondary School (PSS) is located only one kilometre away from PES. While they are in the same locality, PSS charges triple the amount of tuition fees than PES, with the result that the students of PSS are likely to come from a wealthier background. The school is located in an area slightly more urbanised than PES and also with a higher literacy rate at 81.67% (2014). It is located in a developing area beside a highway, which is used by tourists every day. Since it is located around a tourist area there are a few Internet cafés and Wi-Fi hotspots. The school premises cover a very large area and include a basketball court, football pitch and volleyball court. Additionally, it has a science laboratory, a library and an IT room. However, the students cannot access the Internet from school. The educational attainment is also significantly higher than at

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25 Author interview with Dr. Madhu Sudan Acharya, 25 September 2015.
PES, which can be seen in the school’s excellent record at the nationwide SLC exams.\textsuperscript{27} By contrast, PES has never taken part in the centralised nationwide exams. PSS is a boarding school but only a minority of the students reside at the school. Most of them are from the locality since the school is very popular. The school is also served by a bus route, which enables people from the inner city to attend this school as well. This means that the student population of PSS is more socioeconomically diverse. Some children are just above the poverty line, most are from middle class families, while others, the majority of whom are boarders, come from wealthier backgrounds. It is expected that students from this school will make more use of the educational materials available on the Internet compared to the students at Phulchoki English School.

2.3.3 Rayners’ High School

Rayners’ High School (RAY), is situated in the centre of Kathmandu, 500m from the Parliament. The district of Kathmandu has a higher literacy rate (86.25\%) than the other two areas.\textsuperscript{28} There are a lot of Internet cafés in the area, providing inhabitants with more widespread and convenient access to the Internet. RAY is a private school owned by the headmaster. The school premises covers a relatively small area compared to the other two schools but that is mainly because this school is located in the city centre, where land is more expensive. The school includes physical facilities such as a library, a science laboratory and an IT room. Like the other two schools, students at RAY also do not have access to the Internet from school computers. The school is not served by a bus network and only receives students from the locality. It does not attract the wealthier population from the area because there are other schools which provide better facilities. Hence, most of the students attending this school are from middle class families. It is expected that Internet penetration will be highest among the participants from this school and that they make the greatest use of educational platforms on the Internet out of the three schools involved in the study.

\textsuperscript{27} Author interview with Allen Lepcha, 22 July 2015.
3 Analysis and Interpretation of Results

The primary data collected with the help of the questionnaire were separated according to school and checked for discrepancies and missing or misleading information. The information was then entered into excel tables (cf. Appendix III) based on the responses from each student. This table was used to generate figures and charts. Then the analysis and interpretation of the data was carried out. The details of the analysis are presented in the following sections.

3.1 Overall access to Internet

The responses to the first question vary from school to school. The highest percentage of participants who answered “No” are from PES with 62.5% of participating students from the school having never used the Internet before. At the second school, PSS, which is only located one kilometre away from PES 6.6% of participating students have never used the Internet before. Similarly, at RAY only 4.3% have never accessed the Internet. In total, 15 participants out of 100 have never accessed the Internet.

At PES 10 participants, five male and five female, have never accessed the Internet before. Their reasons for not having Internet access vary. Two students have no Internet connection where they live, while one student cites the high cost as the reason. Another participant says they do not own a device from which they can access the Internet. Yet the majority of the students, six out of 10,
do not have their guardian’s permission to use the Internet. At PSS only four students out of 60 have never been online before, but all four are female and all four said they do not have permission to use the Internet. At RAY, only one participant, also female, has never used the Internet before. Her reason is also that she does not have her guardian’s permission.

One reason for guardians’ prohibiting their children from using the Internet might be that in Nepal many people who are not familiar with the Internet just view it as a medium of entertainment. Guardians in this position may presume their child is “playing on the computer” if they found their child using the Internet. There even exists a stereotype amongst some people in Kathmandu that teenagers only “chat” whenever they are on the Internet and that chatting harms the child’s academic career.

On the other hand, guardians might also restrict their children to use the Internet because they cannot control how their child uses it and which webpages he or she visits. In countries where the Internet is more widely used, parents use Internet security software to regulate which types of websites their child is able to use. Such advanced technologies might not be available to everyone in Nepal and parents who know about the dangers their child could face when they irresponsibly browse the Internet might be the ones who forbid their children from accessing the Internet completely.

Furthermore, the results show that the majority of students who do not have Internet access are female. Nine out of eleven participants who said that they did not have their parents’ permission to access the Internet were female. This might be because of the status of girls and women in Nepalese society as well as the tendency in Nepal to protect girls from exploring new things unknown to the parents. This is a very interesting result and topic, yet it unfortunately exceeds the parameters of this paper and would require detailed treatment in a separate study.

3.2 Duration of Internet use

The majority of participants have access to the Internet for a few hours in the morning and evening while other students need their guardian’s permission to use the Internet. For almost all participants at PES, access to the Internet is limited to a few hours in the morning and evening. In the case of one student this time is set by their guardians. By contrast, one kilometre away at PSS half of the participants (31) are only allowed to access the Internet during specific hours. About one third of the students can use the Internet in the morning and evening only and only one tenth of the students at PSS have 24-hour Internet access. In the city at RAY, the vast majority of the students also have Internet access in the morning and evening while two participants have 24-hour
access and others’ access depends on their parents’ permission. Of the 85 students with Internet access, only eight have 24-hour access.

Most participants use the Internet seldom to a few hours per day. One student at PES claims they are often online during the day, while two use it regularly for a few hours per day and three out of six students use the Internet for a few hours per week. Similarly, just over half of the participants from PSS use the Internet for only a few hours per week. Almost 30% use it every day and the rest of the students (70%) spend most of their free time on the Internet. At RAY none of the participants said they use the Internet “all the time”, while almost 80% of participants said they spend a few hours on the Internet on a daily basis.

According to the findings, guardians regulate the hours their child spends on the Internet, but many participants also say that their access to the Internet is limited to a few hours in the mornings and evenings. This might be because of a very popular Internet service package in Nepal called “Night surfing”. This package enables Internet access only between 6pm and 10am every day. It is quite inexpensive and targeted at middle income families who wish to have Internet connection at home but cannot afford 24-hour service packages. Hence, the high number of respondents who use the Internet only in the mornings and evenings.

Power cuts in the Valley are another reason why many people cannot access the Internet at any time they wish. All households experience power cuts at different times of the day depending on which precinct the house is located in. These power cuts might discourage people who would otherwise pay for an Internet connection in their homes from doing so, since they would often not be able to go online because there was no electricity. Using a different Internet service pack where users only pay for the amount of data they use would be one solution to the problem, but this kind of connection is very expensive.29

An additional point is that because power cuts limit the amount of time teenagers can spend online, their use of the Internet is also likely to be rather limited. Most teenagers in this situation probably devote the window they have to using social media. This can also greatly affect their use of the Internet for educational purposes as it denies them the time to browse and explore educational websites and topics. This can be seen in the responses of the participants when asked which website they visit the most on the Internet, as top answers include social media platforms such as Facebook and YouTube.

3.3 Access to Internet devices

When the participants were asked where and/or with which device they access the Internet, they responded as follows. 73% of all participating students access the Internet from their homes using their computer or tablet. At PES 50% of participants have a computer at home from which they can access the Internet for only a few hours per week while the other half use a smartphone or go to Internet cafés. At PSS a majority of participants (80%) said they access the Internet form a computer at home, while the rest of the students also either use smartphones or go to Internet cafés. At RAY, 95% of students have a computer with Internet connection at home. The remainder of students from RAY visit Internet cafés. None of the participants have accessed the Internet from school. All three schools prohibit the use of phones on school premises, which might help to explain why none of the participants use the Internet at school.

The majority of participants of the survey have a device at home from which they can access the Internet. In the most remote location, at PES, significantly fewer students have devices such as computers and tablets with Internet connection at home than at RAY, which is located in the most urbanised area of the three schools. There, the highest numbers of participants have access the Internet at home through computers or tablets. This might also be an indication of family income. As stated before, the parents of students attending PES mainly have lower-paid occupations in the primary sector. In this case, family income may also be a factor contributing to the digital divide.

The environment in which the student uses the Internet is likely to have an impact on how they use it. Students who do not own smartphones or have Internet connection at home go to Internet cafés. Since many schools do not provide Internet access to their students, Internet cafés are very important resources for Internet use in Kathmandu if students do not own computers. Nepal is believed to have the highest concentration of Internet cafés in the world. However, students are not likely to study in an Internet café. They are more likely to entertain themselves using social media and video streaming websites while visiting Internet cafés. Similarly, teenagers who are able to access the Internet from their homes might seek entertainment or social contact on the Internet. This can be supported by the responses to other questions (see below), which show that the majority of students frequently visit social networking websites such as Facebook and YouTube.

The environment in which the student makes educational use of the Internet is likely to only exist at schools. Therefore, the introduction of an Internet connection at the schools is necessary to promote the educational use of the Internet.

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3.4 Most commonly visited websites

The majority of participants selected YouTube as the site they use on a regular basis. At PES, all participants use YouTube on a regular basis and only one student uses Wikipedia. 87% of respondents from PSS use YouTube while 42% of participants from that school use Wikipedia as well. A minority of three students also use blogs. At RAY, results are similar to that of PSS but more students use blogs and one student uses Hyperphysics, an educational physics website. None of the participants use Sparknotes and Shmoop, which are popular educational websites from the United States.

When the participants were invited to write the names of the websites they visit most often, the results were very similar. Among the 85 participants seven websites were mentioned. These are: YouTube (46), Facebook (38), Wikipedia (18), Google (16), Instagram (1), Twitter (1), Hyperphysics (1) and Wikispecies (1). At PES, Facebook and YouTube were the clear favourites, while participants from PSS showed the greatest diversity. There YouTube is the most popular, and only at RAY do the majority of students prefer Facebook. At RAY significantly fewer students visit YouTube compared to students from the other schools.

YouTube is very popular with the majority of participants. It is very likely that most of the participants use YouTube for entertainment purposes. Most participants at PES only use social media and do not use educational websites such as Wikipedia. This contrasts with the responses of students at PSS and RAY. At RAY, in addition to social media, students are familiar with...
eductive websites such as Hyperphysics and blogs. A few students at PSS have also visited blogs. Additionally, only one student at PES has used Wikipedia. By contrast, 24 out of 57 PSS students and 8 out of 22 RAY students use Wikipedia regularly.

The responses vary from school to school. Most students at PES selected social networking sites as the websites they visit most often. The results at PSS were similar but some participants also use Google and Wikipedia regularly. At RAY, there are participants who visit educational websites. This could be due to the length of time since the students have been using the Internet. It might be that students at PES have just recently started using the Internet and just use it to communicate while most PSS students might have had more experience online and regularly use websites such as Google and Wikipedia. Finally, the students at RAY have probably been using the Internet for the longest time among all the participants and therefore are also more aware of how and for what the Internet can be used.

Here one can clearly see that the school which is located in a more urbanised area has the greatest number of Internet users and, in particular, users of educational websites. Coming from a more peripheral location, PES students are, however, more digitally isolated from their peers. Even though PSS is in the same location, the bus network that brings students from urban areas in Kathmandu to school might account for the higher number of users. PSS is attended by students from all areas and backgrounds. Students with wealthy family backgrounds also board at the school. Furthermore, the interaction with students from the urban areas might keep students who live in remote areas up to date with the latest trends. Students at PSS and RAY can introduce each other to new websites on the Internet they find are interesting or educational.

Therefore, it can be said that the factors which influence the use of educational websites are the amount of experience the participant has had on the Internet and the interaction between students who use the Internet for educational purposes and those who only use social media or do not use the Internet at all.

3.5 Use of information and plagiarism

At PES, none of the students have ever taken something directly from the Internet and submitted it as their own work and at RAY only a minority of students (13%) have. By contrast, 48% of the PSS participants admitted to having done this. Since only one student at PES has used Wikipedia, the response from PES students is perhaps unsurprising. There exists a high contrast between the responses of students from PES and the other two more urbanised schools. At PSS almost half of the participants claimed to have plagiarised school work from the Internet while fewer have done
so at RAY. This could be due to a lack of awareness of plagiarism and other ways of misusing the Internet, which in turn could be the result of a lack of education in how to use the Internet responsibly. This is understandable considering that many have only been introduced to the Internet in the recent years and may not consider claiming things from the Internet to be their own and to be unethical.

![Figure 4: Number of participants who confessed to plagiarism](image)

### 3.6 The role of the teacher in using the Internet

In general it seems that teachers make greater use of the Internet in their teaching than students do in completing their school assignments. 63% of the participants at RAY say that their teachers provide the class with notes from the Internet. At PSS, 48% of the participants have been given notes from the Internet by their teacher. The situation differs at PES, where no participant claims to have received notes from the Internet. Furthermore, none of the students at PES has ever been instructed to research a topic on the Internet as part of an assignment. At PSS, all of the students confirm that their teacher has included Internet use in their teaching. For the majority this occurs on an occasional basis and for some it is a regular occurrence. At RAY only two participants claim their teacher has never instructed them to use the Internet but all of the other participants say this happens occasionally.

Internet has never been used as a part of teaching at PES. This response again contrasts with the responses at the other schools. This is most likely because the teachers cannot ask their students to research something on the Internet when most of them have never been online or do not own a
device which enables them access to the Internet. As a result, these students are not able to benefit from digital education such as platforms like kullabs.com. The main characteristic of digital education is that it is accessible from any location. Since many participants do not have Internet access this is not possible. Digital education would foster learner autonomy and teach students to learn on their own without the help of a teacher. If digital education were introduced at the surveyed schools like it already is at schools like Daffodil, it would help in overcoming the digital divide.

3.7 The use of social media to share academic information

When asked if they have used social media or smartphone apps to share academic information, the participants gave mixed responses. At PES none of the students use social media or smartphone apps for this purpose. At PSS the responses were mostly positive with 28% of students answering “Yes”, 40% with “Occasionally” and the rest of the participants answering with “No” to this question. Mixed answers were received from participants at RAY, with a slight majority answering “Yes” while the rest maintained they do not use social media and apps for academic purposes at all.

![Graph](image)

*Figure 4: Number of students at selected schools who use the Internet to share academic information*

At my school students commonly share information about assignments via social media and so I was curious to compare this with Nepalese students. The responses were as I had expected them to be. None of the students at PES have ever used social media to share information about school work, but a majority of students from the other two schools have done it at least once. It would be
interesting to observe whether this changes with increasing Internet penetration, improvements in services and a proliferation in social media users.

3.8 The Internet as a research tool

When asked how often, in the previous year, they have independently researched something on the Internet, half of PES respondents claimed they did this on a daily or weekly basis, while the other half never do this. 83% of PSS participants rarely research topics related to lessons on the Internet. 12% report frequent (daily or weekly) use for this purpose, while the remaining participants (3.5%) answered negatively. At RAY the majority answered with monthly and seldom with a joint 86% saying they rarely research school topics on the Internet.

The response of PES students to this question is odd. While only one person has used Wikipedia, 50% of the participants claim to research topics on the Internet on a daily basis. It is very odd for these students not to have come across one of the largest Internet platforms while researching. 38% of respondents at PSS claim that they occasionally use a search engine or Wikipedia to work on a school assignment. At RAY the majority answered positively while 18% said they have never done so.

When the students at PES were asked if they have research topics that were taught in class on the Internet because they were unsure about it, a clear majority (66%) answered with “Yes, frequently” while the rest answered negatively. At PSS the largest percentage (40%) claim they seldom do this, but only slightly fewer (36%) say they do this. 24% say they have never searched for confirmation or clarification on the Internet. The students at RAY all responded positively except for one participant who responded negatively.

Here, we can make a comparison between the responses of PSS and RAY students. At PSS the majority of students seldom research the Internet when they are unsure about something, while at RAY almost all students do that. For students at RAY the Internet is already the first port of call if they are unsure about topics taught in class whereas at PSS this is still not the case for many students. This result would suggest that the Internet is more firmly established in the daily lives of the students at RAY. This could be because they have had greater exposure to it. This also supports the theory that students from more urbanised areas are more likely to use the Internet for educational purposes.
Finally, the majority of all participants claim that they use the Internet to research topics on the school syllabus which they find interesting. All participants from PES said they do this, while 85% of participants at PSS said the same thing. At RAY, a smaller percentage (77%) say they search the Internet if they find something in their school syllabus interesting.

The response by PES students to this question is once again a little confusing since most students at PES only use social networking websites. The responses are not as expected because it was expected that the students from RAY would make the best use of the Internet but here RAY has the lowest percentage of students who research topics from the school syllabus out of the three schools.
4 Summary and Conclusion

The general result of the questionnaire is as predicted. As was expected, the participants from Rayners’ High School make the greatest use of the Internet for educational purposes, followed by Pushpanjali Secondary School and Phulchoki English School. Further, a digital divide between the students of Phulchoki English School and the students of the two other schools can be seen.

The main factors which cause this digital divide are believed to be the infrastructure and availability of Internet, the school’s standard of facilities and the educational attainment of the pupils at the school. Phulchoki English School is located in Badikhel. The low number of participants in the survey points to the small population of students, which has to do with its peripheral location. Although the school buildings and facilities are of a high standard, it does not have a bus network like its neighbour school Pushpanjali Secondary School, meaning that it does not attract pupils from urban areas. The fact that students at Phulchoki English School do not come into contact with students from more urbanised areas, where there is higher Internet penetration, may be a reason why fewer participants use the Internet. Internet services in this area are also scarce, which is why very few students have access. Those who do have access primarily use it for social and entertainment purposes. This could be because the Internet is still a relatively recent phenomenon. In addition, teachers at Phulchoki English School neither use nor promote the use of the Internet at school, which might further explain why so few students use the Internet for educational purposes. It is difficult, on the other hand, to count educational attainment as a factor because the school is so new and has not yet taken part in state examinations.

In the schools which are located in more urbanised areas, more students visit educational websites and use the Internet and social media to complete school assignments. Nevertheless, the number of students using the Internet for educational purposes is still very low and, judging by the websites they visit most frequently, the majority of 15-17-year-olds who participated in the study use the Internet to socialise or for entertainment purposes. 90% of participants at Rayners’ High School visit social networking websites the most when they browse the Internet, while at Pushpanjali Secondary School all participants do so. However, the responses also revealed that the teachers at both of these schools occasionally involve the use of the Internet as a part of an assignment. This further points to the use of the Internet for educational purposes at these schools.

Since most of the students at Phulchoki English School cannot access the Internet from their homes, it would be conducive to increasing Internet penetration and usage, in particular for educational purposes, if the students could access the Internet from their schools. In fact, none of
the schools have an Internet connection. Therefore, to promote the educational use of the Internet, an important step would be to establish an Internet connection and provide IT facilities in the schools. Teachers could then guide students and teach them how to carry out research on the Internet. Furthermore students who already have experience in using the Internet for educational purposes could benefit from an Internet connection at their schools.

The majority of students who have never accessed the Internet are restricted by their parents from using it. It is likely that the Internet is seen only as a medium for entertainment among the older population. Some may believe that the Internet harms a students’ academic performance. This suggests that there may be some resistance to the Internet among older people due to a lack of knowledge. This could also discourage younger people from using the Internet.

While Internet services are being developed and the number of users is increasing steadily, there are still many rural parts of Nepal, even in Kathmandu, which have no access to the Internet. Furthermore, due to a lack of education, users may not be aware of how to make use of the Internet in different ways. Thankfully, there are projects such as the Nepal Wireless Networking Project which are working to address these issues in remote areas. Yet even in urban areas more work could be done at schools to help students make use of the Internet to enhance learning.
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*Wikipedia Free Encyclopedia.*
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Appendix

I. Questionnaire

Questionnaire: Internet usage among teenagers in Kathmandu
Samyam Acharya, BRG 19 Vienna, Austria

School: __________________________

The following questionnaire is anonymous.

1) Do you have access to Internet?  ☐ Yes ☐ No

If no, please give a reason for this – choose from the following options:
☐ No connectivity where I live ☐ Too expensive
☐ I don’t own a device that enables me to access Internet ☐ I don’t have permission
☐ Other

2) At what times do you have access to the Internet?
☐ Only a few hours during mornings and evenings ☐ 24 hours
☐ Specific hours set by guardians

3) How often do you use the Internet?
☐ All the time except when I am at school ☐ Regularly, a few hours per day
☐ Seldom, a few hours per week

4) Where do you access the Internet from?
☐ Home (laptop/desktop computer/tablet) ☐ At school
☐ I own a Smartphone with a Data-plan ☐ Internet Cafés

5) Do you use your smartphone at school?
☐ Yes ☐ No
   a) If yes, for what purpose?            b) If no, why not?
      ☐ Educational purpose ☐ It is prohibited to do so at my school
      ☐ Social media and phone calls ☐ I don’t own a smartphone
      ☐ Other

6) Which of the following sites do you use on a regular basis?
7) Which sites do you visit most when you browse the Internet?

8) Have you ever taken something directly from the Internet and submitted it as your own work?

☐ Yes    ☐ No

9) Do your teachers provide the class with notes from the Internet?

☐ Yes    ☐ No

10) Has any teacher ever asked your class to research something on the Internet as part of a homework assignment?

☐ Yes, often    ☐ Yes, occasionally    ☐ No, never

11) Do you and your classmates use smartphones apps and/or social media to help each other with assignments and share academic information?

☐ Yes    ☐ Occasionally    ☐ No

12) How often in the last year have you used the Internet to research a topic you covered in class?

☐ Daily    ☐ Weekly    ☐ Monthly    ☐ Seldom

☐ Never

13) Have you used any search engine or Wikipedia to complete a homework or work on a project work assignment?

☐ Yes, quite often    ☐ Occasionally    ☐ No, never

14) If I question something/am unsure/doubt something the teacher has said in class I check it on the Internet.

☐ Yes, frequently    ☐ Seldom    ☐ No, never

15) If I find anything on my school syllabus interesting, I search about it on the Internet to find a more detailed explanation of it.

☐ Agree    ☐ Disagree

Thank you for your participation!😊
II. Occupation of parents at Phulchoki English School

Source: Phulchoki English School
### III. Questionnaire Results

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#### Responses to Question no 9

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### Responses to Question no 11

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