

# Hindrance to Online Education during Lockdowns: Insights and Measures

Sumitra Pokhrel<sup>1\*</sup>  <https://orcid.org/0000-0001-5083-3105>, Roshan Chhetri<sup>2</sup>  <https://orcid.org/0000-0003-0847-5281>

<sup>1</sup>Phuentsholing Higher Secondary School, Ministry of Education, Phuentsholing, Bhutan, <sup>2</sup>Department of Electrical Engineering, College of Science and Technology, Royal University of Bhutan, Phuentsholing, Bhutan

\*e-mail: <sup>1</sup>[bksunipokhrel@gmail.com](mailto:bksunipokhrel@gmail.com), <sup>2</sup>[roshanchhetri.cst@rub.edu.bt](mailto:roshanchhetri.cst@rub.edu.bt)

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## ABSTRACT

*This study aims to identify the hindrances to online education students in schools and colleges during the lockdown. The online survey through Google Forms with a structured questionnaire with both restricted and unrestricted responses was designed to identify the hindrance to online education during the third lockdown. Total of 425 responses of students who attend online classes during lockdown from Phuentsholing Higher Secondary, Phuentsholing Middle Secondary, Sonamgang Middle Secondary Schools, and College of Science and Technology in Phuentsholing, Bhutan. The result indicates that socio-economic, technological, and psychological situations hinder effective online teaching and learning. Household chores, large family members, data packages, and poor internet connectivity are other difficulties students face making online education ineffective. Some of the measures to support economically disadvantaged students and provide personal computers/laptops to teachers for preparing and developing teaching-learning materials are suggested. Other recommendations and viable measures based on surveys are suggested to overcome such challenges for students and support providers to make online education effective and focused.*

## INTRODUCTION

The complete lockdown of the place/region or nationwide is being executed whenever there is spotting new COVID-19 positive cases in Bhutan. It has implemented numerous lockdowns to control the community transmission of COVID-19, once in August 2020 for three to four weeks, second time towards the third week of December 2020 due to the community transmission in the national capital Thimphu. From April 17, 2021, the third lockdown was imposed along the southern borders, where Phuentsholing endured for more than 100 days. The schools and colleges at Phuentsholing have discontinued face-to-face teaching since April and resumed online teaching immediately during the lockdown. Thus, the series of lockdowns have made online education indispensable to continue the education for schools and colleges in the lockdown region of Bhutan to keep students meaningfully engaged. Distance and e-learning courses have been some modes of learning offered by many universities, in the past, in many countries around the world (Elizabeth Armstrong-Mensah, 2020). Online education is currently the only option during such times to continue teaching and learning. This platform allows students-centered, creative, and flexible learning opportunities (Vandana Singh, 2019). However, the opening of schools poses a safety risk to both teachers and students during such times.

Online learning or e-learning is learning experiences derived through the internet in synchronous or asynchronous environmental conditions using different electronic devices such as Desktop, Laptop, smartphones, iPad, and tablets. Online teaching and learning can continue to serve best, as blended teaching, hereafter the pandemic as the third model of teaching and learning ([Sleator, 2010](#)). The relevant agencies have implemented some form of teacher professional development and familiarization to online teaching that has now equipped the faculty to support and guide the learners more smoothly than the onset of this activity in 2020.

However, with the Covid-19 pandemic still in full bloom across the South Asian region, online education has become one alternative for face-to-face teaching. On a positive note, the pandemic has provided us with an opportunity to pave the way for introducing and strengthening digital learning as a way forward for education sustenance. ([Pokhrel, 2021](#)). Numerous researches have been carried out to study the impact of the COVID-19 pandemic on teaching and learning in general. However, after being implemented for over a year, the process of online teaching and evaluating its opportunities and hindrances has not been reported and researched much. Therefore, this paper assesses and identifies the hindrances to online learning in schools and colleges during recent lockdowns. The socio-economic issues, technology divide, and psychological challenges are appraised, and opportunities and measures for effective online learning during COVID-19 pandemic lockdown are suggested.

As a handful of schools and colleges are under lockdown, the impact is far-reaching and affects the learning needs of these students in the academic year 2021. Students and parents are concerned about the efficacy of online teaching compared to face-to-face learning conducted in schools and colleges in other parts of the country. It is a well-established assumption that no pedagogical approach can replace the peak position of formal education with teacher-taught face-to-face interaction. Thus, both teachers and students find themselves in a situation where they are compelled to embrace the digital academic experience ([L. Mishra, 2020](#)). Online teaching in the lockdown region is generally synchronous at the college level; however, mostly asynchronous lessons with few synchronous lessons are being conducted at the school level.

Various difficulties faced by the students are being shared while using the technological platforms for online learning ([Nabil Hasan Al-Kumaim, 2021](#)). The structure and size of families, economic and social issues produce significant differences in the learning opportunities for children from different backgrounds ([Xavier Bonal, 2020](#)). Besides, the lockdown, school closure, and online classes will also confine the children at home, especially in the urban centers and cities. World Health Organization's 24 hours movement behavior guideline recommends 60 minutes of moderate to vigorous physical activity for 5-17 years old, and the children confined at home during lockdown may not achieve it. It will hurt children's mental well-being, healthy weight status and increases the risk of establishing dangerous habits like increased screen time and snacking that can affect cardiovascular and musculoskeletal health of the young growing children ([editorials, 2020](#))

## **METHODS**

### ***Study design and participants***

The research used the single-stage clustered sampling technique for the quantitative study. The online survey through Google Forms was administered for the data collection process. In addition, a structured questionnaire with both restricted and unrestricted responses was designed to identify the hindrance to online education during the third lockdown. The purposive sampling is used for this study for the students from classes IX to XII of Phuentsholing Higher secondary, Phuentsholing Middle secondary, Sonamgang Middle Secondary schools, and College of Science and Technology (CST) at Phuentsholing, Bhutan. The survey was conducted during May and June 2021.

The questionnaire was mailed to the selected cluster students from class nine to twelve in three schools and CST in Phuentsholing taking online classes through their registered e-mails. The total responses of 425 (both male and female) are used for the study purpose.

The age group and gender are not being considered for the study as the education system in Bhutan is Co-education with an average age of 14 years and above for the specified class levels. Only one response per e-mail ID was allowed to ensure no duplication of data. The completed online survey

questionnaire is included in the data analysis, while the data from those who filled it incompletely were omitted for acquiring precise final analysis.

### **Questionnaire**

Quantitative data was collected through a set of questions, and qualitative data was collected through an open-ended question. Pilot-test was carried out for a handful of samples to confirm the reliability and validity of the questionnaire. Content validity of the questionnaire was also done through face validity with few regular researchers to ensure clarity of the questions and their link to the research topic.

The internal consistency was tested with Cronbach's alpha of 0.64. The questionnaire embedded social, economic, technological, and psychological spheres that would identify the hindrances.

## **RESULTS & DISCUSSIONS**

The descriptive analysis of data and findings is done thematically. This section presents theme-wise content and percentage analysis using graphs and charts.

### **Online learning: Preferences and Perception**

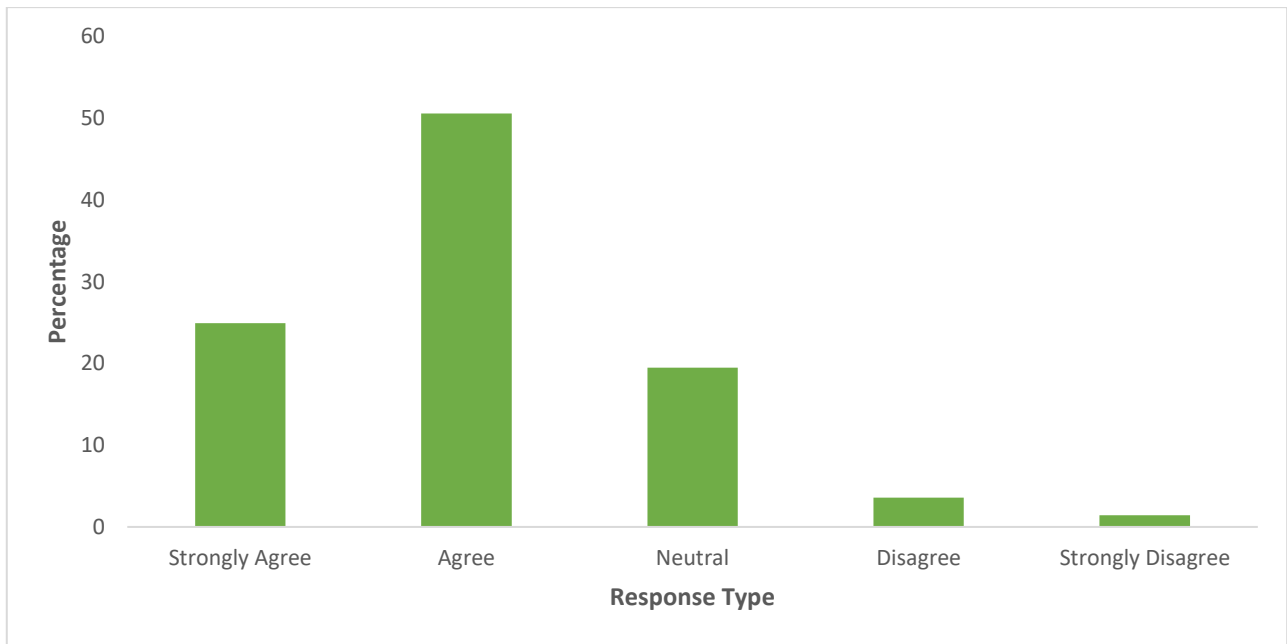
Online teaching and learning have been a paradigm shift in the wake of the pandemic. While the role of technology and computers in student learning shifts from "learning from technology" to "learning with technology," the professional educator's role changed from being a presenter to facilitator or coach ([Wallace, 2000](#)). Most of the students in the survey have embraced the change and have preferred online classes over staying idle or disconnected from academics during the lockdown. However, modifications and improvements in the teaching method by teachers like self-made video lessons rather than readily available resources from the internet, more synchronous lessons than asynchronous and fewer assignments are suggested by the learners.

Around 40% of the students strongly agreed that online learning is a better alternative to continue education during the lockdowns, while 29% of students are not comfortable accepting this mode of education and the remaining are with neutral opinion. Nevertheless, The workload of assignments is burdensome due to a lack of clarity in the concepts from online lessons compared to face-to-face teaching and the majority of the students having to work using only smartphones.

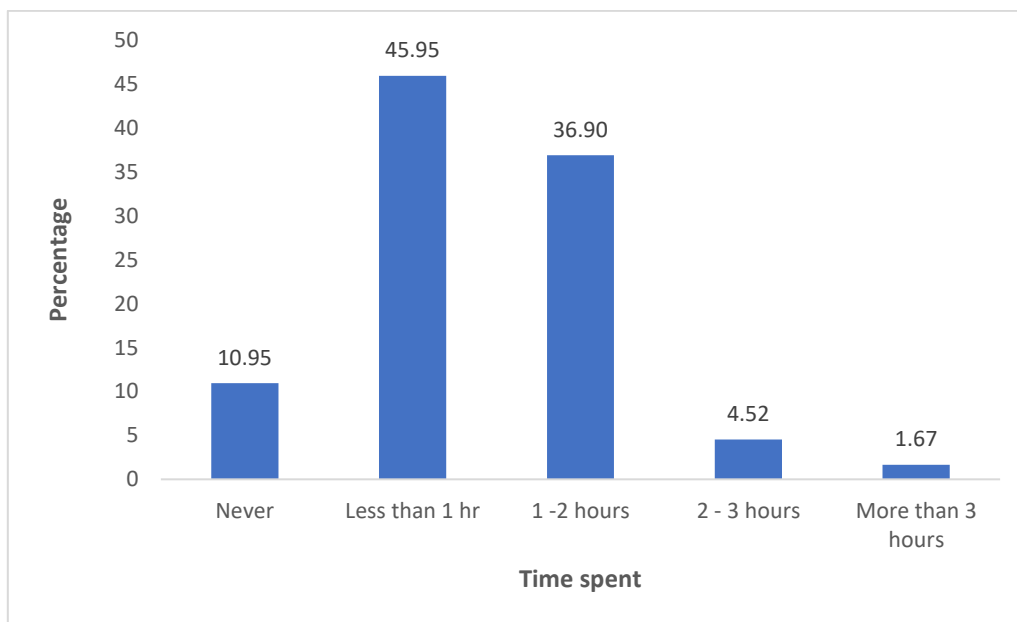
Around 42.6% agree that the number of assignments given by teachers is manageable, with 35.9% remaining neutral. The resource materials shared by teachers are found useful and sufficient as 61% of students strongly agree with it. Learners are keen and concerned about the timely completion of assigned tasks, as indicated by 69.9% of the respondents. It reveals that online education during lockdown is not just an alternative to continuing education but one mode of lesson delivery in formal education during lockdowns and hereafter. There is a strong sense of learners' transforming their "learning from technology" to "learning with technology."

The focus and intention of education today are more learner-centered, and the pedagogy preferred for 21<sup>st</sup>-century education is experiential and experimental learning. About 75.4% of the students strongly agree that they are engaged in self-exploration of online resources for in-depth understanding and application of the concept, as reflected by Figure 1. Therefore, fostering online education is perceived as a boon to modern education.

The students are also involved in further reading and researching for about an hour or two, the concepts from their textbooks and other off-line reading materials to enhance their understanding shown by Figure 2. On the contrary, 10.9 % of students do not read books during the lockdown is also reported. The reason could be that either book are not available or are not interested and rely only on study materials provided by the teachers through online classes. Overall, the finding indicates that online teaching has paved the way for self-explorative and self-paced learning that will benefit them in the long run.



**Figure 1. Interested in self-explorative learning**



**Figure 2. Reading textbook and additional resources**

It is motivating to know that the students (52.2%) have observed an improvement in the online teaching and learning process in general during the recent lockdown compared to that of 2020. The study also found that 36.6% expressed that the online class is engaging and meaningful, while 40.9% remain neutral to the statement. The response to an open question, "How do you think education should be continued during lockdowns?" brought out a genuine concern from the learners. Almost all feel that online classes during lockdown are safe and protect everybody from the clutches of rapid transmission of COVID-19. Figure 3 shows that many respondents are satisfied with online education, but 29% of students dislike online learning. Few students also feel there should be clear guidelines and limited assignments with synchronous lessons that would assist them for better understanding of the concepts like during face-to-face teaching.

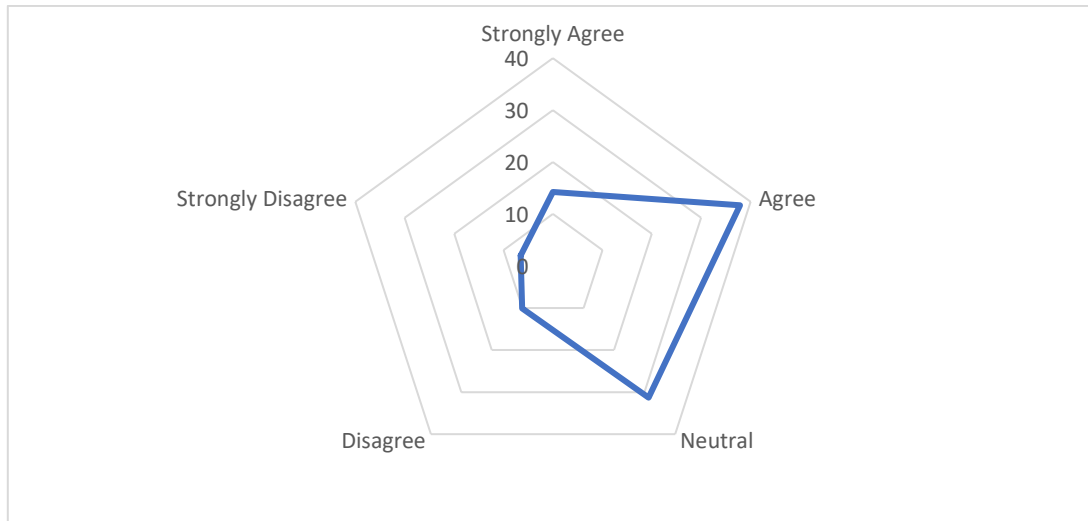


Figure 3. Comparison of Online teaching between 2020 and 2021

From the survey, more than 55% understand the instruction given by teachers, while 34.7% remain neutral. However, about 41.2% expressed that they get bored by the continuous online classes. Therefore,

**The socio-economic scenario of the learners**

The access to technology and the electronic gadget at the disposal of the learner is influenced by the economic status and the income of the families who support the students' learning environment. The variety of gadgets available to the learner (Figure 4) was assessed, and found out that 97.4% of students have smartphones while 23% have access to laptops and 4% with desktops. A negligible percentage use their iPad and tablets for academic purposes. It is disheartening to see few students without any means to participate in online classes. The data indicates that students do not have comfort and convenience to access learning material as only smartphones are available. Research has reported a significant gap between privileged and disadvantaged socio-economic backgrounds about gadgets for participation in digital learning. This gap is seen across countries and between income groups within countries. While some schools and governments have provided the gadget to needy students, many are still concerned that the pandemic will widen the digital divide. (Cathy Li, 2020). In Bhutan, the disadvantaged and needy students are supported by schools through voluntary contributions from parents and teachers regarding modest gadgets, regular data package recharges, and government assistance.

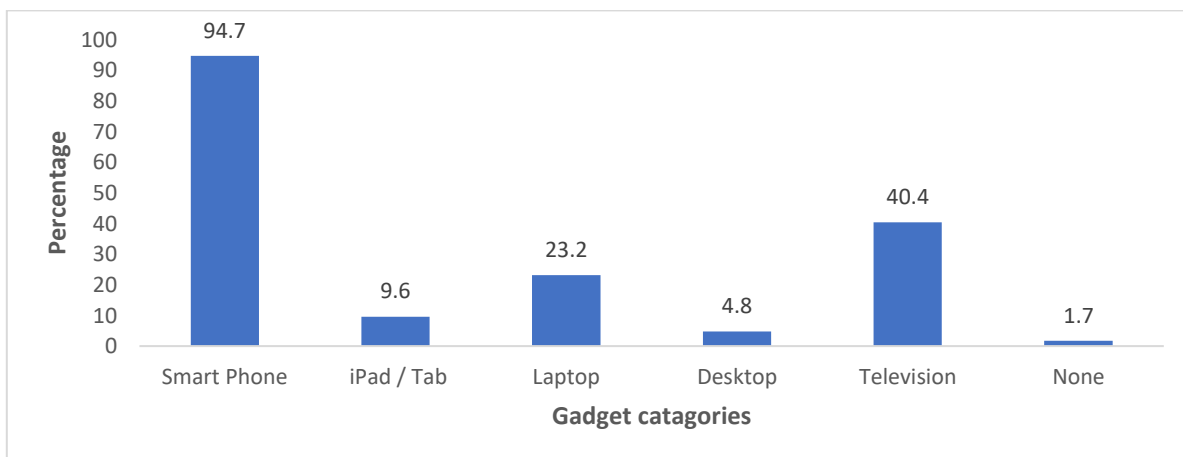
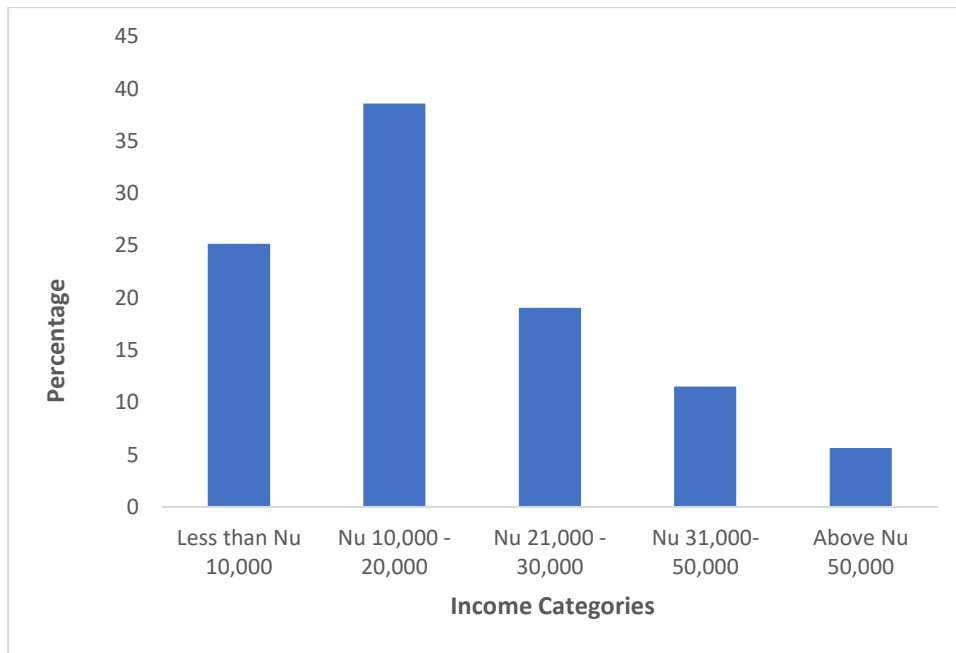


Figure 4. Gadgets Available for my online education



**Figure 5. Average monthly income of Parents and Guardians**

The average income of the parents is shown in Figure 5. Around 25.18% shared their income is below Nu 10,000/- while 38.59% of the respondents shared their parent's income is between Nu 10,000/- to Nu 20,000/-. Learning conditions at home differ based on several variables like physical space and access to technological devices. Therefore, it has an impact on the learning conditions of children. The socio-economic status of the student's families has a direct correlation with online learning participation. (UNESCO, 2021). Figure 6 shows 13.81% of the respondents shared they strongly agree, and 43.33% agree that they have a separate workspace for learning, while 18.1% disagree and only 6.67% strongly disagree on it. Low-income groups face difficulties providing necessary electronics gadgets like smartphones, laptops, and iPad and sufficient data packages for online learning. With the growing economic crisis affected by the pandemic, many families have lost their job or earned much lesser than their usual income, affecting their living expenses and standards. Meeting the daily expenses has become difficult, mostly for the lower-income population. Large family size, engagement in household chores, and lack of proper study space have been reported by about 32% of the students. Thus the socio-economic pressure is identified as one of the hindrances to the effective online learning of the students. It is good to learn that around 64.8% of students are not affected by household chores and other distractions like family size, space availability, and surrounding noise, indicating the presence of a conducive learning environment and parental or guardian support for online education. Only a quarter (26.3%) of the survey students are not distracted during online education, while the majority of them are distracted in various online activities. This finding allows the researcher to state that online classes often become expensive in terms of data packages as learners use the data for other online activities like gaming and videos. It also affects the time management and timely completion of the assigned task of some learners.

The study reveals that parents and guardians support most students' education as 76.6% of the students expressed that their parents are supportive and provide timely data recharge. However, not all the students (5.3%) are fully supported by their parents/guardians for e-learning due to low income, unemployment, and other economic conditions of guardians impacted by the pandemic directly. The same students also do not have personal smartphones, data packages, and study space for online learning.

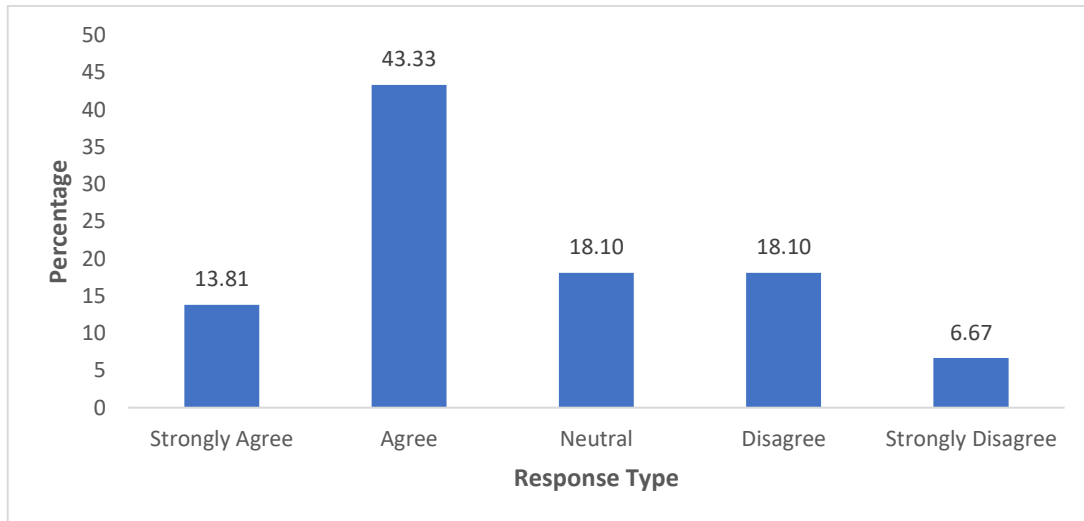


Figure 6. Separate workspace for study at home

**Psychological state**

Some psychological issues will have long-term consequences on mental health, including stress, anxiety, depression, frustration, and uncertainty during COVID-19 outbreaks and the lockdown that is imposed for a longer period ([Natalie, 2021](#)).

It is revealed that students experience sleeplessness during the lockdown, as shown in Figure 7, which is a concern to be addressed. Around 46.08% of students have responded that they sometimes experience sleepless nights, while another 18.76% often experience sleepless, followed by 4.28% always experience sleepless nights. Therefore, only around 13.78% never experienced such sleepless nights. The finding also shows that 23.78% agree or strongly agree, suffering from anxiety during the lockdown.

The restlessness and boredom feelings are also associated with mental disturbances or unsettled minds of an individual. ([A. Alfawaz, 2021](#)) Although children in the growing age often exhibit these behaviors and are considered part of their growth, the prolonged pandemic and the indoor lifestyle might lead to imbalances in young learners' mental and physical well-being. The continuous dependency on the gadget may also have adverse effects on the physical health and eyesight of the students. It develops inactivity and obesity in some adolescents affecting their mental well-being in the long run ([Zhongren Ma, 2021](#)).

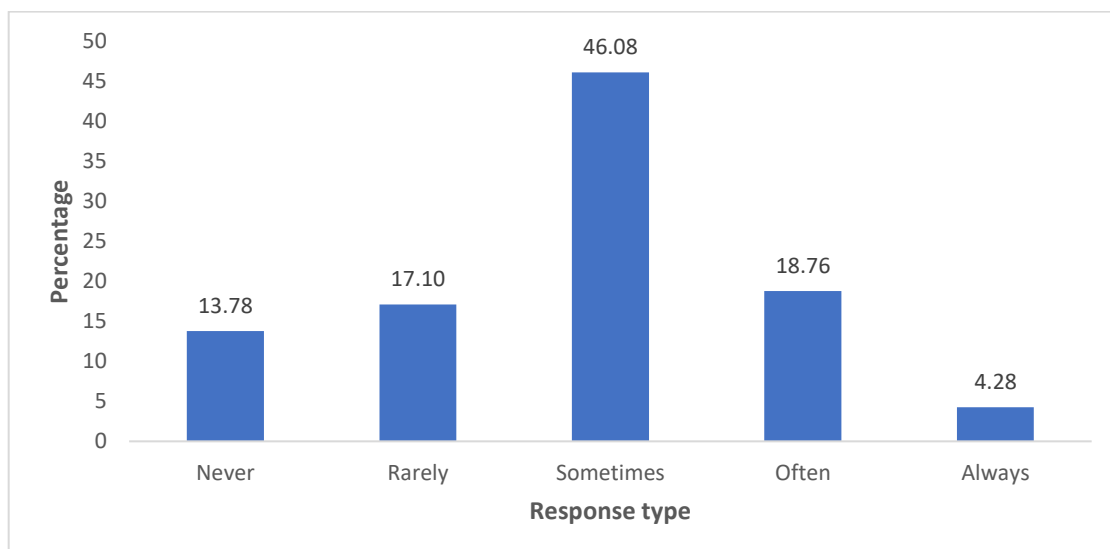
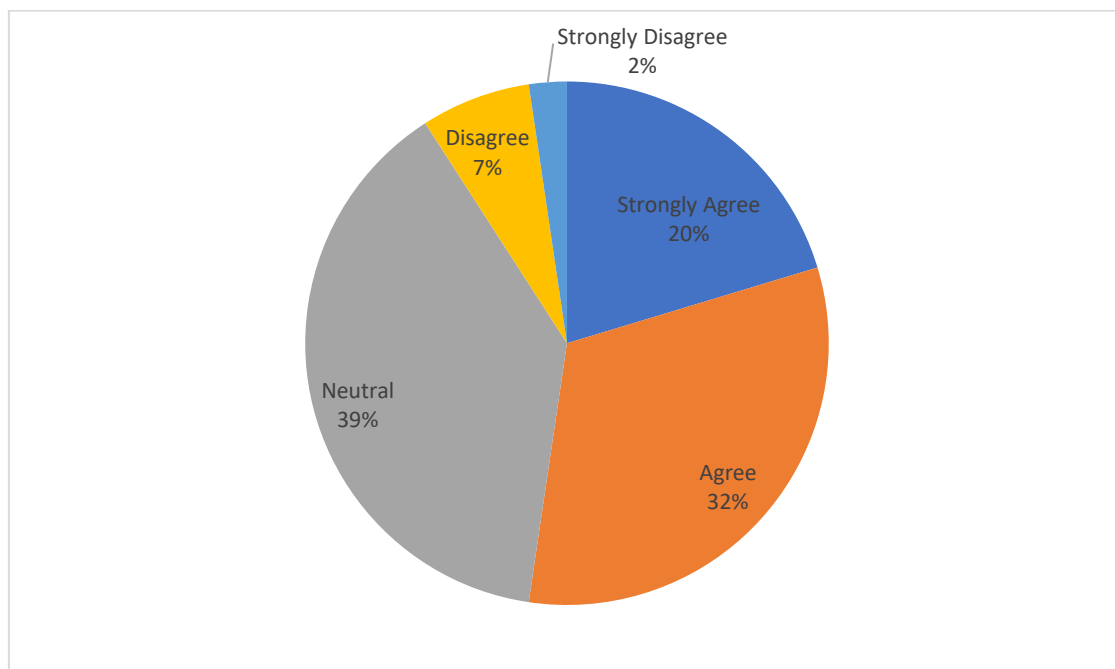


Figure 7. I experience sleeplessness during lockdowns

### **Internet: Connectivity and acquaintance to the online platform**

Students had different internet connectivity conditions and unequal opportunities to access technological devices to carry out their online study activities, shown in Figure 8. The study indicated that around 10.5% of the sample had poor internet connections or very bad connections. The network connectivity issue is common among developing countries ([Mansureh Kebritchi, 2017](#)). The zeal and enthusiasm of the learner are often impeded by frequent network interruption, affecting active participation in online lessons. Even after having different gadgets available for online learning, there were important differences regarding using various platforms for online learning. Around 52.1% have sound knowledge, while 8.9% either disagree or strongly disagree on it. It could be due to various reasons like the electronic gadgets available to them may not support different applications, or they do not have the knowledge of installation and setting up and cannot afford the purchase of data package to download heavy files.

The knowledge and awareness on various online platforms have drastically improved compared to previous online classes, both for learners and teachers. Varieties of platforms like Google Classroom, Google Meet, Zoom, and Telegram Voice chat support synchronous and asynchronous lessons.



**Figure 8. Knowledge about online learning platforms**

### **Hindrance to Online education and Suggestive Measures**

Besides the availability of a sea of platforms and online educational tools, both educators and learners face frequent hiccups while using or referring to these tools. Some of the challenges identified and highlighted by many researchers are that children of low and middle-income families are suffering setbacks due to the Socio-Economic Status (SES) of the families. This study concludes that 94% of students have only smartphones to access online classes. Not having the right tool like a computer or laptop makes the learning process painful and strenuous, as access is only through smartphones sometimes shared with parents ([UNICEF, 2017](#)). Moreover, it creates health problems like eyesight damage and physical inactivity.

Moreover, online learning is directly influenced by the availability and accessibility like internet connections and data packages which further depends on the financial resource of the family. Weak internet connection and sharing gadgets for students with more than one sibling in a family is a nightmare for online learning ([Zhongren Ma, 2021](#)). Establishing the endowment fund for schools to support the needy students with gadgets and data recharge within the Thromde education or individual schools would serve as a short-term measure to overcome the affordability issue. Development and



establishment of learning environments like Education YouTube channels or learning Apps at the National level would prompt new examples of educational innovation. Financial initiative and assistance from the Education ministry for low and underprivileged students in the affected areas would make online learning an enjoyable journey. The policy-level intervention in education with an appropriate support system would enable online education to transform into blended learning. It would prepare the learners for acquiring 21<sup>st</sup>-century skills, empower them with the transversal competencies, and prepare them to be lifelong learners, as is the New Normal Curriculum requirement for schools in Bhutan.

While teaching online, teachers cannot interact like in face-to-face teaching regularly and understand the learning needs of the students to change the teaching pattern. Students are also not able to meet friends to socialize and discuss their assignments and other issues. The psychological well-being of individuals during such crises needs to be taken care of with the adoption of synchronous and asynchronous lessons and the inclusion of fun activities, especially for lower classes. Lack of separate study and working space at home has been one of the hindrances identified in the study. Effective time management and studious focus on the task and study can be enhanced through provision and improvement in residential housing design and policy formulation for such modification. If such housing facilities are made available and affordable to all income groups, they will enable young learners to enhance their online education in the future. Like colleges, most schools have not provided personal computers/laptops for teachers, which prepares teaching-learning materials difficult and inconvenient. The lack of ICT resources affects the teachers' interest and motivation. It is high time for the ministry of education to support teachers by providing such resources to make online teaching easy and convenient. Nevertheless, most teachers have initiated to purchase ITC resources for their personal use to make online teaching possible and effective.

Range of collaboration tools and engagement methods that promotes interactive learning through interactive apps that are more suitable to lower class students are the new areas of growth and expansion for entrepreneurs and education tools development firms.

## **CONCLUSION**

Education worldwide is accepting the paradigm shift from conventional classroom teaching to Online/e-learning and distance education. Emphasizing digital technology and enhancing online education as part of 21<sup>st</sup>-century pedagogy at higher secondary and university levels has become necessary. Identifying new and effective pedagogy and adopting policies for online education will support and strengthen the teaching-learning towards embracing 21<sup>st</sup>-century pedagogy and development of soft skills. Most students at middle schools and higher secondary use smartphones, and few use laptops during online teaching-learning. It should be critically assessed as many papers have mentioned the long-term impact of smartphones on growing children's physical and mental well-being. Teachers and facilitators are also not supported with the provision of laptops and computers in the school that causes inconvenience to them too for the smooth conduct of online classes. However, now teachers have gained experience in online teaching through the use of their gadgets. Students felt online education helped them to continue their studies during the pandemic. However, household chores, large family members, data packages, and poor internet connectivity make it difficult for many students to focus on online education. Students also have reported suffering from anxiety and depression. Students from low-income groups have limited access to digital technologies relying only on smartphones, and students who are less knowledgeable about those technologies face problems adapting to online education. The students have observed an improvement in the online teaching skills in the recent lockdown compared to 2020. It is time for schools and relevant agencies to plan and provide personal computers/laptops to teachers to prepare and develop learning materials and continue blended teaching.

### ***Funding and Conflicts of Interest***

The author declares that there is no funding and conflicts of interest for this research.

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