Access to digital education

The final hope for education of young people in Myanmar

August 2024

By Gathering House Youth Empowerment Society

Acknowledgment

Eventually, we have reached this day. Our collective efforts have brought us to this achievement. Throughout this period, the situation in Myanmar has been deteriorating daily, leading to widespread humanitarian crises. The youth of Myanmar are facing numerous challenges. Our team is eager to assist them in any possible way. We have dedicated our efforts to supporting our affected people through youth-led initiatives. By the end of 2022, we developed a strategic focus, "Empowering Youths for Resilient Communities," which reflects Myanmar's evolving context. Under this strategic focus, we are currently implementing humanitarian aid and youth empowerment projects. As a youth organization operating under significant security concerns, we face various operational challenges. Despite the risks, we have committed our best efforts to support the affected communities and empower Myanmar's youth, maintaining accountability. This paper is also part of our continuous efforts.

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GATHERING HOUSE YOUTH EMPOWERMENT SOCIETY is a youth organization formed by youth activists in 2020 with the vision of a peaceful and comprehensively developed society with the participation and leadership of qualified youth in each sector.

Abstract

In Myanmar, the education sector faces disruption due to the pandemic and political turmoil, emphasizing the importance of digital education platforms for youth. However, socio-economic barriers hinder access, particularly in rural and conflict-affected areas. This study explores how these disadvantages impact young people's digital education access during the pandemic and coup, focusing on their participation in civil disobedience. Through surveys and interviews with diverse youth engaged in the movement, challenges such as financial constraints, electricity and connectivity issues are highlighted. Furthermore, findings reveal the prevalence of security concerns and inadequate resources, including poor-quality devices and limited internet access. Despite limitations in representing the perspectives of those in conflict-affected areas, the study sheds light on Myanmar's digital education landscape. Recommendations include targeted interventions to address disparities and foster collaboration for equitable education access.

Executive summary

The study found that civil disobedience movement (CDM) participants increasingly use digital learning as a viable option during political resistance. Many faced challenges accessing learning resources after the coup, such as shortages, reduced educators, unstable internet, electricity outages, security risks, and high data costs. Common issues included poor internet connections, financial difficulties, and internet shutdowns, with concerns about cybersecurity and the safety of digital platforms.

Respondents encountered barriers like security risks, technological limitations, internet disruptions, and financial constraints, highlighting widespread difficulties accessing online learning resources and broader educational inequalities. Participants expressed varied concerns about security and surveillance risks in digital education, especially regarding sensitive subjects and platforms supporting resistance movements.

Financial challenges significantly impacted digital learning, affecting most participants and highlighting financial constraints as a major barrier to fair educational opportunities in Myanmar. Monthly internet expenses varied widely, with many spending under 50,000 MMK, while family incomes ranged from below 200,000 MMK to over 800,000 MMK, showing diverse economic circumstances.

The educational backgrounds of respondents' families varied, influencing access to resources and support for digital education within households. Family support for digital education varied, with many receiving encouragement and financial aid, though some felt support was inadequate, affecting educational outcomes. Job losses within families were common, impacting financial stability and access to digital education resources.

During conflicts in 2023, a slight majority of respondents reported active conflict nearby, affecting access to education and resources. While many owned essential digital devices, concerns about quality and reliability persisted, particularly in areas prone to electricity outages. Half of the respondents lacked access to computers, crucial for effective digital learning, with computers seen as more beneficial than smartphones due to better learning experiences and resource access. Challenges in internet access persisted across Myanmar due to restrictions, technical issues, and financial constraints, posing complex obstacles to digital learning in politically unstable regions.

Digital literacy levels varied, underscoring the need for targeted strategies to improve proficiency and support effective digital learning experiences. Computer skills ranged from basic to advanced, influencing ease of accessing digital learning resources, with computer access crucial for educational opportunities. Transitioning to workplace software like Microsoft Outlook and Teams posed initial challenges, highlighting the need for broader digital skills training.

Participants reported occasional difficulties accessing digital learning materials due to internet connectivity and content management issues, necessitating ongoing infrastructure improvements.

Digital information analysis skills varied, with many having intermediate proficiency, indicating a need for enhanced support in digital literacy for effective learning. Internet use among participants varied from entertainment to learning and capacity building, including activities like shopping, gaming, and social media.

Resource accessibility varied between conflict-free and conflict-affected areas, with more access reported in stable regions compared to conflict zones.

Engagement in digital education differed between urban and rural areas, with urban participants showing more consistent involvement, highlighting urban-rural disparities in educational access. Internet accessibility gaps persisted between rural and urban areas, with rural regions facing greater challenges in accessing reliable internet, impacting digital education engagement. Family support played a critical role in accessing digital education, varying across rural and urban settings despite varying levels of assistance.

Overall, digital education was widely seen as effective, offering flexibility, increased participation, and reduced costs, with stable internet connectivity crucial for enhancing effectiveness.

While digital education was deemed effective compared to traditional classrooms due to expanded networks and resource access, challenges in focus and motivation persisted, with many still preferring campus-based learning for its interactive and supportive environment.

During the coup, digital education was positively viewed for maintaining educational continuity, providing accessible programs, and diverse learning experiences as an alternative to traditional universities.

Socio-economic factors significantly influenced digital education access, highlighting disparities in device affordability, internet access, and related expenses among participants.

Contents

Introduction

Since the WHO declared COVID-19 a pandemic on March 11, 2020, schools and universities worldwide have experienced prolonged closures (Alejo et al., 2023). According to a UNESCO report, the education of over 220 million higher education students was affected. Governments implemented various remote learning methods, including online platforms, television, and radio, and planned to enhance equal access and support for teachers, parents, and caregivers (Yonemura et al., 2020). However, developing countries still face challenges with ICT infrastructure, computer availability, and internet access (Tadesse & Muluye, 2020).

The pandemic has highlighted existing inequalities but also created new learning opportunities by shifting education to home environments. It has increased awareness that learning can occur outside traditional schools and universities (Asia Development Bank, 2021). Formal education has become heavily reliant on technology, with learners, educators, and institutions extensively using digital technologies for remote learning (Jukes and Norman, 2023). However, the quality and accessibility of remote learning have varied, with marginalized students facing significant challenges (Saavedra et al., 2021). Effective distance education requires proper digital resources, digital literacy, active parental involvement, and schools prepared for remote learning (Van de Werfhorst et al., 2022). Ensuring equitable access to ICT-based learning is crucial, as underprivileged learners often lack access to ICT facilities and live in areas with limited or no electricity and internet connectivity (Chang and Yano, 2020).

Following the announcement of Myanmar's first confirmed case of COVID-19, the immediate response was the closure of all schools and training facilities in March 2020. The Ministry of Education (MOE) then, prepared to move to virtual learning platforms to prevent COVID-19 transmission at schools and universities. Transitioning to remote learning had challenges, particularly due to the limited access to broadband internet, with the majority relying solely on mobile phones for internet connectivity. Despite these difficulties, some parents adapted to homeschooling and provided support for their children in online learning. Students showed creativity by utilizing online education platforms in diverse ways (San, 2021).

COVID 19's Impacts on Myanmar Education
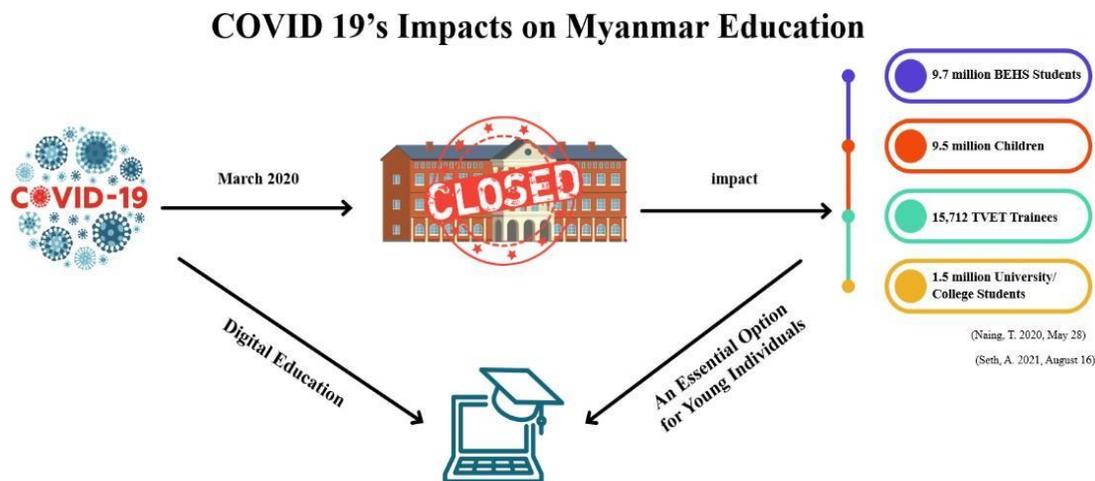
The Ministry of Education (MoE) in Myanmar, in collaboration with UNESCO and its partners, developed a national response and recovery plan to ensure the continuity of quality and equitable education during the COVID-19 pandemic. This plan prioritized maintaining education through distance learning materials and adaptations to administrative and academic processes, particularly examinations (Ministry of Education, 2020). However, as noted by Aung & Kham (2019), e-learning in Myanmar was in its early stages, and universities faced challenges due to limited resources. Myanmar ranked lowest among ASEAN countries in digital readiness, including ICT development, e-government development, network readiness, and cybersecurity (Oxford Business Group, 2020).

In early 2020, the government successfully contained the pandemic and prepared for a nationwide vaccination campaign in February 2021. However, on February 1, 2021, the military declared a "state of emergency" and detained democratically elected officials (Khai, 2021). The military's efforts to consolidate power included killing and imprisoning opponents and attacking civilians. Initially, opposition to the coup manifested in widespread protests, strikes, and the Civil Disobedience Movement (CDM), with teachers and students leading the opposition. They rejected the regime's education system and refused to return to classrooms. Over 400,000 education sector civil servants, including professors, teachers, administrators, and staff, joined the CDM. Approximately 10 million students boycotted the regime's education (The Irrawaddy, 2023). As a result, about 13,000 academics and staff across Myanmar's universities, around 45% of the total academic and research staff, faced suspensions for their participation in the CDM (Waa, 2021).

In the 2019-2020 academic year, Myanmar conducted its last matriculation exam before the coup, with around 910,000 students participating. However, during the 2022-2023 academic year, this figure dropped by 80%, with only 160,000 students taking the exam. Besides, approximately 1 million students were enrolled in state-run universities. Following the coup, it's estimated that this number has decreased by over 70%. Many students have opted for online alternative education due to boycotting the regime's education system, while others have left to seek employment, and some remain inactive (Padone, 2023).

While the Civil Disobedience Movement (CDM) rejects the regime's education system, many students have sought alternative ways to continue their education outside military control. The National Unity Government (NUG), formed by former NLD lawmakers and representatives of ethnic minority groups, along with teachers' and students' unions, ethnic education departments, non-profits, and other entities, have collectively introduced new educational initiatives (Waa, 2021). University Interim Councils were established in 53 universities through collaboration among CDM teachers, alumni, and student organizations, supported by the NUG's Ministry of Education. According to Spring University Myanmar (2023), several interim educational providers emerged in April 2021 to address the educational needs of students and CDM academic staff in higher education following the coup.

The emerging providers primarily use online teaching methods and tech platforms such as Zoom, Google Meet, Google class- room, and Moodle to reach students, many of whom are in hiding or displaced by the ongoing conflict. This is why understanding the challenges that students face in accessing digital platforms in Myanmar is of utmost importance to ensuring that students re-engage with or continue their education after the pandemic and the coup.

Several challenges have been identified regarding online learning in Myanmar. Nanthakorn et al. (2023) reported that many students struggle to engage effectively in online learning due to a lack of access to

computers, with over half of survey participants lacking this resource. Although smartphones are more common, their limited functionality and stability issues make them less practical for learning, and many available smartphones are of lower quality. Additionally, inadequate internet speeds, IT facilities, and IT skills hinder online learning, with 78% of internet users lacking basic digital literacy, such as using browsers or app stores (Telenor, 2018). Furthermore, the military junta, under Section 77 of the Telecommunication Law (2013), has forced telecommunication companies to comply with service disruptions, leading to intermittent internet shutdowns in conflict-affected areas (Asia Center, 2021).

These issues are compounded by the socio-economic fallout of COVID-19 and the coup. Households faced significant declines in income and increased expenses, due to rising prices and a severe inflation rate (Karamba & Salcher, 2022). According to the International Labor Organization (ILO) report released in January 2022, Myanmar experienced a significant decline in employment in 2021. Annual employment losses amounted to approximately 8%, or 1.6 million jobs lost in both formal and informal sectors (Bo, 2022). Additionally, the coup has caused a widespread humanitarian crisis. It estimated that one-third of the population, totaling 18.6 million people, are in dire need of humanitarian assistance (UNICEF Myanmar, 2024).

Those boycotting the regime's educational system face daily challenges and numerous hardships. Students, including children and young individuals, encounter significant difficulties and uncertainties in accessing education. Members of the Civil Disobedience Movement (CDM) are frequently targeted by security forces, dealing with checkpoints and night-time guest-list checks. Their situation has worsened with the conscription law activated in February 2024. Despite the efforts of emerging educational providers, many young people involved in the CDM struggle to continue their education. However, as Metro (2021) noted, Generation Z is increasingly seeking alternatives to conventional schooling. Dr. Thein Lwin, a prominent education reform leader, shared that students are finding innovative ways to learn both collaboratively and independently, often using the internet creatively.

To ensure CDM participants have access to education, it is crucial to understand how socio-economic hardships affect access to digital tools. Existing research on e-learning in Myanmar was mostly conducted during COVID-19, before the coup, which drastically altered the socio-economic status of households. The ongoing humanitarian crisis exacerbates the digital divide, impacting students seeking online learning opportunities. This paper aims to fill a critical gap by examining the impacts of socio-economic disparities on young people's access to digital education platforms since the coup. The data reveals multifaceted challenges, from limited internet connectivity to financial constraints, hindering educational opportunities. The dynamic socio-economic landscape in Myanmar underscores the need to explore students' perceptions and attitudes towards digital education amidst these adversities. This research provides insights into the impacts of socio-economic disadvantages on young CDM participants' access to digital education during the COVID-19 pandemic and the coup.

This research will be relevant to Emerging Educational Institutions, Policymakers, Educators, the aid agencies, NGOs, CSO, INGO, Civilian Leaders and other stakeholders interested in the field of education and youth empowerment in Myanmar. In the rest of this report, we will undertake a thorough review of existing literature, discuss the conceptual framework guiding our study, and provide detailed insights into the methodology employed. Subsequently, we will present our findings, followed by a comprehensive discussion and conclusion.

Problem statement

The COVID-19 pandemic and 2021 coup have led to the closure of schools and universities in Myanmar, creating a shortage of qualified staff to operate these educational institutions. Consequently, digital education has become an essential option for young individuals to pursue their studies. Nonetheless, socio-economic disparities, particularly in rural regions and areas affected by internet shutdowns, impede access to these online platforms. The presence of current and upcoming obstacles highlights the importance of examining how socio-economic disadvantages affect the youth's ability to utilize digital education platforms amidst the pandemic and coup.

Significance of the study

The study aims to examine how socio-economic disadvantages impact young people's access to digital education platforms during the COVID-19 pandemic and since the 2021 coup in Myanmar, and their perceptions and attitudes on digital education. It focuses on young people participating in the Civil Disobedience Movement (CDM), who have refused to participate in the education provided by the military, and who are partaking in alternative education institutions. It is useful for policymakers and educators in designing policies and interventions that address the digital education divide and promote equitable access to education for young people in Myanmar.

As a youth empowerment organization, we see education as a fundamental right for all young people, regardless of their socio-economic background or political views. We are committed to empowering young people to reach their potential and recognize the sacrifices made by youths leading the CDM in Myanmar. By identifying barriers to accessing digital education, we can design targeted interventions that address inequalities and advocate for policies promoting equitable access to education. Our organization's experiences working with young people has helped us to access a unique network of participants, who have experienced barriers to accessing digital education platforms due to socio-economic disadvantages.

Research questions

1. How do socio-economic disadvantages impact young CDM participants' access to digital education platforms in Myanmar during the COVID-19 pandemic and since the coup?
2. What are the attitudes and perceptions of young people towards digital education in Myanmar in the light of the barriers they face due to socio-economic disadvantages?

Literature review

Digital education and its challenges

The Institute for Academic Development (2024) at the University of Edinburgh defines digital education – which is also known as Technology Enhanced Learning –as the innovative use of digital tools and technologies during teaching and learning. Relatedly e-learning is the use of electronic devices and Internet technologies to deliver a variety of solutions to enable learning and improve performance (FAO E-learning Academy, 2021). According to Haleem et al. (2022), digital learning utilizes technology to deliver the entire curriculum, enabling students to learn swiftly and efficiently. It can be in synchronous or asynchronous environments through different devices and instruments. The digital classroom is centered around teaching through the utilization of technology. Westera (2010) stated that it is difficult to say when the history of learning technologies started. He said the classrooms started using the modern technologies such as film and radio since around a century ago. It marks the starting point of utilizing new technologies in teaching and learning settings.

Digital innovations have demonstrated their ability to revolutionize education and accelerate progress towards achieving SDG Goal 4. Additionally, it has the potential to enhance education by improving learning quality, inclusivity, and accessibility. Distance learning through digital technologies is particularly beneficial in mitigating the effects of education disruption and school closures during crises (UNESCO, 2022). The globalization of education has made the adoption of digital technologies a necessity. Online platforms are now readily accessible for conducting classes, sharing resources, conducting assessments, and managing the day-to-day activities of academic institutions (Haleem et al., 2022). Over the past decade, higher education has undergone significant evolution due to the rapid advancements in internet technology and computer software. This revolution has transformed the methods of learning and teaching, particularly in the realm of distance education (Ei et al., 2020). Besides, the impacts of COVID-19 pandemic on teaching and learning led to the increased digitalization in the education sector (Yonemura et al., 2020).

However, the adoption and acceptance of e-learning systems pose significant challenges, particularly in developing countries. These challenges include inadequate network infrastructure, limited ICT knowledge, and a shortage of skilled human resources. These barriers hinder the widespread implementation of e-learning initiatives in these regions (The & Usagawa, 2018). According to the global education monitoring report in 2023 by UNESCO, technology played a crucial role in facilitating learning during the COVID-19 pandemic, yet a significant portion of students were excluded. More than 90% of ministries of education had implemented some form of distance learning, with the potential to reach more than 1 billion students worldwide, of which 31%, or approximately 500 million students, didn't have access to education. This group was primarily comprised of the poorest students (72%) and those living in rural areas (70%). Although 91% of countries across the world were using online learning platforms, only a quarter of students worldwide were able to learn through these platforms during school closures (Jukes & Norman, 2023).

Digitalization and education in Myanmar

In Myanmar, rapid digitalization has occurred since 2011 with the democratization process, and the liberalization of the telecommunications sector in 2013 has significantly transformed the technological landscape. This surge in digitalization has increased access to information, communication, and economic opportunities for the people of Myanmar. The Thirty-Year Long-Term Education Development Plan (2001-2002 FY – 2030-2031 FY) included six programs to improve ICT utilization and e-technology skills. In 2015, the Ministry of Education (MOE), in collaboration with UNESCO, Ericsson, and DFID, launched the "ICT for Education" initiative in 31 high schools as part of the "Connect to Learn" program. This project introduced mobile broadband and mobile applications for teaching and learning, aiming to integrate ICT into pedagogy for more effective education. After two years, the project evaluation showed benefits of teaching with ICT compared to traditional methods but highlighted the need for better integration of ICT into the curriculum (UNESCO, 2015).

Despite the establishment of ICT infrastructure and the implementation of ICT for Education projects since 2000, Myanmar still faces a gap in e-learning readiness. This is mainly due to unsustainable policy deployment, technical barriers such as limited technical knowledge, lower ICT skills, lack of interest among the general population, and budget constraints for promoting ICT in education (Aung & Kham, 2019).

At the start of 2024, Myanmar had 24.11 million internet users, with an internet penetration rate of 44.0 percent. It reached 18.50 million social media users, constituting 33.8 percent of the total population. Myanmar has hosted 64.28 million cellular mobile connections, surpassing the population count by 117.4 percent. According to Kepios analysis, internet users in Myanmar saw a modest increase of 174 thousand (+0.7 percent) between January 2023 and January 2024. Notably, 30.66 million individuals in Myanmar did not access the internet at the start of 2024, suggesting that 56.0 percent of the population remained offline at the beginning of the year (Kemp, 2023). Januta & Funakoshi (2021) claimed that since the coup, the military junta has instructed telecom companies to implement numerous shutdowns. Even when the internet remains accessible, its speed is reduced and does not work.

Telenor (2022) officially announced that SAC established procedures for issuing directives to operators. It is clearly the attempt of the authorities to take general control on the communication sector. Human Rights Watch reported on 12th Feb 2021 that Myanmar's military junta has proposed an oppressive bill granting extensive authority to access user data, block websites, enforce internet shutdowns, and detain critics and officials from noncompliant companies. The bill contained several provisions prohibiting "illegal" or "unauthorized" access to online material (Human Rights Watch, 2021). Additionally, it mandates that internet service providers retain user data for up to three years and disclose it in the name of national security (France-Presse, 2021). Access Now's internet shutdown in Myanmar reported that the military has taken control of all telecommunication providers to enhance surveillance infrastructure (Access Now, 2023).

Education in Myanmar since the 2021 coup

As of January 2021, the future of education in Myanmar looked promising, even though it still has challenges. The Ministry of Education was preparing to unveil the second phase of the National Education Strategic Plan (NESP 2), outlining a roadmap for reform over the next decade. Following the closure of schools due to COVID-19, the civilian government attempted to establish virtual classrooms. Unfortunately, the 2021 military coup has had a profound impact on Myanmar's education sector. The coup stopped educational reforms initiated by the former NLD government (RFA Burmese & Aung, 2023).

Khai (2021) reported that 18 Myanmar undergraduate students expressed a strong unwillingness to engage with education provided by the military regime, doubting its value for their development. In response, Myanmar's National Unity Government (NUG) is working on establishing a parallel education system for students rejecting junta-controlled schools and universities. Numerous education providers, including international universities and colleges, private online institutes, ethnic education departments, and community initiatives, have emerged to support CDM students. According to Spring University Myanmar (2023), there are four higher education options in Myanmar: public universities, private universities, nonprofit online universities, and ethnic education providers. Students opposing the coup avoid public universities, and private universities are often too expensive for many CDM students. Therefore, the most accessible options are online institutions associated with the democratic movement and ethnic education institutions, which may or may not be connected to ethnic armed groups.

The MOE Research and Development Department (2023) reported that as of April 2023, over 780,000 students are learning through various methods, including the internet, under the basic, higher, and TVET education provided by NUG's MOE. However, these students face security concerns and living struggles that make accessing education difficult. In early 2021, 53 Interim University Councils were organized with CDM academics, teachers, and administrative staff members, recognized by the MOE, and this number has since increased. In October 2023, 16 universities, including emerging institutions like Myanmar Nway Oo University and Wunzin University, announced university entrance instructions through the Myanmar Education Online System by NUG's MOE.

Ethnic colleges, founded by various ethnic communities such as Chin, Kachin, Karen, Karenni, Kayan, Shan, Lahu, Mon, Pa-O, and Ta'ang, offer post-secondary education tailored to their communities' needs. These colleges are located in areas controlled by ethnic armed groups and offer on-campus training programs (Spring University Myanmar, 2023). Myanmar Nway Oo University, co-organized by interim university councils and the NUG's Ministry of Education, is among the largest emerging educational institutions. It offers 65 undergraduate programs, 53 postgraduate programs, and one diploma program across 13 academic departments, with over 200 faculty members and more than 520 online courses for around 17,000 students. Other educational providers offer short online courses focused on current eco-political and social science subjects.

In the current education context, Interim Educational Councils (IUCs) play an essential role for CDM students in higher education. According to SUM's report, IUCs can be categorized into 11 stand-alone IUCs, serving 4,131 students, and 119 alliance IUCs, serving 7,286 students, in collaboration with the MOE and other institutions. However, the total number of 11,417 students benefiting from IUCs is small compared to the number of students who have joined the CDM. A 2023 MOE study found that 50% of higher education students participated in home-based learning, 30% used online digital platforms like YouTube,

Coursera, and EdX, 10% used NUG's education services, 5% learned through religious-based providers, and 4% through ERO's educational providers (MOE Research and Development Department, 2023).

While several nonprofit online institutions and ethnic education providers offer post-secondary courses, many students are discouraged by the lack of four-year degree programs. Unlike public universities, interim education programs typically offer single courses or short-term diplomas. The MOE Research and Development Department's 2023 report highlighted critical challenges faced by CDM students in accessing online education, mainly provided by emerging institutions. Among surveyed participants, 40% struggled to afford internet costs, while 28% couldn't afford them at all. Regarding electricity, 48% had very limited supply, and 26% had no electricity. Additionally, 45% had restricted internet access, and 11% had no access. In terms of devices, 42% had limited access to phones and computers, with 20% lacking access for educational purposes. Only 6% felt safe accessing education, and 23% reported insecure situations. SUM's survey revealed further challenges in interim education programs. About 21.53% cited electricity outages, 16.43% reported poor internet connectivity, and 14.91% mentioned expensive phone bills or high data charges as significant obstacles to their online learning.

Socioeconomic challenges in Myanmar

Since the coup, Myanmar's economy has faced significant setbacks, reversing a period of rapid growth. In 2021, the country's GDP contracted by 18%, and by July 2022, the kyat had depreciated by 30% relative to the dollar, with inflation rising to 19.5% (Sinha et al., 2023). The combined impact of COVID-19 and the coup severely affected livelihoods, with around one million jobs projected to be lost at the pandemic's outset in 2020, reducing welfare significantly. The coup further exacerbated poverty, food insecurity, and financial challenges (Karamba & Salcher, 2022).

Financial difficulties have severely limited access to education. Many families, facing income loss and financial instability, cannot support their children's learning or afford essential school supplies. Displacement, job losses, inflation, and banking disruptions further strain community resources (Starkey et al., 2022). The higher education system reflects these disparities, with economically disadvantaged youth significantly underrepresented due to financial barriers like tuition fees and accommodation costs (Proserpio & Fiori, 2022). For many students, poverty and rural living conditions are major obstacles to accessing higher education, compounded by violence and attacks on schools and teachers (Insecurity Insight, 2021). Besides, the ongoing conflict making it unsafe to attend school (RFA Burmese & Aung, 2023).

Digital education and its divide

When discussing access to digital education, the digital divide is a crucial aspect that cannot be overlooked. Gomez (2018) proposed three levels to understand this divide. The first level concerns the access gap, referring to access to digital technologies and the internet. In Myanmar, data from the World Bank (2017a) highlights a significant gap in mobile phone ownership, with rural areas having lower ownership rates (40%) compared to urban areas (84%). Additionally, there's a notable difference between poor and non- poor households, with only 29% of poor households owning a mobile phone compared to 61% of non-poor households. While smartphones are the most accessible device for students (80%) in Myanmar, access to other devices is limited. The second level of the digital divide, the "use gap," is evident among Myanmar students, as they are less familiar with commonly used educational

apps in other countries (Nanthakorn et al., 2023). Additionally, Telenor (2018) reports the utility gap that while internet usage appears high, it is primarily focused on social media, communication, and entertainment rather than contributing to economic or social development. These issues are more prevalent among lower socio-economic groups in rural areas.

Ei et al. (2020) found that students from IT related universities had more e-learning readiness. But The & Usagawa (2018a) reported that in their findings, it showed that the e-learning environment, it appears that Indonesian students have a more favorable learning environment compared to students from YTU students in Myanmar. Besides, Telenor (2018) also stress out the digital infrastructure coverage as a challenge. The same report said 78% of Myanmar internet user have poor digital literacy. Additionally, an adequate internet connection speed, a minimum technical requirement for effective online learning, is reported to be lacking.

Digital education has the potential to transform learning globally, making it more accessible and effective. But in Myanmar, like in many developing countries, there are big challenges. Things like poor internet access, limited knowledge of technology, and economic inequalities make it hard for digital education to reach everyone. The country's economy has also taken a hit since the 2021 coup, leading to job losses, inflation, and financial struggles for many families. This makes it even harder for young people, especially those from poorer backgrounds, to get a good education (Sinha et al., 2023; Karamba & Salcher, 2022; Starkey et al., 2022).

To overcome these challenges, Myanmar needs to improve internet infrastructure, teach people more about technology, and make sure everyone can access digital tools fairly. It's also crucial to have stable rules and enough money to support these efforts. By focusing on these things, Myanmar can make digital education more accessible and help more young people succeed in their studies despite the country's current difficulties.

Methodology

The research team comprised a young researcher, an assistant young researcher, and 14 research interns from various regions and states in Myanmar, all of whom were CDM students. Additionally, the GH M&E team provided assistance with data analysis. Employing a mixed-method research design integrating qualitative and quantitative approaches, we conducted a survey to collect quantitative data from 393 young individuals involved in the CDM across Myanmar. Utilizing convenience sampling due to security concerns, we aimed for a 95% confidence level with a 5% margin of error. The sample size was distributed across 14 study areas in proportion to the population of CDM young people, estimated at approximately 1,000,000 based on consultations with student and teacher organizations. Semi-structured questionnaires were employed to explore the attitudes and perceptions of young people toward accessing digital education, considering socio-economic barriers they faced. For the qualitative component, participants were selected using purposive sampling. 20 qualitative interviews were conducted with young people aged 15-24 who have experienced barriers to accessing digital education platforms due to socio-economic disadvantages.

Conceptual framework

FIGURE 1: CONCEPTUAL FRAMEWORK
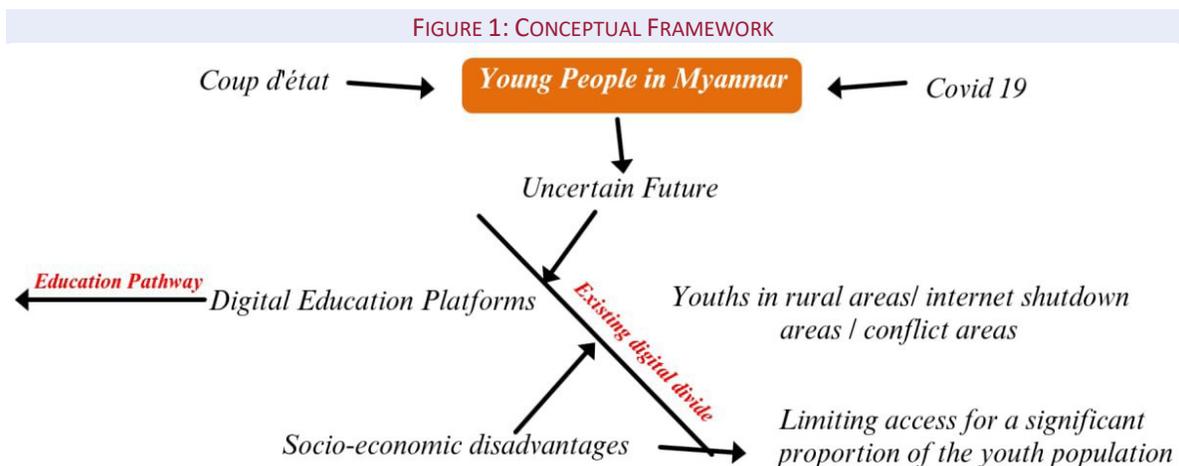
Data Collection

Phase 1: Self-administered semi-structured questionnaires were used to collect data on participants' socio-economic status, access to digital education platforms, and attitudes and perceptions towards digital education. Data was collected online due to security concerns.

Phase 2: 20 semi-structured interviews with participants were conducted to collect data on their experiences and perceptions of digital education during the COVID-19 pandemic and coup in Myanmar using Zoom.

TABLE 1: IN-DEPTH INTERVIEW LIST

In-depth interviewee	Age	Gender	Interviewee's background
II - 01	25	Male	Final Year Law Student, working at Ayeyarwady Law School (online)
II - 02	26	Male	Final Year Technological University Student, Stu- dent Union Member and working in an educational institution for digital education
II - 03	20	Female	Completed High School, Completed Community Development Diploma, Volunteer in local youth and religious organizations
II - 04	23	Female	Undergraduate, Volunteer in a local organization
II - 05	21	Male	1st Year Yangon Technological University Student, Fundraiser at YTU Students' Union
II - 06	21	Male	University of Medicine, 1st Year
II - 07	21	Female	University of Medicine, 1st Year working in a Youth Organization
II - 08	26	Male	Final Part 2 at University of Medicine, working at a NUG Hospital
II - 09	24	Male	Final Year University of Community Health Student, working in NGO field
II - 10	23	Female	Diploma in Community Development
II - 11	19	Male	GED Student
II - 12	19	Male	GED Student
II - 13	17	Male	1st Year Student (Krirk University Thailand)
II - 14	18	Female	G 11 Student from Federal school
II - 15	19	Female	GED Student
II - 16	24	Male	Final Part 1, University of Medicine
II - 17	23	Male	3rd Year Student Yadanabon University,
II - 18	23	Female	Community Development Student (online)
II - 19	24	Female	Community Development Student (online)
II - 20	18	Male	GED student

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Data Sources

Primary data sources encompassed information obtained from the Phase 1 quantitative survey (utilizing semi-structured questionnaires) and data acquired from the Phase 2 qualitative case study (comprising semi-structured interviews).

Secondary data sources included findings from a literature review focusing on digital education accessibility and barriers in Myanmar, the repercussions of the Covid-19 pandemic and coup on education, and the view- points of youth regarding digital education. The report also uses reports and statistics from UN agencies, international organizations, government agencies, and NGOs related to digital education access, socio-economic disparities, and youth in Myanmar. Academic articles, news articles, and other relevant sources on the topic were also used.

Ethical considerations

Informed consent was obtained from all participants, and their confidentiality and anonymity will be strictly maintained throughout the study. Researchers follow ethical guidelines when conducting research in conflict-affected areas.

Study phases

FIGURE 2: STUDY PHASES

Results

Demographic data

Age group of respondents

In our study, it categorized survey respondents into three age groups: 15-20, 21-26, and 27-32 years. The study focused on young people, specifically students at the undergraduate level involved in Myanmar's Civil Disobedience Movement. Among the respondents, 187 (47.6%) fell within the age range of 15-20, while 198 (50.4%) fell within the range of 21-26, followed by 8 (2%) in the 27-32 range. Considering the current educational landscape in Myanmar, the study included individuals aged 15 to 32. Typically, medical students, whose academic journey tends to be the longest in Myanmar, finish studying at around age 23, but various factors like late schooling or educational disruptions can lead to older ages. To account for the impact of COVID-19 and the 2021 military coup on education, the study thus includes participants up to the age of 32, who may still be undergoing or seeking undergraduate education.

FIGURE 3: AGE GROUP OF RESPONDENTS
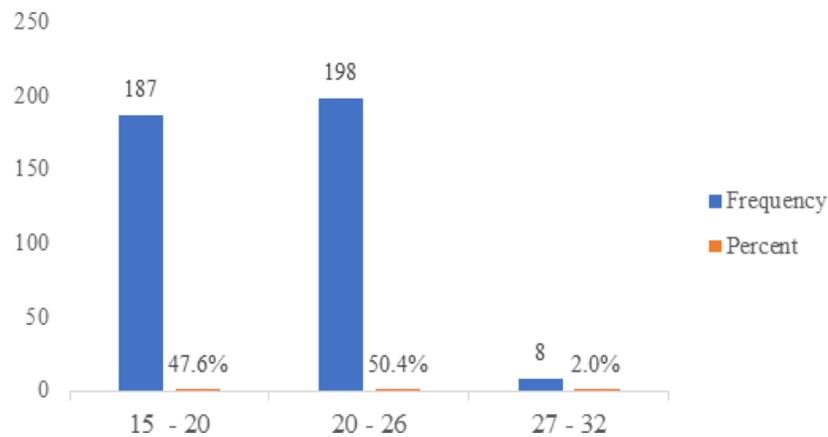
Gender of respondents

223 respondents (56.7%) identified as female, followed by 154 (39.2%) who identified as male. Additionally, 12 (3.1%) respondents preferred not to disclose their gender preference. The remaining 4 (1%) respondents fell under other gender identities.

FIGURE 4: GENDER OF RESPONDENTS

Ethnicity of respondents

Regarding ethnicity, 256 individuals (65.1%) identified as Bamar, 13 (3.3%) as Chin, 8 (2%) as Kachin, 33 (8.4%) as Kayin, 19 (4.8%) as Mon, 4 (1%) as Rakhine, 5 (1.3%) as Shan, and 55 (14%) identified with other ethnicities. Within the "others" category, some individuals identified with multiple ethnicities, such as Pa-O, Intha, Karen, Palaung, Yawan, Naga, Wa, Karen – Bamar, Chin – Rakhine, Shan – Karen, Bamar - Mon – Karen, Kachin – Bamar, Shan – Bamar, Pa-O – Karen, Kachin - Chin – Bamar, Mon - Bamar – Chinese, Danu – Bamar and Bamar – Rakhine.

FIGURE 5: ETHNICITY OF RESPONDENTS
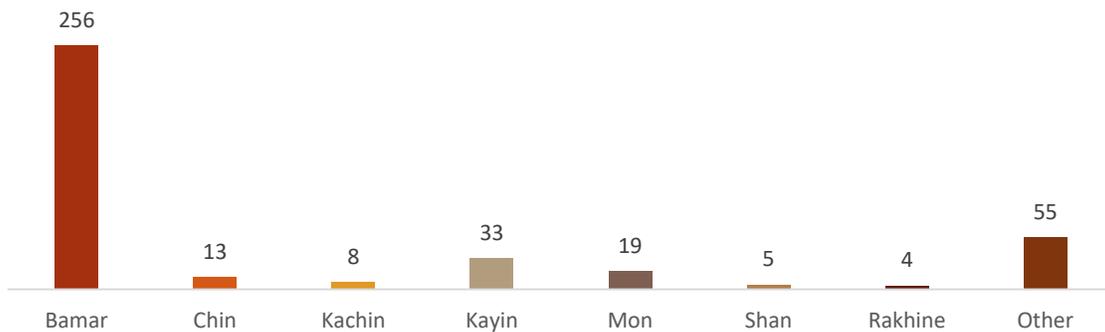
State and region of respondents

The distribution of respondents in survey, across different regions and states was as follows: Ayeyarwaddy - 13 (3.3%), Bago - 16 (4.1%), Chin - 11 (2.8%), Kachin - 14 (3.6%), Kayah - 1 (0.3%), Kayin - 19 (4.8%), Magway - 49 (12.5%), Mandalay - 47 (12.0%), Mon - 18 (4.6%), Rakhine - 2 (0.5%), Sagaing – 99 (25.2%), Shan - 49 (12.5%), Tanintharyi - 11 (2.8%), Yangon - 44 (11.2%).

 In Sagaing, where participation was highest at 25.2%, people were actively resisting the dictatorship, especially through armed struggles and protests. Many students involved in the CDM came from this region, and emerging educational providers were gearing up to provide higher education in areas under civilian control. Basic schools and education systems backed by the NUG had already been operating in those areas at the time of this research. The military's control was limited; restricted to the in downtown areas of most townships in Sagaing region. Magway region followed, the second highest participation, facing similar educational challenges. While central and southern parts were under military control where higher educational institutions were operating as before COVID-19, others, especially 7 townships in the Northwest, were experiencing similar educational disruptions. Shan was also the second highest participant at 12.5%. In Northern Shan, conflict had intensified after Operation 1027 in October 2023, prompting local educational activists to step up efforts in civilian-controlled zones. Mandalay, the third most active area where the CDM movement was strong, faced heavy security measures from the military, particularly targeting CDM supporters and students. Ayeyarwaddy, however, saw minimal conflict, followed by Yangon largely under military rule. Townships of other states and regions were conflict affected and very complex situations. There had have been active clashes and conflicts. Internet and phone line shutdowns were happening across the areas, but it had some available points and alternatives for essential communications.

The respondents' current places were as follows - Rural - 193 (49.1%), Urban - 200 (50.9%).

FIGURE 6: STATE AND REGION OF RESPONDENTS
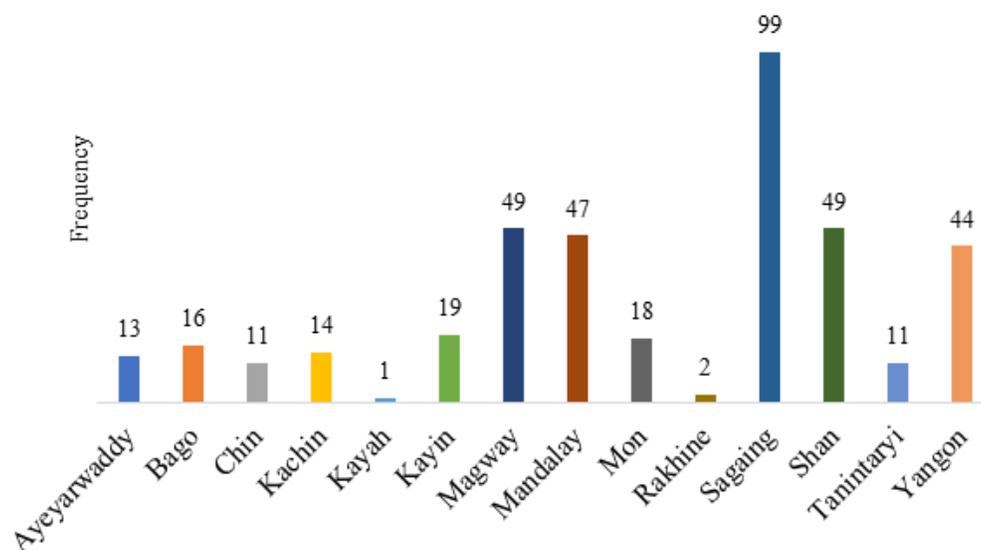
Current educational status of respondents

Due to the complex educational landscape in Myanmar, particularly for Civil Disobedience Movement (CDM) students, the study provided a free-response section regarding participants' current educational levels. The responses were diverse and were categorized into four groups for clarity. The breakdown of participants was as follows: Basic Education Level - 153 (38.9%), Diploma/Certificate Level - 29 (7.4%), Undergraduate - 143 (36.4%), and Other - 68 (17.3%). In the "Others" category, participants shared diverse responses regarding their educational status. Some mentioned that they had discontinued their education, while others stated that they were attending language classes or contemplating their future learning paths. Some individuals indicated that they were still pursuing subjects that were feasible for them to learn. Additionally, a few participants noted that they had chosen to work for their livelihood instead of pursuing what they deemed as currently unproductive education.

FIGURE 7: CURRENT EDUCATIONAL STATUS OF RESPONDENT
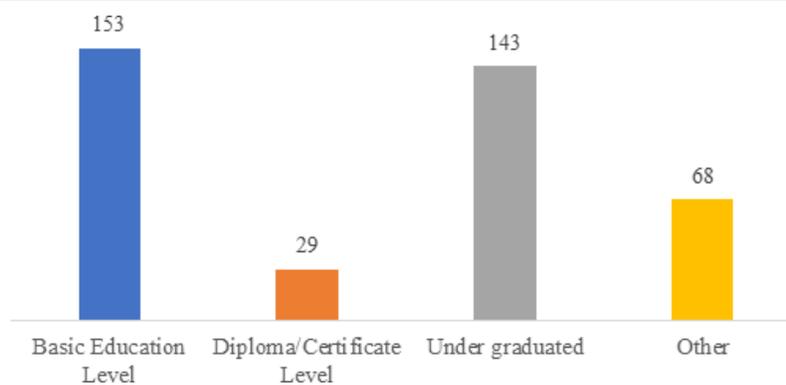
Findings

As mentioned in the introduction and methodology, the study explored the impacts of socio-economic disadvantages on access to digital education of young people in Myanmar who upholding democratic ideals, risking their education. Also, it explored the attitudes and perspectives of young people on digital education during these difficult times.

To clearly present the data, this section was divided into five parts:

1. Digital learning, challenges, and accessibility to resources
2. Socio economic conditions of respondents
3. Digital accessibility and literacy for learning
4. How socio-economic conditions are impacting on access to digital education
5. Students' perspectives on digital education

Digital learning, challenges and accessibility to resources

Use of digital learning

The survey and interviews showed that CDM participants engaged in digital learning often, and that digital learning has become a viable alternative for those who refuse to support the regime. Out of the participants surveyed, 151 people (38.4%), revealed they participated in digital education occasionally. In contrast, a mere 67 respondents (17%) disclosed engaging in digital learning daily. Notably, 65 participants (16.5%) declared no involvement in any digital education activities. Furthermore, 63 individuals (16%) indicated a frequency of digital learning three days per week, while a smaller portion of 47 respondents (12%) reported engaging in five days per week.

FIGURE 8: DIGITAL LEARNING FREQUENCY PER WEEK
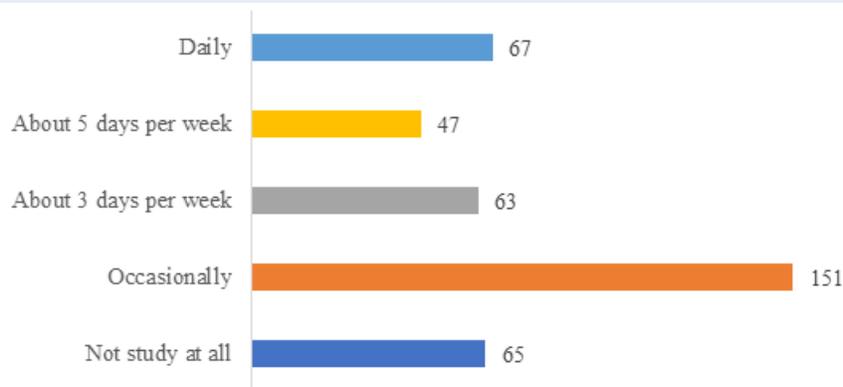
In in-depth interviews, many interviewees emphasized that the COVID-19 pandemic familiarized Myanmar students with online education, while the coup further accelerated the shift towards digital learning nationwide. Consequently, there had been a notable increase in the utilization of online learning platforms among Myanmar students. Most participants indicated they didn't encounter any challenges with digital learning since they were already comfortable with digital devices. Some participants admitted to initial difficulties during the early stages of learning, but with consistent practice, they found it became easier over time.

Two interviewees (II-03 and II-16) had remarked that due to travel restrictions and threats to young people when they went out, digital education had become a safer alternative. II-03 had expressed her opinion that online learning had supported youths when they encountered difficulties going outside in the then-existing circumstances in Myanmar. Consequently, students could learn from home what they wished. It was highly effective.

Besides, an interviewee shared her experiences that digital education had both positive and negative impacts. It varied for each individual. Additionally, she mentioned the opportunity to learn alongside diverse youths nationwide, gaining knowledge from unfamiliar sources (II-07).

The participants had shared that they were learning at Spring University Myanmar, Interim University Councils, Coursera, Edx, University of People, Myanmar Nway Oo University and other digital platforms including on You Tube and search engines. Across those platforms, they were learning language classes, self-study short courses, digital literacy, digital security diploma courses and others. Also, they were joining webinars and talks online.

II-08 said digital education was very helpful for CDM students who had financial hardships to learn at other platforms or had some security concerns or connection issues.

Resource accessibility for digital learning

It was found that more than half of the participants have limited or no access to learning resources. After the coup, students encountered various challenges, such as a lack of educational materials, a reduction in educators, unstable internet connections, frequent electricity outages, security concerns, and high data costs. These issues significantly hindered their ability to effectively use digital learning resources.

Regarding resource accessibility for digital learning, respondents provided the following: 173 individuals (44%) stated they had full access whenever needed. 93 respondents (23.7%) indicated limited access, while 127 individuals (32.3%) expressed that digital resources were entirely inaccessible to them.

FIGURE 9: RESOURCES ACCESSIBILITY FOR DIGITAL LEARNING
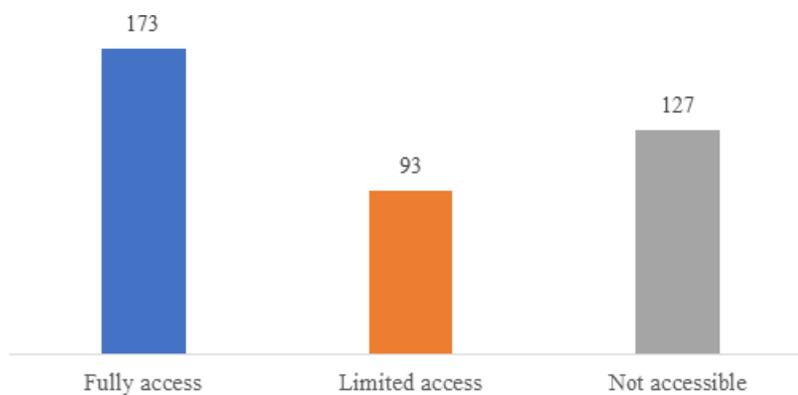
II-02 remarked that "because of the prevailing circumstances, learning resources had become scarce, and there was also a decline in the number of educators available". Besides, another participant noted that e-learning was significantly impacted by the current circumstances. Despite a visible improvement in digital literacy compared to before the coup, challenges such as internet connectivity issues and frequent electricity cuts rendered digital resources ineffective (II-09). II-02 noted that following the coup, acquiring an adequate number of educational materials became challenging, with supplies often running short. Two interviewees highlighted that despite internet accessibility, certain resources like emerging educational provider's materials raised security concerns: learners were unable to download such resources onto their devices due to the associated risks, posing a challenge to their usage. Another interviewee emphasized that without internet access in conflict-affected areas, reaching learning resources would be impossible. He noted that even in areas without internet shutdowns, the internet was often slow, with rising expenses associated with accessing communication apps for learning purposes (II-08). II-14 pointed out that "students faced challenges in safely accessing the subjects they wished to learn, particularly those deemed security-sensitive. She also highlighted the obstacle posed by expensive data charges, making it difficult to download learning resources. II-08 pointed out that some resources were getting limited and not accessible in Myanmar. It happened more in these days after the coup.

Difficulties in accessing resources for digital learning

A significant portion of participants faced challenges to access resources. Common issues included poor internet connection, financial hardship, and internet shutdowns. Security concerns were prominently highlighted, with worries about the safety of learning materials, search history, and digital platforms.

When it comes to accessing learning resources, 234 participants (59.5%) reported smooth access, while 159 participants (40.5%) faced difficulties. Among those encountering challenges, the majority 149 (63.9%) cited poor connection as a primary issue. Financial hardship was mentioned by 107 participants (45.9%), while 105 (45.1%) experienced problems due to internet shutdowns. Technical issues were reported by 47 participants (20.2%), with 43 (18.5%) citing poor device quality as a hindrance. A smaller number, 8 participants (3.4%), mentioned restrictions imposed by guardians. Additionally, security concerns were raised by 57 participants (24.5%), while 9 (3.9%) cited other reasons for their difficulties such as electricity issues, struggles for their own living, time constraints and frequent displacements.

FIGURE 10: DIFFICULTIES IN ACCESSING LEARNING RESOURCES
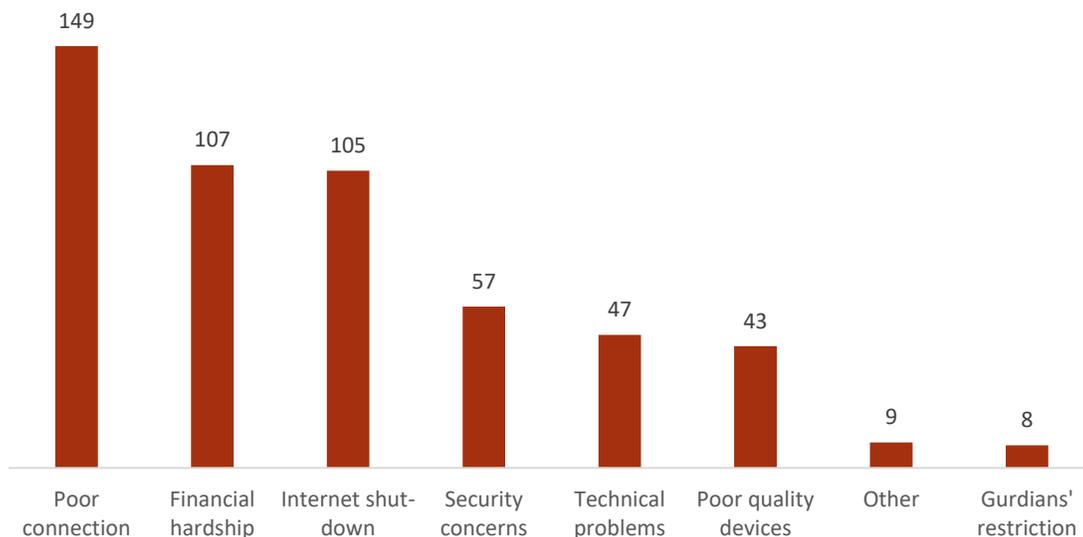
Interviewees unanimously echoed the challenges in accessing learning resources. 13 interviewees cited security concerns as the most significant difficulty in accessing these resources. Specifically, they highlighted concerns regarding the security of learning materials, search history, storage on their devices, and the overall safety of certain subjects, as well as digital learning platforms. Especially, when they had to go outside, it was necessary to log out of the learning accounts. Two interviewees raised concerns about cybersecurity issues when accessing resources.

Additionally, some participants noted that financial hardship, exacerbated by increased expenses and severe inflation, posed challenges in accessing resources. Because of source blockages, individuals resorted to using VPNs to access learning resources. However, free VPNs had limitations, and at times, the learners were unable to bypass access restrictions, resulting in rejected access attempts (II-15).

## Difficulties and constraints in digital education

Respondents in digital education faced significant challenges, including security concerns, technological limitations, internet shutdowns, and financial hardship. These barriers underscored widespread difficulties in accessing online learning resources, reflecting broader issues of instability and inequality in educational access.

Regarding difficulties and constraints in digital education, respondents provided the following responses:

- 243 individuals (61.8%) acknowledged facing difficulties.
- 126 individuals (32.1%) reported no difficulties
- 24 individuals (6.1%) indicated that the question was not relevant to them.

The respondents highlighted various challenges they faced in accessing learning resources, shedding light on the multifaceted barriers hindering their educational endeavours. Security concerns emerged as a significant issue for 24.5% of respondents, reflecting the instability and insecurity affecting their ability to engage in learning activities. Additionally, guardians' restrictions posed obstacles for 3.4% of respondents, indicating limitations imposed by family members or caregivers on their educational pursuits. Poor quality devices and technical problems were reported by 18.5% and 20.2% of respondents, respectively, underscoring the detrimental impact of technological inadequacies on their learning experiences. Furthermore, the widespread occurrence of internet shutdowns greatly hindered access, affecting a staggering 45.1% of respondents. Financial hardship emerged as a significant barrier, with 45.9% of respondents citing it as a challenge. This highlighted the socioeconomic inequalities that impede equitable access to educational resources. Moreover, poor connection was a prevalent issue, affecting a substantial majority of respondents at 63.9%, further exacerbating the difficulties in accessing online learning materials. Lastly, 3.9% of respondents cited various other challenges, including overwhelming workloads that made accessing resources difficult.

FIGURE 11: DIFFICULTIES AND CONSTRAINTS IN DIGITAL EDUCATION
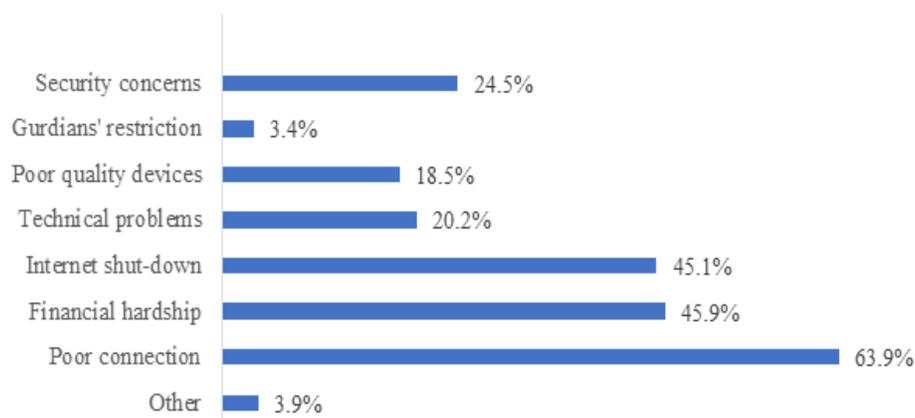
The in-depth interviews delved into the various challenges participants faced. Most respondents cited security concerns, internet connectivity issues, and frequent power outages. II-12 emphasized that "the most stressful difficulties were around electricity and connectivity problems, including unstable Wi-Fi connections and low batteries, obstacles due to financial constraints, connectivity issues, political instability, and security concerns (II-07). Participants also encountered difficulties stemming from heavy workloads (II-5&20). Time management posed a significant challenge, with one interviewee highlighting financial difficulties as another obstacle. II-10&20 noted that student motivation was a challenge for effective engagement in digital education, while II-16 identified commitment as an additional issue. Technical limitations also hindered access to digital education.

Security concerns and surveillance risks

Participants expressed concerns about security and surveillance risks in digital education, with varying levels of worry noted among respondents. Specific anxieties included cybersecurity issues related to sensitive subjects and emerging educational platforms supporting resistance movements.

Participants shared their perspectives on security concerns and surveillance risks related to digital education. Among them, 198 (50.4%) expressed slight concern, while 75 (19.1%) reported feeling moderately worried. Additionally, 31 individuals (7.9%) stated they were very worried, and 11 respondents (2.8%) expressed severe concern. A smaller group of 78 individuals (19.8%) indicated no worries regarding these issues.

FIGURE 12: SECURITY CONCERNS AND SURVEILLANCE RISKS
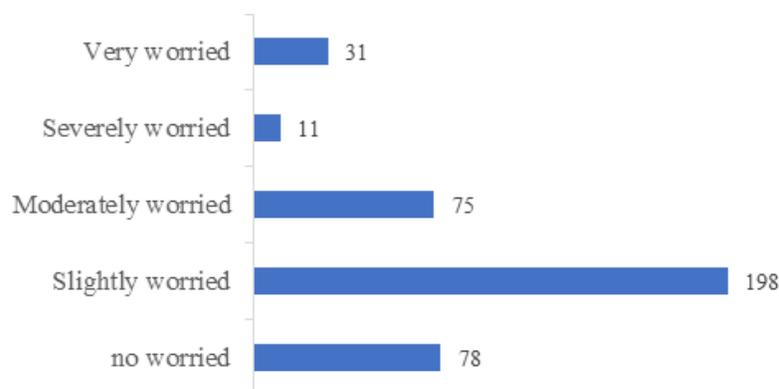
The interviewees confirmed that CDM students had security concerns in their digital education, especially regarding sensitive subjects. They also noted security issues with emerging educational platforms aimed at supporting the resistance movement. Cybersecurity problems were mentioned by II-9, 15, and 17. Another interviewee expressed worry about security leaks in digital education and highlighted concerns about device storage security. II-20 emphasized the need for security measures due to the complex political situation and mentioned challenges posed by unexpected visits from local authorities during digital learning sessions.

Financial hardships in digital learning

The respondents highlighted significant financial challenges in digital learning, impacting a majority of participants. This emphasizes the critical barrier that financial constraints pose to equitable educational opportunities in Myanmar.

Concerning financial challenges in digital learning, the respondents indicated that 250 individuals (63.6%) experienced financial difficulties, while 107 individuals (27.2%) did not encounter such hardships. An Interviewee also verified that young people in Myanmar were indeed struggling with financial difficulties when it came to accessing digital education.

FIGURE 13: FINANCIAL HARDSHIPS IN DIGITAL LEARNING
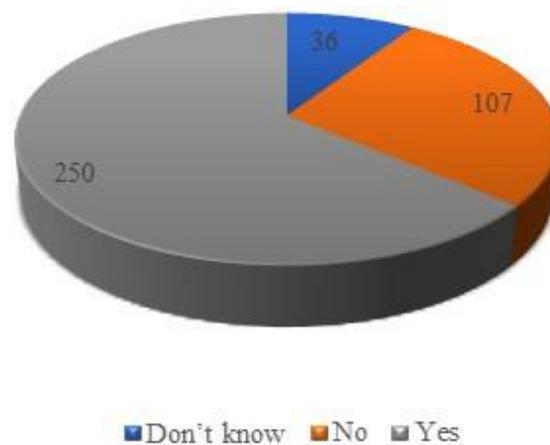
Monthly internet expense

Respondents generally reported varying monthly expenses on internet access, with significant numbers spending under 25,000 MMK and a notable portion allocating between 25,001 and 50,000 MMK. In-depth interviews highlighted an average expenditure of approximately 50,000 MMK, with some indicating costs as low as 15,000 MMK per month.

The respondents provided their monthly expenses as follows: 190 individuals (48.3%) reported expenses under 25,000 MMK, 150 individuals (38.2%) reported expenses between 25,001 and 50,000 MMK, 34 individuals (8.7%) reported expenses between 50,001 and 100,000 MMK, 11 individuals (2.8%) reported expenses above 100,000 MMK, and 8 individuals (2%) fell into the "other" category in which some respondents mentioned difficulties in determining a fixed amount due to varying expenses each month, while others couldn't provide an estimate. These numbers, even on the lower end, are a significant expense considering the household incomes reported by research participants, which are discussed in the next section.

FIGURE 14: MONTHLY INTERNET EXPENSE
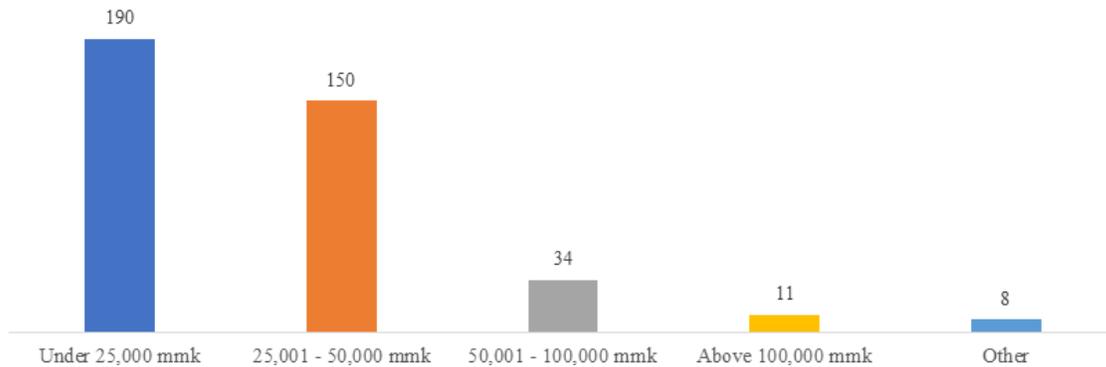
Most in-depth interviewees stated that their monthly internet expenses averaged around 50,000 MMK. The lowest reported amount was 15,000 MMK.

Socio economic conditions of respondents

Average family income per month

The distribution of average family income per month among respondents was as follows: 144 individuals (36.6%) reported earning less than 200,000 MMK, 142 individuals (36.1%) fell within the range of 200,000 to 400,000 MMK, 46 individuals (11.7%) reported incomes between 400,000 and 600,000 MMK, 26 individuals (6.6%) fell within the range of 600,000 to 800,000 MMK, and 35 individuals (8.9%) reported earnings above 800,000 MMK.

### FIGURE 15: AVERAGE FAMILY INCOME PER MONTH
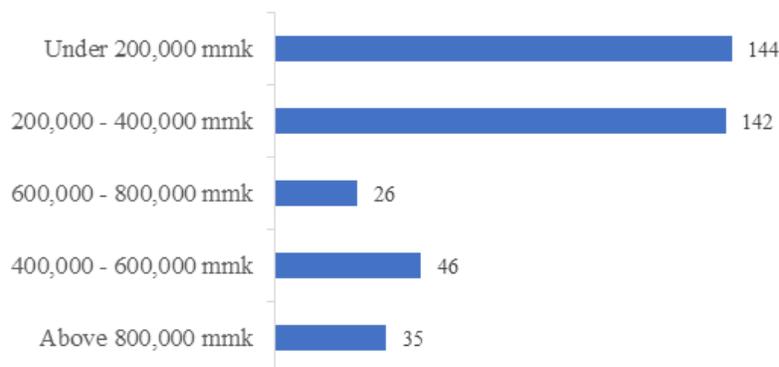
Highest education level of parents or guardians

Respondents provided insights into the educational backgrounds of their parents or guardians, as well as other relatives in their households, ranging from middle school to postgraduate qualifications. This diversity highlights the varied educational environments within households, which can influence access to educational resources and support available to individuals.

Regarding the educational attainment of parents or guardians, the highest levels reported are as follows: 142 individuals (36.1%) completed middle school, 60 individuals (15.3%) completed high school, 24 individuals (6.1%) had undergraduate degrees, 90 individuals (22.9%) were graduates, 7 individuals (1.8%) had postgraduate degrees, and 70 individuals (17.8%) fell into the "other" category.

FIGURE 16: HIGHEST EDUCATION LEVEL OF PARENTS OR GUARDIANS
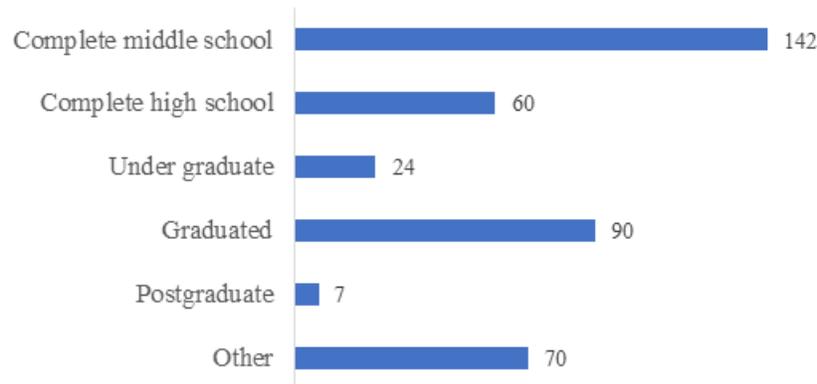
The respondents also provided information on the highest education level of uncles, aunties, and siblings residing in the same household. Among the respondents, 281 individuals confirmed that they lived with such relatives. Their educational levels were categorized as follows: 85 individuals (21.6%) completed middle school, 48 individuals (12.2%) completed high school, 36 individuals (9.2%) had undergraduate degrees, 77 individuals (19.6%) were graduates, 5 individuals (1.3%) had postgraduate degrees, and 30 individuals (7.6%) fell into the "other" category.

FIGURE 17: HIGHEST EDUCATION LEVEL OF UNCLES, AUNTIES, AND SIBLINGS
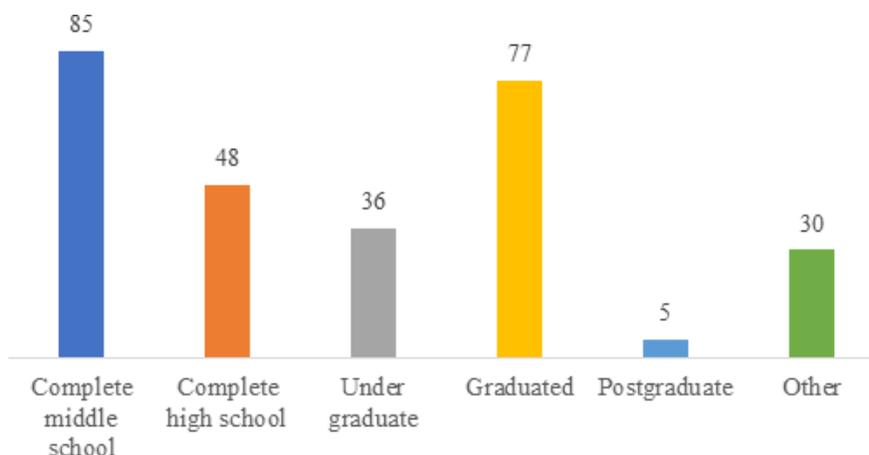
Family's support for digital education

In terms of family support for digital education, responses varied: 140 participants (35.6%) indicated receiving some kind of support, while 81 (20.6%) felt they received sufficient support. Additionally, 93 participants (23.7%) reported receiving support whenever needed. On the other hand, 41 individuals (10.4%) stated they received minimal support, and 38 participants (9.7%) reported receiving no support at all from their families regarding digital education. The participants also detailed the support they received, which included encouragement for digital learning (54.5% - 214 respondents), assistance in finding opportunities (11.5% - 45 respondents), financial aid (33.3% - 131 respondents), advice (20.1% - 79 respondents), and others (1.8% - 7 respondents). Among those who selected "others," they specified support for necessary devices, communication aid, course fees, and materials.

The in-depth interviewees also mentioned that their families endeavoured to support them regardless of their economic circumstances. However, they noted that their educational environment lacked adequate support, with only four respondents indicating that they received encouragement and assistance from those around them.

FIGURE 18: FAMILY'S SUPPORT FOR DIGITAL EDUCATION
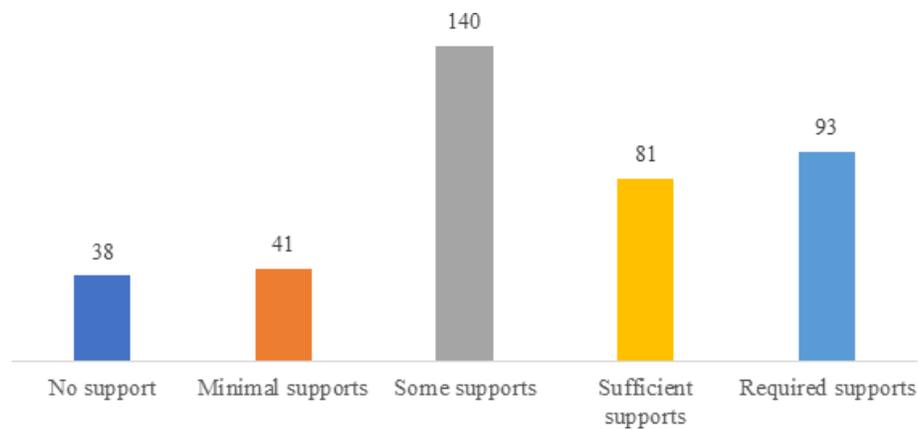
In a separate question, 254 participants, constituting 64.6% of the total, acknowledged the significant impact of their families' support on their access to digital education. Among them, 72 participants (18.3%) specifically noted that this support was highly influential. However, 62 participants (15.8%) believed that family support had no effect on their digital education, while a smaller group of 5 participants (1.3%) argued that it had no impact whatsoever.

Unemployment or reduced employment

The study investigated how participants' families were affected by unemployment or reduced employment in the aftermath of the Coup and during the COVID-19 pandemic. A significant majority of respondents reported experiencing instances of job loss or reduced employment within their families during this challenging period.

The results showed that 43 respondents, constituting 10.9% of the total, reported no such occurrences, while 350 respondents, accounting for 89.1% of the total, indicated that there had indeed been instances of unemployment or reduced employment.

FIGURE 19: UNEMPLOYMENT OR REDUCED EMPLOYMENT
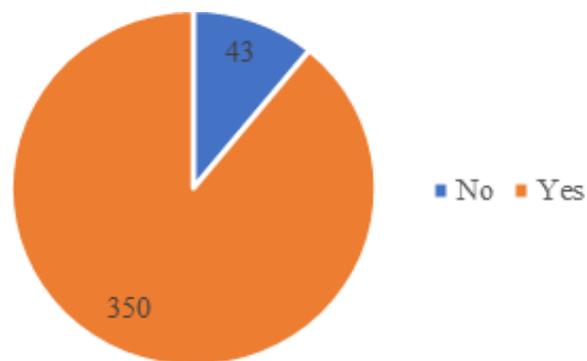
Conflict occurrence

The research investigated whether there were ongoing conflicts in the vicinity of the participants' location in the last quarter of 2023. In response, 190 individuals (48.3%) reported no such conflicts, while 203 individuals (51.7%) confirmed the presence of active conflicts.

FIGURE 20: CONFLICT OCCURRENCE
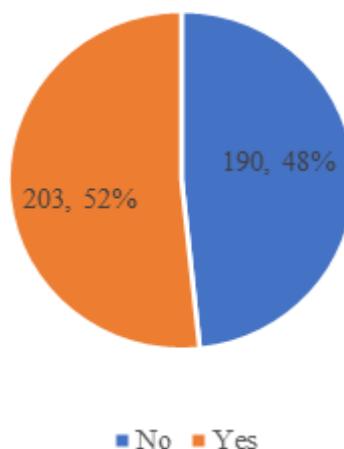
Digital accessibility for learning

Access to digital device: smart phone or tablet for digital learning

The study examined the accessibility of digital devices for digital learning. The initial inquiry focused on whether respondents possessed a smartphone or tablet suitable for digital learning. The responses revealed that 21 individuals (5.3%) did not have such devices, while 372 individuals (94.7%) confirmed their possession of them.

FIGURE 21: ACCESS TO SMART PHONE OR TABLET FOR DIGITAL LEARNING
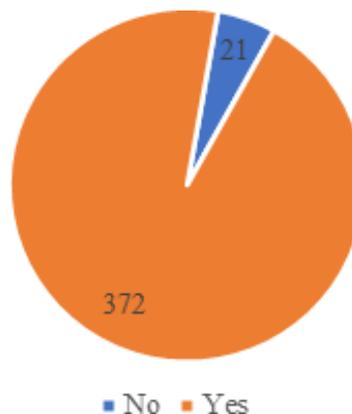
II-16 emphasized that the effectiveness of mobile phones in digital education depended on their update and quality. Outdated models could hinder learning and limit access to digital resources. According to Nanthakorn et al. (2023), approximately 80% of Myanmar students had access to smartphones, but many experienced quality issues, often having to share devices among family members. II-3 noted that electricity outages and high temperatures caused mobile phones to overheat during use, leading to malfunctions. Power outages also posed challenges, resulting in absences from digital classes.

Access to digital device: computer for digital learning

Half of the respondents reported lacking access to computers, while the other half affirmed having access. In-depth interviews highlighted that computers were seen as more effective than smartphones for digital education.

In terms of access to computers, whether through ownership or availability, respondents provided the following insights: 200 individuals (50.9%) reported lacking access, while 193 individuals (49.1%) affirmed having access to a computer.

FIGURE 22: ACCESS TO COMPUTER FOR DIGITAL LEARNING

Yes, 193, 49%   No, 200, 51%

■ No ■ Yes
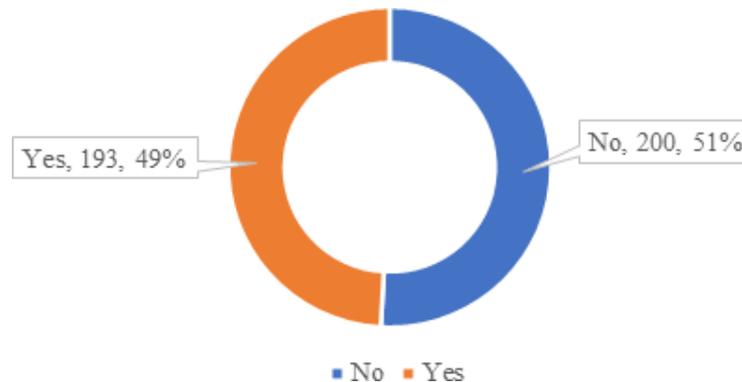
All the in-depth interviewees unanimously agreed that computers were more effective for digital learning. II-03 stated, "Phones had limitations in accessing digital resources, but computers provided a better experience. Without access to a computer, students would face difficulties and struggle to focus.

Access to internet for digital learning

The study revealed significant challenges regarding internet access among respondents in Myanmar, exacerbated by widespread restrictions and unreliable connectivity. Participants frequently cited reasons such as internet shutdowns, financial constraints, technical issues, lack of internet-enabled devices, security concerns, and electricity cutoffs. These factors contributed to limited or no internet access, highlighting the diverse and complex obstacles hindering digital learning in the region, particularly in areas affected by political instability and government control.

In checking internet access, the respondents reported that 232 (59%) had full internet access, 112 (28.5%) had limited access to internet and 49 (12.5%) had no internet access.

All in-depth interviewees shared that the internet was among the main challenges to access digital education and learning resources. Many participants reported that currently in Myanmar, internet access was severely restricted across many regions. Even in areas where the internet remained accessible, the connection was often unreliable, posing challenges for digital education. Various sources, including reports from the ICT sector, frequently highlighted the deterioration of internet connectivity, largely attributed to control by the military government since the coup.

**FIGURE 23: ACCESS TO INTERNET FOR DIGITAL LEARNING**
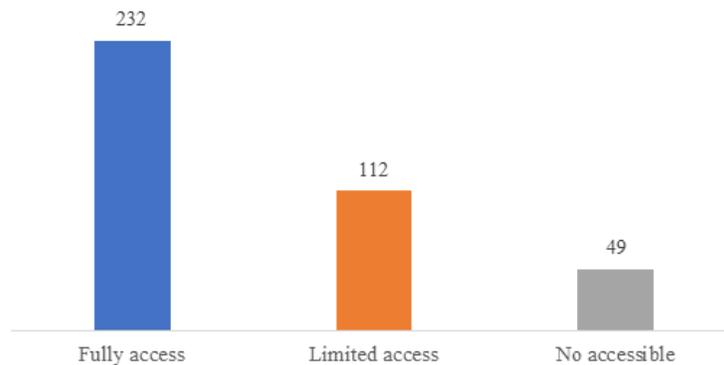
The study investigated further into the reasons behind the limited access reported by respondents. They shared insights into various factors contributing to this limitation. Specifically, 77 individuals (68.8%) highlighted poor connection as a significant factor, while 41 individuals (36.6%) cited financial hardship. Additionally, 57 individuals (50.9%) reported difficulties due to internet shutdowns, and 16 individuals (14.3%) encountered technical problems. Furthermore, 18 individuals (16.1%) faced challenges from poor quality devices, and 6 individuals (5.4%) mentioned restrictions imposed by guardians. Moreover, 26 individuals (23.2%) expressed concerns about security issues, and 51 individuals (45.5%) mentioned disruptions due to electricity cutoffs. Finally, 1 individual (0.9%) mentioned additional factors such as overwhelming workload and other tasks. These responses collectively underscore the complex array of challenges hindering access to the internet for digital learning.

FIGURE 24: REASONS FOR LIMITED ACCESS TO INTERNET
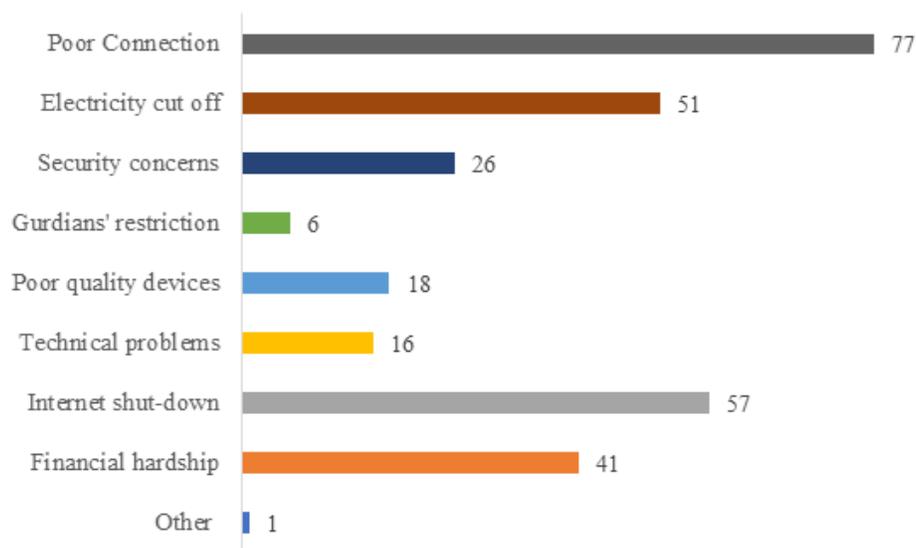
The study also looked into the reasons behind no internet access among respondents. Among their responses, financial hardship was cited by 3 individuals (6.1%), while a significant majority of 46 individuals (93.9%) reported facing internet shutdowns. Additionally, 5 individuals (10.2%) encountered technical problems, 4 individuals (8.2%) lacked internet-enabled devices, and 6 individuals (12.2%) expressed security concerns. Furthermore, 11 individuals (22.4%) experienced electricity cutoffs. These findings highlight the multifaceted challenges contributing to limited internet access among the respondents.

FIGURE 25: REASONS FOR NO ACCESS TO INTERNET
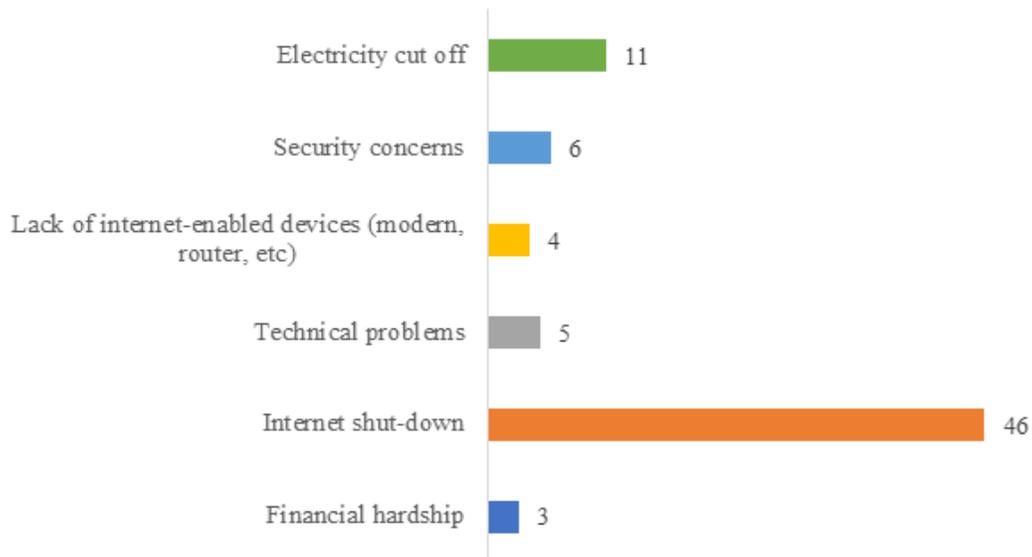
Digital literacy: Awareness and knowledge of using digital and online platforms

The study highlighted a diverse range of digital literacy levels among participants, underscoring the need for targeted strategies to enhance proficiency in digital and online platforms for effective learning. Despite initial challenges reported by some, participants generally adapted quickly to digital tools, emphasizing the potential for continued improvement in digital education experiences through tailored interventions and support.

It began with respondents' awareness and proficiency in utilizing digital and online platforms. The findings showed a diverse range of proficiency levels among participants. Some admitted to a complete lack of knowledge and awareness, comprising 13 respondents (3.3%) of the total. A larger proportion, accounting for 73 respondents (18.6%), reported having only a poor understanding, characterized as poor knowledge and awareness. Then, 116 respondents (29.5%) expressed possessing a basic level of proficiency, indicating a fundamental grasp of digital tools and online platforms. A significant segment of 156 respondents (39.7%) claimed an intermediate level of proficiency, suggesting a more advanced understanding and comfort with digital technologies. Lastly, a smaller yet notable group of 35 respondents (8.9%) described their digital literacy as excellent, indicating a high degree of competency and confidence in navigating digital environments. These findings underscore the diverse digital literacy landscape among respondents, emphasizing the importance of tailored interventions to address varying skill levels and enhance digital learning experiences.

FIGURE 26: AWARENESS AND KNOWLEDGE OF USING DIGITAL AND ONLINE PLATFORMS
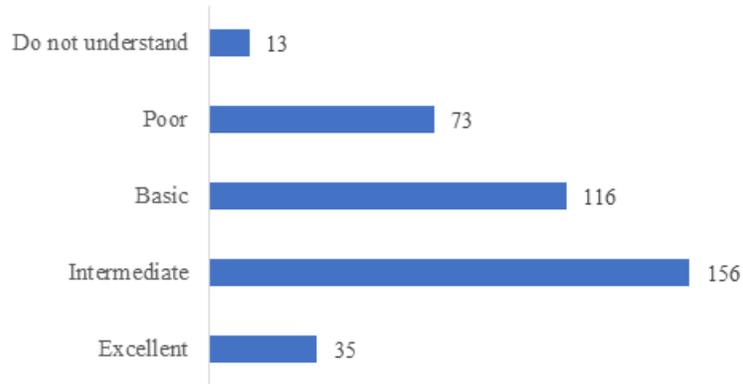
The participants in the in-depth interviews stated that they didn't face any significant challenges in using digital and online platforms. Some admitted to experiencing minor difficulties initially, but they quickly became acquainted with the platforms after a few weeks of use.

Digital literacy: Computer skills

In exploring computer skills, respondents provided valuable insights. While a significant number lacked foundational computer skills, many showed proficiency ranging from basic to advanced levels.

Their self-assessment of computer proficiency was across various levels: 65 respondents (16.5%) admitted to being unable to use computers, indicating a significant portion lacking basic computer skills. A further 81 respondents (20.6%) rated their skills as poor, suggesting limited or poor knowledge of computer usage. On the other hand, a substantial proportion of 138 respondents (35.1%) reported possessing basic computer skills, implying a foundational understanding of computer operations. Additionally, 98 respondents (24.9%) described their skills as intermediate, indicating a more advanced level of competency in utilizing computers for various tasks. A smaller portion of respondents, comprising 11 individuals (2.8%), considered themselves to have advanced computer skills, suggesting a high level of proficiency and expertise in navigating complex computer systems and applications. These findings showed the diverse range of computer skills among respondents, underscoring the need for tailored interventions and support mechanisms to enhance digital literacy levels across different proficiency levels.

FIGURE 27: COMPUTER SKILLS
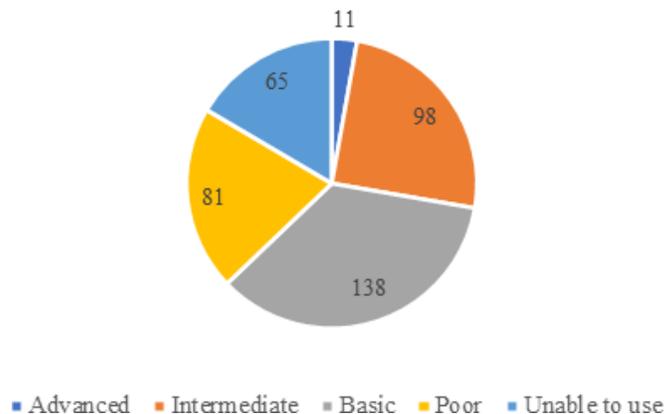
Digital literacy: Familiarity with communication tools

Again, the study investigated respondents' proficiency in using communication tools. While many participants reported few challenges with these tools in daily use, some noted initial difficulties when transitioning to workplace environments using specific software like Outlook and Microsoft Teams. This underscores the importance of broader exposure to digital tools to align with global digital education standards.

The results showed: 20 individuals (5.1%) couldn't use these tools. 89 individuals (22.6%) had limited skills. 101 individuals (25.7%) possessed basic skills. 155 individuals (39.4%) had intermediate proficiency. 28 individuals (7.1%) demonstrated advanced skills. These findings highlight the varied levels of proficiency among respondents in utilizing communication tools.

FIGURE 28: FAMILIARITY WITH COMMUNICATION TOOLS
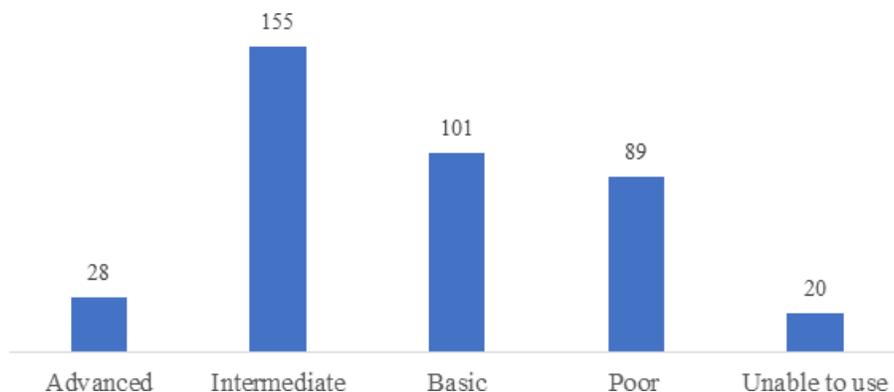
The participants in the in-depth interviews noted that they generally didn't encounter challenges with communication tools. However, two of them mentioned facing difficulties when they started jobs in organizations, particularly with Outlook and Microsoft Teams. They observed that many young people in Myanmar were more accustomed to commonly used software rather than the broader range of applications used in digital education worldwide.

Digital literacy: Proficiency in searching online

Interviewees noted few challenges in browsing learning materials online, primarily attributing occasional difficulties to internet connectivity issues and managing digital content. These findings emphasize the need for ongoing improvements in digital infrastructure and skills training to enhance the effectiveness of online learning experiences across varying levels of digital literacy.

In this study, respondents shared their proficiency levels in searching online for digital educational resources:10 individuals (2.5%) couldn't use online search effectively. 88 individuals (22.4%) had limited skills. 127 individuals (32.3%) possessed basic skills. 148 individuals (37.7%) demonstrated intermediate proficiency. 20 individuals (5.1%) showed advanced skills. These findings highlight the varying degrees of proficiency among respondents in utilizing online search techniques for accessing digital educational resources.

FIGURE 29: PROFICIENCY IN SEARCHING ONLINE
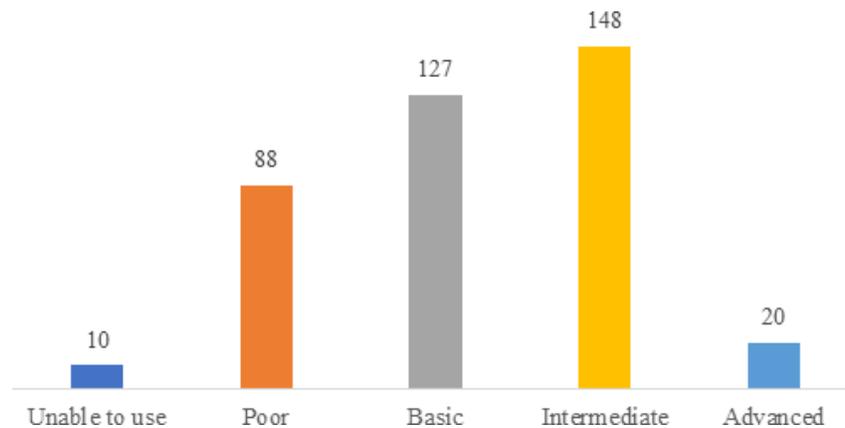
All in-depth interviewees reported no difficulties in browsing learning materials, showcasing experience in online searches. II-02 highlighted that the primary challenge lay in internet connectivity; poor connections could result in delays. Additionally, II-03 noted challenges with managing searching history and storing materials on devices. They used to search information on You Tube and google. Also, they used other search engine platforms based on the needs.

Digital literacy: Information literacy

In this study, respondents provided self-assessments of their ability to analyze digital information, revealing varied levels of proficiency among participants. Many reported intermediate skills, indicating a moderate capability in analyzing digital content. While some expressed good to excellent analytical abilities, challenges in verifying information reliability were noted, particularly on mobile devices. Participants often relied on established sources but generally had basic analytical skills, underscoring the need for enhanced support and training in digital information literacy for effective digital learning.

The findings were as follows: 1 respondent (0.3%) indicated being unable to analyze digital information effectively. 13 respondents (3.3%) reported poor analytical skills in this regard. The majority, comprising 212 respondents (53.9%), described their skills as intermediate, suggesting a moderate level of proficiency in analyzing digital information. 142 respondents (36.1%) rated their analytical skills as good, indicating a strong ability to analyze digital content effectively. Finally, 25 respondents (6.4%) deemed their analytical skills to be excellent, showcasing a high level of proficiency and expertise in analyzing digital information. These findings showed the range of proficiency levels among respondents in analyzing digital information, highlighting both strengths and areas for improvement in digital literacy.
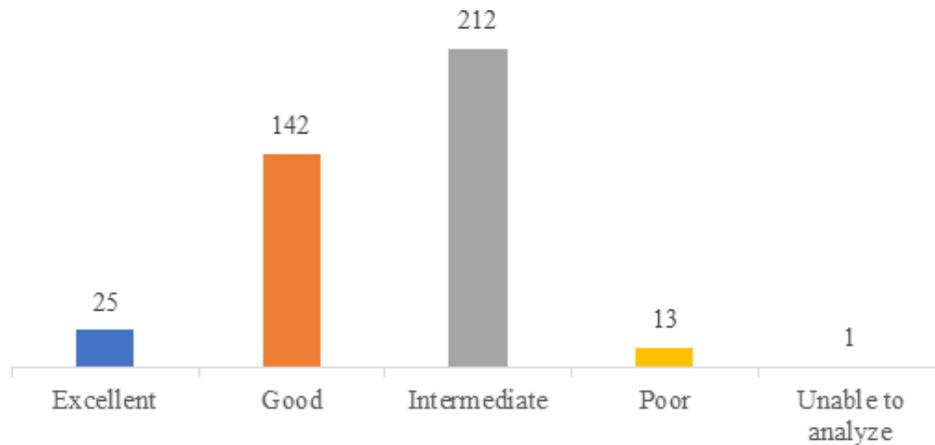
II-09 found searching online information easy, but verifying its reliability posed a major challenge in digital learning, especially without support. II-12 sought advice from others with expertise, while II-16 noted mobile phones' limitations. Participants often cross-checked sources, relying on well-known and official ones, but generally had only basic analytical skills for digital learning information.

Activities engaged in using internet

The majority of participants use the internet for entertainment purposes such as watching movies and listening to music, while a significant proportion also utilizes it for learning and capacity building. Additionally, online shopping, gaming, and social media use are notable activities among the respondents.

In exploring digital literacy regarding internet usage activities, respondents provided insights into their engagement in various online activities: The majority, accounting for 252 respondents (64.1%), reported using the internet to watch movies and listen to music. A substantial proportion, totalling 263 respondents (66.9%), engaged in online learning and studying activities. Additionally, 192 respondents (48.9%) utilized the internet for capacity building purposes. A smaller percentage, comprising 61 respondents (15.5%), engaged in online shopping. 64 respondents (16.3%) reported using the internet to play online games. Furthermore, 202 respondents (51.4%) indicated using social media platforms. Lastly, 12 respondents (3.1%) engaged in other online activities not specified in the survey. These findings highlight the diverse range of online activities in which respondents engage, underscoring the multifaceted nature of internet usage.

FIGURE 31: ACTIVITIES ENGAGED IN USING INTERNET
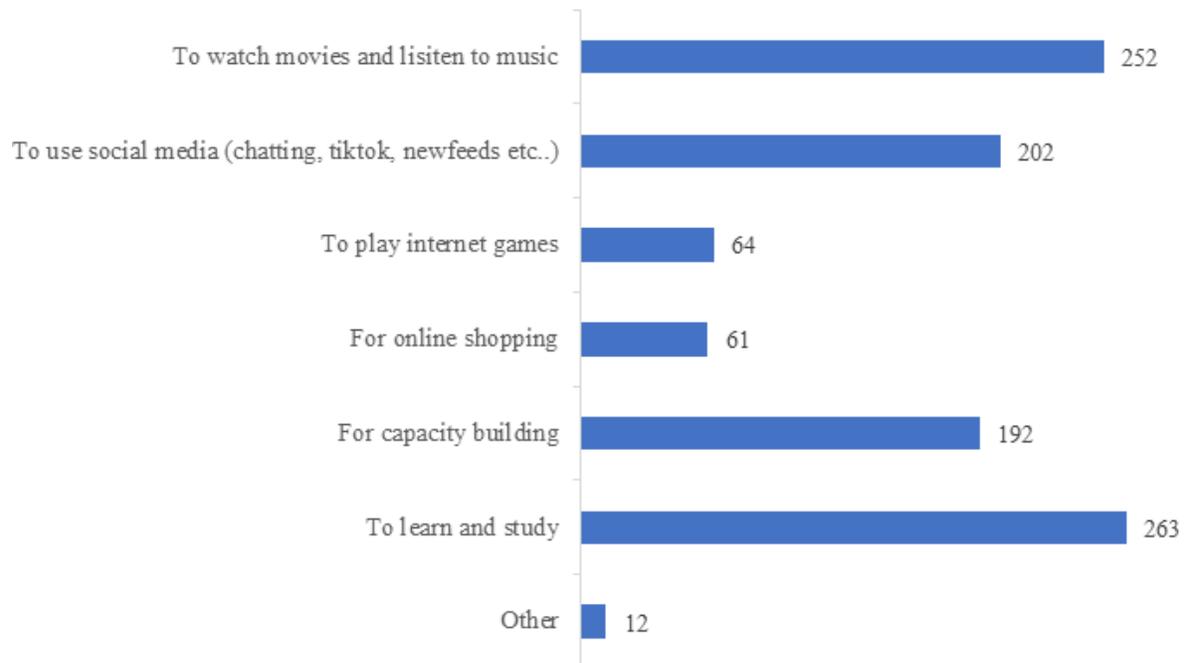
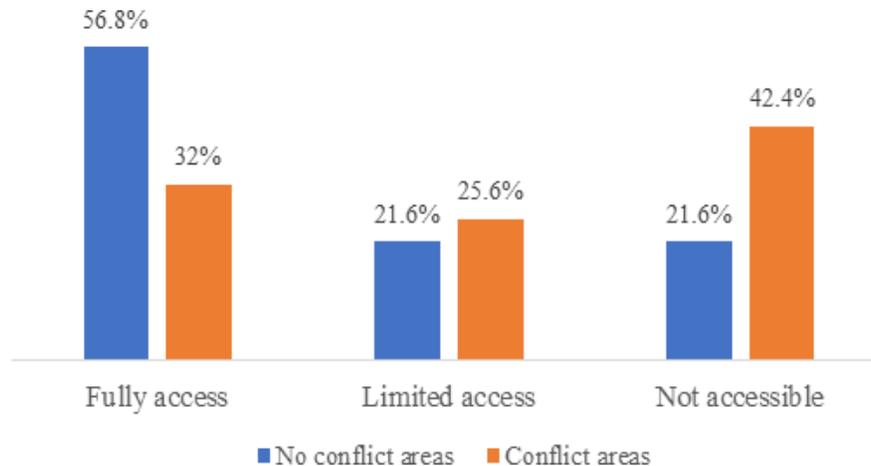## How socio-economic conditions are impacting access to digital education

Impacts of conflicts on access to learning resources for digital education

Regarding resource accessibility, in conflict-free zones, a majority reported full access to resources, whereas in conflict-affected zones, access was markedly limited, with many reporting resources as completely inaccessible.

The survey showed a clear distinction between young people experiencing conflict and those relatively free from it. In areas devoid of conflict, a majority 56.8%, reported full access to necessary resources. Another 21.6%, mentioned facing limitations in accessibility, while an equal number found resources completely inaccessible. On the contrary, in conflict-ridden zones, the situation was markedly different. Only 32% of respondents reported full access to the essential resources, indicating a stark decrease compared to non-conflict areas. A significant portion, comprising 25.6% of respondents, reported limited access, while a concerning 42.4% expressed the distressing reality of resources being entirely out of reach. This stark contrast between the two scenarios underscores the profound impact of conflict on resource accessibility of young people in digital education.

Besides, the Pearson chi-square test conducted to examine the relationship between conflicts and resource accessibility generated a significant result (p < 0.05), indicating a statistically significant association between the two variables. This suggested that the presence or absence of conflict had a notable impact on the accessibility of resources.

II-06 expressed concern about security issues arising from the current political situation, which could hinder access to digital education and limit access to technical resources. Another interviewee highlighted the impact of conflict situations, such as internet shutdowns in certain areas. Even when internet access was available, storing digital learning resources from specific providers on their devices posed risks. Regions with no internet access faced even greater challenges, as learning became impossible (II-12). Additionally, II-19 noted that conflicts and electricity outages significantly affected access to learning resources.

Impacts of conflicts on use of digital learning

The survey revealed contrasting patterns of digital education engagement between conflict-free and conflict-affected regions. In non-conflict areas, a majority engaged daily, while in conflict zones, fewer participants maintained regular engagement.

The survey delved into the frequency of engagement in digital education per week amidst regions affected and unaffected by conflict, as reported by participants. In areas free from conflict, a diverse range of responses emerged. Among respondents, 10.5% stated they did not engage in any form of study digitally. The majority, constituting 30.5%, reported occasional engagement. A notable portion, approximately 17.4%, indicated involvement for about three days per week, while 16.8% committed to approximately five days per week. Lastly, 24.7% affirmed daily engagement in digital educational activities. In contrast, the data from conflict-affected regions portrayed a somewhat different picture. While 22.2% of respondents admitted to not engaging in digital education at all, a significant 45.8% indicated sporadic involvement. The frequency decreased as the days of engagement increased, with 14.8% mentioning around three days per week, 7.4% approximately five days per week, and merely 9.9% reporting daily participation. These findings underscore the impact of conflict on digital education engagement, revealing varied patterns and highlighting potential disparities between regions experiencing conflict and those free from it.

Moreover, the Pearson chi-square test conducted to examine the relationship between conflicts and frequency of digital learning per week generated a significant result ($p < 0.05$), indicating a statistically significant association between the two variables. This suggested that the presence or absence of conflict had a notable impact on the frequency of digital learning by the respondents.

TABLE 2: IMPACTS OF CONFLICTS ON FREQUENCY OF DIGITAL LEARNING

Crosstabulation	Not study at all	Sometimes	About 3 days per week	About 5 days per week	Daily
Conflict-free areas	10.5%	30.5%	17.4%	16.8%	24.7%
Conflict areas	22.2%	45.8%	14.8%	7.4%	9.9%

Differences in family support in conflict and no conflict areas

The study investigated disparities in family support between conflict and non-conflict areas, revealing notable differences in the levels of assistance provided. In regions unaffected by conflict, the distribution of family support varied. A significant proportion, 8.9%, reported receiving no support, while a similar percentage, 7.9%, indicated minimal support. However, the majority of respondents reported receiving some form of support, with 30.5% receiving some support, 21.6% receiving sufficient support, and 31.1% indicating they received the required level of support. Conversely, in conflict-affected areas, the distribution of family support exhibited distinct patterns. A slightly higher percentage of respondents, 10.3%, reported receiving no support, while 12.8% indicated minimal support. However, a substantial majority still reported receiving some level of support, with 40.4% receiving some support, 19.7% receiving sufficient support, and 16.7% receiving the required level of support.

These findings highlight the resilience of familial bonds in both conflict and non-conflict areas, with varying levels of support observed. Despite the challenges posed by conflict, families continue to support differences in distribution and intensity.

FIGURE 33: DIFFERENCES IN FAMILY SUPPORT IN CONFLICT AND NO CONFLICT AREAS
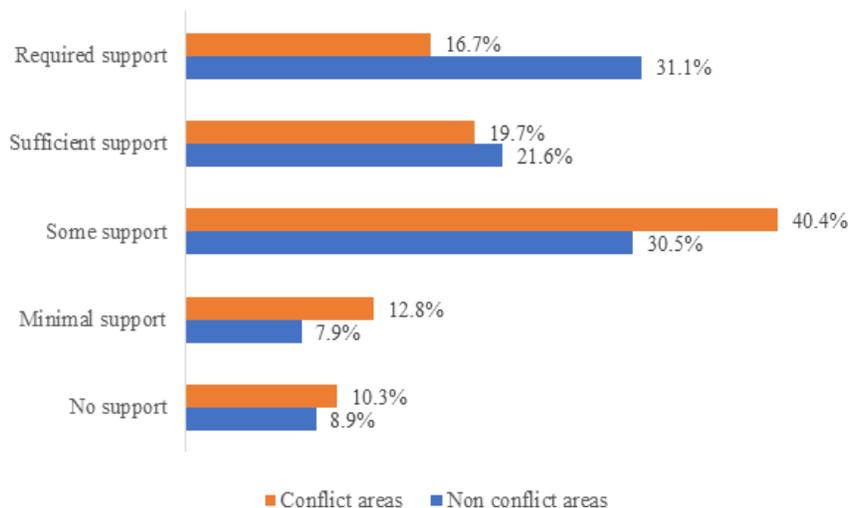
Key digital literacy of respondents in conflict and no conflict areas

Based on Nanthakorn et al. (2023), digital literacy was pivotal for effective digital learning. Hence, this study sought to understand the varying statuses of key digital literacy among respondents. Overall, the study highlights significant disparities in digital literacy between respondents in conflict and non-conflict areas. Non-conflict areas generally exhibit higher levels of proficiency across various digital skills, including computer usage, online search capabilities, and information literacy. These findings underscore the need for targeted interventions to improve digital literacy in conflict-affected regions, aiming to bridge these skill gaps and enhance access to digital educational opportunities.

(a) Awareness and knowledge of using digital and online platforms

In comparing awareness and knowledge of using digital and online platforms between respondents in conflict and non-conflict areas, several key observations emerge. In non-conflict areas, a slightly lower proportion (3.7%) of respondents did not understand digital and online platforms compared to conflict areas (3.0%). Similarly, the percentage of respondents with poor understanding was slightly lower in non-conflict areas (17.4%) compared to conflict areas (19.7%). Regarding basic knowledge, non-conflict areas showed a slightly lower percentage (23.2%) compared to conflict areas (35.5%). However, the majority of respondents in both areas demonstrated intermediate understanding, with 42.6% in non-conflict areas and 36.9% in conflict areas. Interestingly, a higher percentage of respondents in non-conflict areas (13.2%) exhibited excellent knowledge compared to conflict areas (4.9%). Overall, while there are some similarities in awareness and knowledge levels between conflict and non-conflict areas, there are also notable differences, suggesting potential impacts of conflict on digital literacy.

(b) Computer skills

The following observations underscored disparities in computer proficiency between participants in regions affected by conflict and those without, indicating specific challenges and opportunities for focused efforts to enhance digital literacy in conflict-affected areas.

In comparing computer skills between respondents in conflict and non-conflict areas, several key points emerge. In non-conflict areas, a lower percentage (9.5%) of respondents reported they could not use computers compared to conflict areas (23.2%). Similarly, a smaller proportion (16.8%) mentioned having little computer skills compared to conflict areas (24.1%). Regarding basic computer skills, non-conflict areas showed a higher percentage (37.4%) compared to conflict areas (33.0%). However, a slightly higher proportion of respondents in non-conflict areas (32.1%) reported having intermediate computer skills compared to conflict areas (18.2%). Interestingly, a higher percentage of respondents in non-conflict areas (4.2%) claimed to have advanced computer skills compared to conflict areas (1.5%). Overall, while there are some similarities in computer skills between conflict and non-conflict areas, there are also notable differences, suggesting potential challenges and areas for targeted intervention in improving digital literacy in conflict-affected regions.

(c) Familiarity with communication tools

In comparing familiarity with communication tools between respondents in conflict and non-conflict areas, several key points emerge. In non-conflict areas, a similar percentage (5.3%) of respondents couldn't use communication tools compared to conflict areas (4.9%). However, a lower proportion (13.7%) had little familiarity with communication tools compared to conflict areas (31.0%). Regarding

basic familiarity, non-conflict areas showed a slightly higher percentage (21.6%) compared to conflict areas (29.6%). However, the majority of respondents in both areas demonstrated intermediate familiarity, with 49.5% in non-conflict areas and 30.0% in conflict areas. Interestingly, a higher percentage of respondents in non-conflict areas (10.0%) exhibited advanced familiarity with communication tools compared to conflict areas (4.4%). Overall, while there are similarities in some aspects of familiarity with communication tools between conflict and non-conflict areas, there are also notable differences.

(d) Proficiency in searching online

In comparing proficiency in searching online between respondents in conflict and non-conflict areas, several key observations emerge. In non-conflict areas, a slightly lower percentage, 2.1%, reported being unable to use online search tools compared to conflict areas, where this figure was 3.0%. Similarly, the proportion of respondents with little proficiency in searching online was comparable between non-conflict areas (16.8%) and conflict areas (27.6%). Regarding basic proficiency, non-conflict areas showed a slightly lower percentage (27.4%) compared to conflict areas (36.9%). However, the majority of respondents in both areas demonstrated intermediate proficiency, with 46.8% in non-conflict areas and 29.1% in conflict areas. Interestingly, a higher percentage of respondents in non-conflict areas (6.8%) exhibited advanced proficiency in searching online compared to conflict areas (3.4%). Overall, while proficiency levels varied slightly between conflict and non-conflict areas, the majority of respondents in both regions demonstrated intermediate proficiency. These comparisons underscore potential areas for targeted support or intervention to improve digital search skills, particularly in conflict-affected regions.

(e) Information literacy

None of the respondents, 0.0%, reported being unable to analyze information, whereas in the conflict area, a small percentage, 0.5%, mentioned this. A slightly lower proportion, 1.6%, mentioned their information literacy skills were not good compared to the conflict area's 4.9%. A similar percentage, 46.3%, of respondents reported having good information literacy skills compared to the conflict area's 26.6%. A similar percentage, 44.2%, indicated having intermediate information literacy skills compared to the conflict area's 63.1%. A slightly higher percentage, 7.9%, claimed to have excellent information literacy skills compared to the conflict area's 4.9%.

These comparisons reveal differences and similarities in information literacy status between respondents in conflict and non-conflict areas, suggesting potential areas for targeted interventions to enhance information literacy skills, particularly in conflict-affected regions.

| TABLE 3: KEY DIGITAL LITERACY OF RESPONDENTS IN CONFLICT AND NO CONFLICT AREAS FOR LEARNING			
Key literacy for learning	**Literacy level**	**No conflict areas** (N - 190)	**Conflict areas** (N - 203)
Awareness and knowledge of using digital and online platforms	Do not understand	3.7%	3%
	Poor	17.4%	19.7%
	Basic	23.2%	35.5%
	Intermediate	42.6%	36.9%
	Excellent	6.5%	4.9%
Computer skills	Unable to use	9.5%	23.2%
	Poor	16.8%	24.1%
	Basic	37.4%	33%
	Intermediate	32.1%	18.2%
	Advanced	4.2%	1.5%
Familiarity with communication tools	Unable to use	5.3%	4.9%
	Poor	13.7%	31%
	Basic	21.6%	29.6%
	Intermediate	49.5%	30%
	Advanced	10%	4.4%
Proficiency in searching online	Unable to use	2.1%	3%
	Poor	16.8%	27.6%
	Basic	27.4%	36.9%
	Intermediate	46.8%	29.1%
	Advanced	6.8%	3.4%
Information literacy	Unable to analyze	0%	0.5%
	Poor	3%	4.9%
	Good	46.3%	26.6%
	Intermediate	44.2%	63.1%
	Excellent	7.9%	4.9%

Differences in access to digital devices

The existing literature underscored the significance of access to digital devices for effective digital education. Previous study of Nanthakorn et al. (2023), highlighted about 80% prevalence of mobile phones among students in Myanmar, with concerns the quality of these devices. Additionally, they noted that computer access was considerably lower, with only about 40% of students having such access.

The study highlighted significant disparities in access to digital devices, particularly computers, across different regions in Myanmar. Mobile phone ownership was widespread among respondents, but access to computers was notably limited. Conflict-affected and rural areas faced more challenges in accessing computers compared to non-conflict and urban areas, emphasizing the need for targeted efforts to improve digital infrastructure and ensure equitable opportunities for digital education nationwide.

In our study, it found that a substantial majority of respondents, 94.7%, confirmed owning a mobile phone. However, access to computers was more limited, with only 49% reporting such access. Therefore, despite the prevalence of mobile phones, exploring computer access becomes crucial for comprehensive digital education initiatives. Our study compared access to computers between respondents in conflict and non-conflict areas. Interestingly, in non-conflict areas, 41.6% of respondents reported no computer access, while 58.4% had access. In contrast, in conflict areas, a higher proportion, 59.6%, lacked computer access, with only 40.4% having it. These findings underscore the disparities in computer access between conflict and non-conflict areas.

Furthermore, our study delved deeper into the levels of computer access among respondents residing in both rural and urban areas, revealing insightful findings. In rural areas, a significant majority, comprising 67.9% of respondents, reported lacking access to computers, while only 32.1% had access to these devices. Conversely, in urban areas, the distribution of computer access painted a notably different picture. Here, 65.5% of respondents had access to computers, representing a majority with the means to utilize digital technology effectively. However, it's noteworthy that a considerable portion, accounting for 34.5% of respondents, still reported lacking access to computers. It was a lesser extent compared to rural areas. These findings highlight the disparity in computer access between rural and urban areas, with rural regions facing more substantial challenges in accessing digital resources.

FIGURE 34: DIFFERENCES IN ACCESS TO DIGITAL DEVICES: COMPUTER
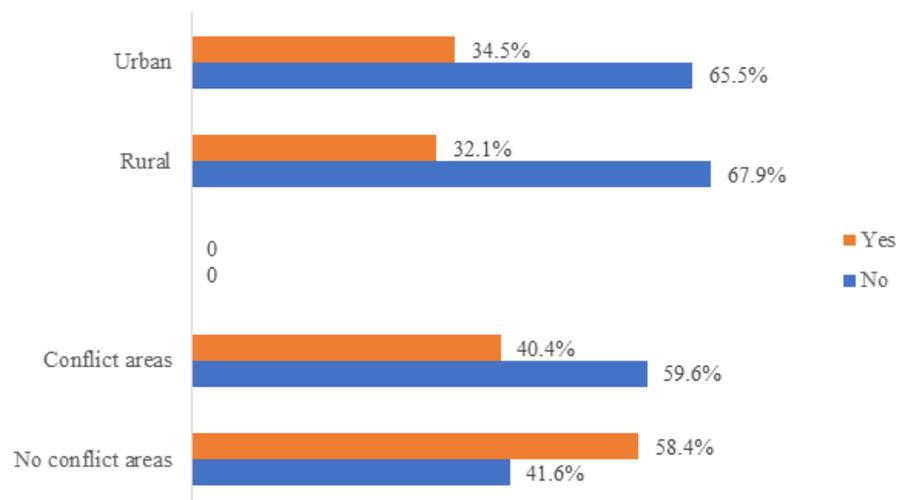
*Overall impacts of conflicts on access to digital education*

It is clear that conflict creates numerous challenges for access to digital information. The study revealed that conflicts significantly hindered access to digital education in Myanmar. Many respondents faced challenges such as internet disruptions, safety concerns, displacement, and infrastructure issues like electricity outages. These obstacles severely impacted the ability of students to engage effectively in online learning, highlighting the broader socio-political and infrastructural barriers affecting educational opportunities in conflict-affected regions.

For a small number, about 12.9%, conflicts didn't really seem to affect their ability to learn online. However, for others, conflicts made it tough to access e-learning. This could mean they could not get the resources they needed or could only access them a little. This group made up about 14.7% of the responses. A big issue that came up was internet trouble—like shutdowns or bad connections. This affected 31.7% of respondents. Then there were those who felt unsafe or pressured because of the conflict, and this made it hard for them to learn online. They made up about 24.8% of the responses. Sometimes conflicts forced people to leave their homes, making it even harder to keep up with school stuff. This displacement affected about 15.3% of people. Lastly, there were a few other reasons mentioned by a tiny percentage of respondents, making up only 0.6% of the responses such as threats of arrest, porters and electricity cut offs.

Some interviewees remarked that conflicts exacerbated complexities, resulting in increased difficulties in access. The consequences included electricity outages and internet shutdowns, rendering digital education ineffective. II-17 also noted that electricity and internet issues were the primary concerns. Another interviewee emphasized that the current political situations directly impacted e-learning. They noted that before the coup, digital literacy in Myanmar was low but had improved significantly.

However, the usefulness of digital platforms was compromised by the lack of internet connection and electricity outages (II-09). II-18 also highlighted that students faced limitations in pursuing the subjects they desired. Internet shutdowns and expensive data expenses made it challenging to download learning resources.

FIGURE 35: OVERALL IMPACTS OF CONFLICTS ON ACCESS TO DIGITAL EDUCATION
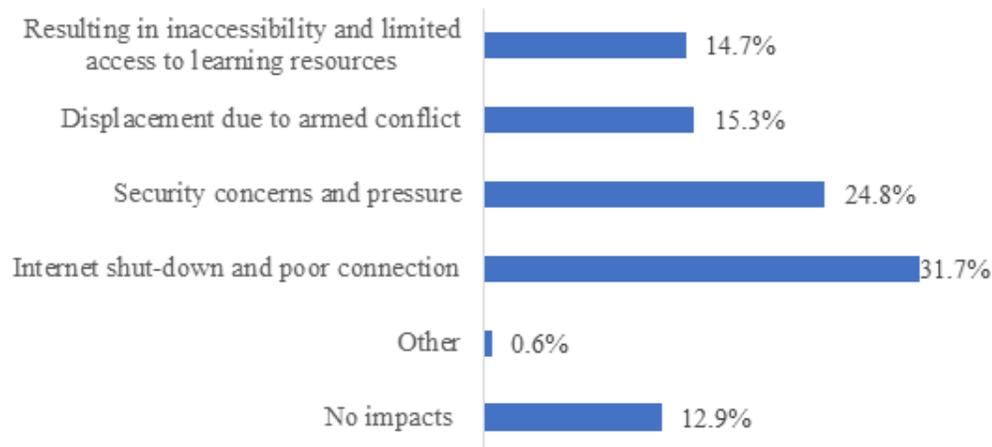
*Resource accessibility status in urban and rural areas*

The examination of resource accessibility status across urban and rural areas showed the disparities in access to essential resources for digital learning. In rural areas, a substantial proportion of individuals face challenges in resource accessibility. While 35.8% of respondents reported full access to resources, a concerning 40.9% highlighted the stark reality of resources being entirely out of reach. Additionally, 23.3% mentioned encountering limitations in accessing necessary resources in rural areas.

In contrast, urban areas appear to present a more favourable scenario regarding resource accessibility. A majority of 52 % of respondents reported full access to resources, signifying a relatively higher proportion compared to rural areas. Moreover, the percentage of individuals facing limitations in accessibility mirrored that of rural areas, with 24 % reporting limited access. Similarly, 24% of urban respondents mentioned resources being not accessible, underlining that, despite the urban setting, significant challenges in resource accessibility persist.

These findings highlighted the nuanced landscape of resource accessibility. While urban areas generally exhibited better access to resources, disparities persist within urban settings and are particularly pronounced in rural regions. Addressing these disparities requires tailored interventions that consider the unique challenges faced by different communities, aiming to ensure equitable access to essential resources regardless of geographical location.

The Pearson chi-square test conducted to examine the relationship between resource accessibility and geo location: urban and rural generated a significant result ($p < 0.05$), indicating a statistically significant association between the two variables.

FIGURE 36: RESOURCE ACCESSIBILITY STATUS IN URBAN AND RURAL AREAS
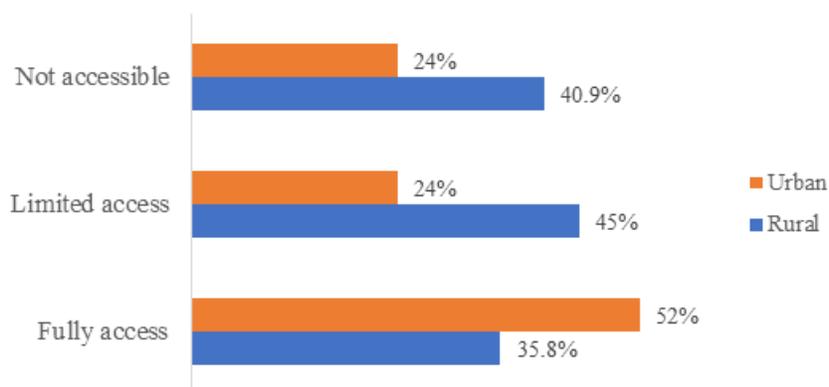
*Frequency of digital learning among respondents in urban and rural areas*

The study found notable differences in digital learning engagement between urban and rural areas. In rural areas, there was a higher percentage of respondents who did not engage in digital education or engaged only occasionally. In contrast, urban respondents showed more consistent engagement in digital education, with higher proportions participating several times a week or daily.

Analyzing the engagement frequency in digital education across different locations sheds light on interesting patterns and disparities. In rural areas, a significant portion, around 23.8% of respondents stated to not engaging in digital education at all. However, a larger proportion, 43.5% reported engaging

in digital education occasionally. The frequency decreased gradually, with 12.4% engaging for about three days per week, 7.3% for about five days per week, and 13.0% engaging daily.

Conversely, in urban areas, a smaller percentage, 9.5%, claimed to not engage in digital education at all, indicating a relatively lower proportion compared to rural areas. A similar trend was observed in occasional engagement, with 33.5% reporting engagement sometimes. Interestingly, the proportion of respondents 19.5% engaging for about three days per week, 16.5% for about five days per week, and 21% engaging daily. These findings suggested that while digital education is prevalent in both rural and urban areas, there were notable differences in engagement frequency. Rural areas exhibited a higher percentage of non-engagement and occasional engagement compared to urban areas. On the other hand, urban areas demonstrated a more consistent pattern of engagement across different frequency levels. Understanding these variations could inform targeted interventions to promote digital education and bridge the gap in engagement between rural and urban communities.

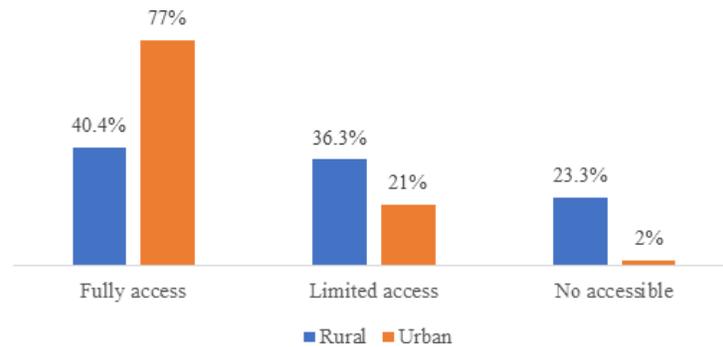FIGURE 37: FREQUENCY OF DIGITAL LEARNING AMONG RESPONDENTS IN URBAN AND RURAL AREAS
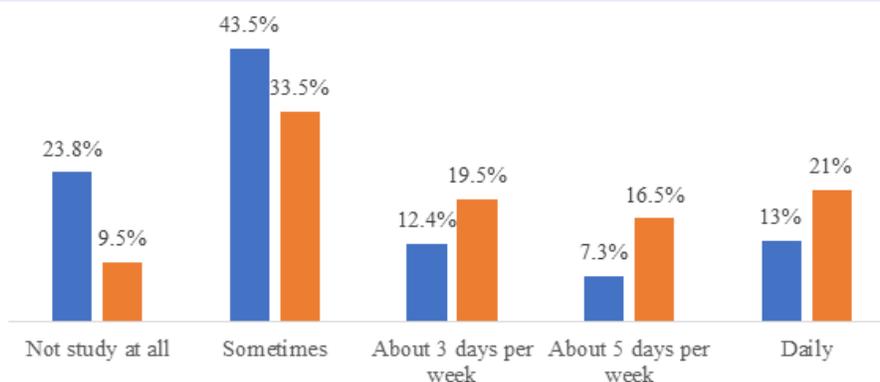
Internet accessibility status in rural and rural areas

The study highlighted significant disparities in internet accessibility between rural and urban areas. In rural areas, a considerable number of respondents had limited or no access to the internet, while urban areas showed much higher rates of full internet access.

Internet accessibility plays a pivotal role in facilitating digital learning, especially in regions like Myanmar where frequent internet shutdowns and slower connectivity have been reported since the coup. Understanding the extent of internet accessibility among respondents across different locations is essential for addressing digital learning disparities. In rural areas, the distribution of internet accessibility varied. A significant proportion, comprising 40.4% of respondents, reported fully accessing the internet. However, a substantial portion, 36.3%, indicated having only limited access, while 23.3% reported that the internet was not accessible at all.

Conversely, in urban areas, the distribution of internet accessibility painted a different picture. Here, most respondents, representing 77%, reported fully accessing the internet, indicating relatively robust connectivity. However, a notable proportion, 21%, mentioned having limited access, while a small minority, 2%, reported the internet as not accessible. These findings underscore the disparities in internet accessibility between rural and urban areas. While urban areas generally exhibited better access to the internet, significant challenges persisted, particularly in rural regions where access remained limited or non-existent.

Differences in family support in rural and urban areas

In rural regions, a significant proportion of respondents reported minimal or no support, although most received some assistance. Urban areas showed a similar trend, but with a higher percentage of respondents receiving the required level of support. These findings highlight the essential role of family support in both rural and urban settings, despite the varying degrees of assistance provided.

The study delved into the disparities of family support among respondents residing in rural and urban areas, shedding light on the varying levels of assistance provided within different community settings. In rural areas, the distribution of family support levels exhibited a spectrum of assistance. A notable portion, comprising 8.3% of respondents, reported receiving no support, while 15% indicated minimal support. However, most respondents reported receiving some form of support, with 38.9% receiving some support, 18.1% receiving sufficient support, and 19.7% indicating they received the required level of support.

Conversely, in urban areas, the distribution of family support levels presented a similar pattern. Here, 11% of respondents reported receiving no support, while 6% indicated minimal support. Similarly, the majority still reported receiving some level of support, with 32.5% receiving some support, 23% receiving sufficient support, and 27.5% indicating they received the required level of support. These findings underscore the complexities of family support dynamics between rural and urban areas. Despite differences in distribution, familial assistance remains a crucial source of support for individuals across both rural and urban contexts.

FIGURE 39: DIFFERENCES IN FAMILY SUPPORT IN RURAL AND URBAN AREAS
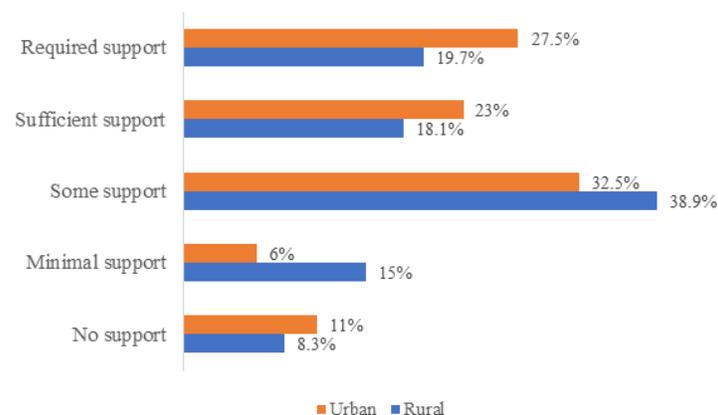
Impacts of family support on learning resource accessibility

The study demonstrated a significant association between family support and learning resource accessibility in Myanmar. In the context of Myanmar, where familial support plays a pivotal role in ensuring the continuity of students' education and their access to resources, our study sought to understand the influence of family support on learning resource accessibility. Using the Pearson chi-square test, the study analyzed the relationship between family support and learning resource accessibility. The results yielded a significant finding ($p < 0.05$), indicating a statistically significant association between these two variables. This suggested that the level of family support significantly impacts the accessibility of learning resources for students. Strong family support systems might contribute to better access to educational materials and opportunities, while limited support could hinder students' ability to access the resources they need for their education.

TABLE 4: IMPACTS OF FAMILY SUPPORT ON LEARNING RESOURCE ACCESSIBILITY

Crosstabulation		Do you have access to the necessary resources for digital education and online learning, such as textbooks, files, and other learning materials?			Total
		Full access	Limited access	No access	
Family's support for your digital education and online learning	No support	18	8	12	38
	Minimal support	10	11	20	41
	Some support	49	36	55	140
	Sufficient support	43	20	18	81
	Required support	53	18	22	93
Total		173	93	127	393
Pearson Chi square test between family support and resource accessibility, P value (0.05)					0.03

Computer accessibility and learning resources

The study explored the impact of computer accessibility on the ease of accessing learning resources. It found that respondents with computer access were almost evenly split, with just over half reporting no difficulties, while the rest still faced challenges. Conversely, a significant majority of those without computer access struggled to obtain learning resources, highlighting the crucial role of computer availability in educational access.

In examining this, the study uncovered significant insights. Among respondents who reported having access to computers, 51.8% indicated that they faced no difficulties accessing learning resources. However, 48.2% reported encountering difficulties despite having computer access. A notable finding emerged among respondents who did not have access to computers. Among this group, 29.5% reported no difficulties accessing learning resources, while a substantial majority, comprising 70.5% of respondents, reported facing difficulties.

FIGURE 40: COMPUTER ACCESSIBILITY AND LEARNING RESOURCES
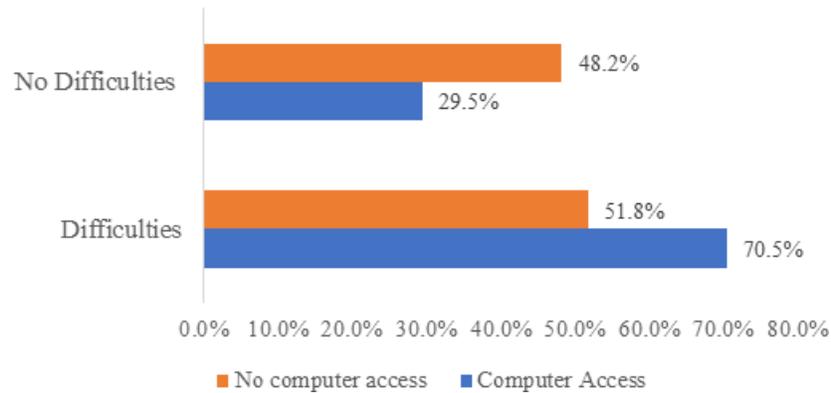
Students' perspectives on digital education

Effectiveness of digital education

The study explored the effectiveness of digital education through the perspectives of the participants. Their feedback varied: 15 respondents (3.8%) viewed digital education as entirely ineffective, while 35 (8.9%) saw it as minimally effective. A majority of 206 participants (52.4%) found it to be acceptable in terms of effectiveness. Furthermore, 107 individuals (27.2%) perceived digital education as highly effective, and 30 (7.6%) regarded it as exceptionally impactful.

Regarding effectiveness, II-03 described her digital learning experience as being approximately 70% effective. Most other interviewees echoed this sentiment, affirming the overall effectiveness of digital learning. II-04 added that stability in internet connectivity would significantly enhance its effectiveness. II-03 reiterated that online learning from home was effective for her, particularly due to travel restrictions, making it a safer option given the current situation in Myanmar. II-07 expressed a nuanced view, acknowledging both the positive and negative impacts of online learning, but emphasized its value in expanding networking opportunities, which proved invaluable in her educational journey. Many participants in the in-depth interviews highlighted the flexibility of online learning in terms of both time and location. II-19 noted that it allowed learning from anywhere and facilitated open discussions, leading to increased student participation in online training sessions. Also, it could reduce the expenses in various forms.

FIGURE 41: PARTICIPANTS' PERSPECTIVES ON EFFECTIVENESS OF DIGITAL EDUCATION
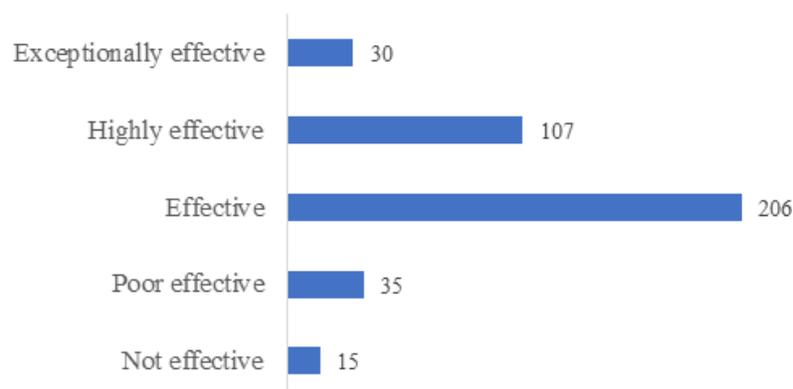
*Importance of digital education in future education*

The study investigated participants' views on the importance of digital education for future learning.

While a small portion viewed it as entirely or minimally effective, the majority found it acceptable or highly effective. Interviewees highlighted the benefits of online learning, such as flexibility in time and location, enhanced participation, and reduced expenses, while also noting that stable internet connectivity could further improve its effectiveness.

Results showed that 241 respondents (61.3%) considered it important, while 146 respondents (37.2%) deemed it very important. Only 6 respondents (1.5%) thought it was not important.

The participants in the in-depth interviews unanimously emphasized the significance of digital education in shaping their future learning endeavors. II-9 articulated that digital education opens access to diverse resources that would otherwise be challenging to obtain offline, expressing confidence in its potential effectiveness for his future education. II-14 further highlighted the time-saving aspect of online education in the educational journey.

FIGURE 42: IMPORTANCE OF DIGITAL EDUCATION IN FUTURE EDUCATION
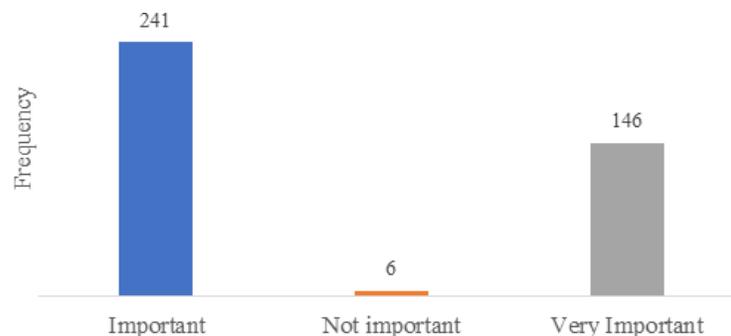
Effectiveness of digital education against traditional classrooms

In order to assess the comparative effectiveness of digital education against traditional classroom settings, the study sought insights from participants. A majority of respondents found digital education to be as effective or more effective than traditional classrooms, citing benefits such as network expansion, flexibility, and access to diverse resources. However, challenges in concentration, learning commitment, and student motivation were noted, with many participants still preferring campus-based learning for its interactivity and mental support, despite recognizing the advantages of digital education.

The statement "digital education is effective as traditional classrooms in regular settings" was shared with the participants and their responses described varied perspectives: 3 individuals (0.8%) strongly disagreed with the effectiveness of digital education compared to traditional classrooms, while 86 (21.9%) disagreed. Additionally, 80 respondents (20.4%) remained neutral on the matter. On the affirmative side, 197 participants (50.1%) agreed with the effectiveness of digital education, while 27 (6.9%) strongly agreed with its efficacy over traditional classrooms.

FIGURE 43: EFFECTIVENESS OF DIGITAL EDUCATION AGAINST TRADITIONAL CLASSROOMS
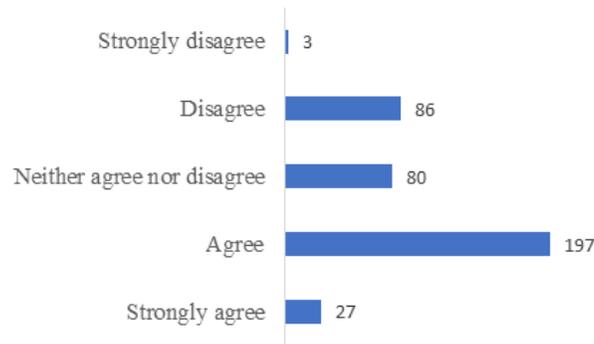
Most of the in-depth interviewees stated that in the effectiveness, digital education was beneficial with other positive outcomes such as expanding network, time and place flexibility and access to diverse resources. But, in term of concentration and learning commitment, it found difficulties for the students in Myanmar. Especially, student motivation was important to keep learning. But most of the time, it reduces gradually in digital education over time. Almost all the participants preferred campus-based learning to online and distance learning, even though recognizing the aforementioned benefits. They said it was more interactive and learning to be engaged with their friends was crucial for their mental support. But II-14 pointed out the benefit of digital education that she could learn the subjects what she wished due to digital education during these difficult days which restricted academic freedom. II-05, 03 and 09 mentioned that digital education brought diverse learning resources which were very helpful to them. II-03 complemented that it was quick to search for learning resources online.

Supportive of ongoing learning amidst coup and political instability

Understanding students' perceptions of digital learning and its supportiveness during challenging times is crucial. Therefore, the study sought their opinions on this matter. Respondents expressed the following views: 38 individuals (9.7%) answered negatively, while 355 (90.3%) responded affirmatively.

FIGURE 44: SUPPORTIVE OF ONGOING LEARNING AMIDST COUP AND POLITICAL INSTABILITY
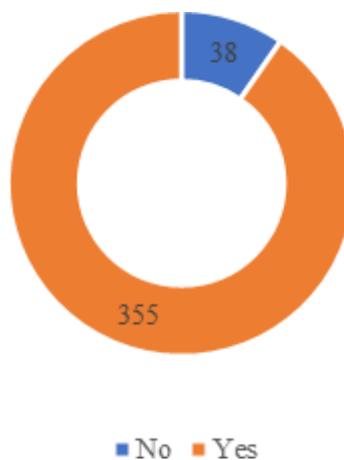
II-16 highlighted that online learning, including accessible university programs, facilitated continuous education. It enabled educational continuity. II-11 emphasized the importance of digital education for Myanmar's youth, considering it an effective learning method. He personally committed to pursuing digital learning in his educational journey, finding it more effective. II-01 viewed digital education as an alternative for Myanmar students who preferred not to attend traditional universities. II-05 appreciated online learning for providing broader perspectives. Six respondents noted that online education broadened their views. II-03 observed that digital education offered diverse learning experiences.

Digital education's role in enabling continued academic pursuits

Amid the upheaval of the coup, students turned to digital education as a means of continuing their academic pursuits. Understanding their perspectives on the effectiveness of digital education in this regard is crucial. The study thus inquired about participants' opinions on this matter. Responses revealed that 70 individuals (17.8%) expressed doubt regarding the role of digital education in facilitating continued academic pursuits, while 323 (82.2%) affirmed its significance in this context.

FIGURE 45: DIGITAL EDUCATION'S ROLE IN ENABLING CONTINUED ACADEMIC PURSUITS
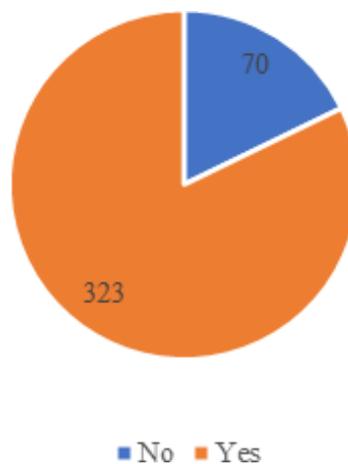
All participants in the in-depth interviews unanimously agreed that digital education played a crucial role in ensuring educational continuity. II-14 emphasized its importance for pursuing further studies. Timesaving was a recurring theme in their discussions about digital education, with many participants highlighting its efficiency. II-09 specifically mentioned the benefits for his continuous education, noting that online learning helped him navigate through challenging periods of no formal education, providing a valuable resource during difficult times.

Impacts of socio-economic factors on access to digital education

The study also included the examination of how socio-economic factors influenced students' access to digital education. A substantial majority of respondents recognized the significant impact of socio-economic factors, highlighting barriers such as affordability of devices, internet access, and related expenses. Only a small percentage perceived these factors as having minimal or no impact, underscoring the disparities in digital education accessibility based on socio-economic status.

Their responses varied: 6 individuals (1.5%) perceived socio-economic factors as not impactful at all, while 34 (8.7%) considered them to have minimal impact. A significant majority of 310 respondents (78.9%) acknowledged the impact of socio-economic factors, and 43 (10.9%) deemed them to be highly impactful on their access to digital education.

FIGURE 46: IMPACTS OF SOCIO-ECONOMIC FACTORS ON ACCESS TO DIGITAL EDUCATION
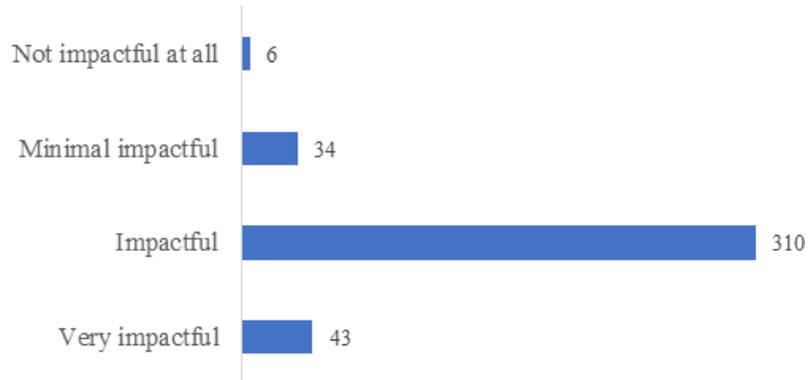
Discussion and conclusion

The education sector in Myanmar has been severely disrupted due to the pandemic and coup. For young people in Myanmar, who are committed to democratic values and are boycotting educational institutions run by the military, digital education platforms have become increasingly central to ensuring that they can continue their education. However, socio-economic disadvantages are now preventing the majority of young people in rural areas and internet shut down zones from accessing digital education, due to conflicts and political instability.

Existing and emerging difficulties make it necessary to investigate the impact of socio-economic disadvantages on young people's access to digital education platforms during the pandemic and coup. Hence, this study has examined how socio-economic disadvantages impact young people's access to digital education platforms while participating in the civil disobedience movement during the Covid-19 pandemic and since the coup in Myanmar, and their perceptions and attitudes on digital education.

In our research, a diverse group of young individuals actively engaged in the CDM movement shared their insights. We captured the voices of youths from various ethnic backgrounds across the entire country. While gender representation could have been more comprehensive, our study had nationwide coverage. Our findings underscore the profound impact of socio-economic challenges such as financial struggles, residing in conflict zones, low family income, parental education levels, supportive environments, digital disparities, and security risks on young people's access to digital education in Myanmar.

The study found out that digital learning is crucial for Myanmar students, especially during political unrest and the COVID-19 pandemic. Many students, 38.4%, use digital education occasionally, and 17% use it daily. However, 55.7% have limited or no access to necessary learning materials since the political upheaval. Challenges like unstable internet (45.1%), financial constraints (45.9%), and security worries (24.5%) make education harder. About 40.5% struggle to access digital resources, mainly due to poor internet (63.9%) and money problems (45.9%). Security concerns also complicate access. The study shows widespread issues in digital education due to technology limits, internet shutdowns, and financial problems, affecting 61.8% of students. These barriers highlight the need for better infrastructure and support to ensure fair access and improve education outcomes.

Concerns about security and surveillance in digital education vary among students. About half (50.4%) are slightly concerned, and 19.1% are moderately worried. Cybersecurity risks related to sensitive topics and platforms supporting protests are concerns in Myanmar's complex political climate. Financial problems are a significant issue, affecting 63.6% of students and limiting their access to online learning resources.

Family incomes vary widely, with 36.6% earning less than 200,000 MMK per month and 36.1% earning between 200,000 to 400,000 MMK. Monthly internet expenses range from under 25,000 MMK (48.3%) to 25,001 to 50,000 MMK (38.2%), posing challenges for accessing affordable and reliable internet. Parents' educational backgrounds vary from middle school (36.1%) to postgraduate degrees (1.8%), influencing support for students' education. About 35.6% receive family support, but only 20.6% feel adequately supported due to economic constraints. Economic instability, worsened by post-coup and pandemic impacts, affects 89.1% of families, limiting their ability to support students' education.

Most participants (94.7%) own smartphones or tablets for learning, but concerns about device quality, reliability, and shared use in households affect access to digital resources. Electricity outages add to these challenges. Half of the students (50.9%) lack access to computers, which are seen as more effective than smartphones for learning due to better resource access and learning experiences. Internet access is challenging for many students; 59% have full access, 28.5% have limited access, and 12.5% have none. Reasons include internet shutdowns (50.9%), poor connection (68.8%), financial problems (36.6%), technical issues (14.3%), and security concerns (23.2%). Electricity outages (45.5%) and device quality issues (16.1%) worsen these challenges. Participants cite various barriers, including poor connection (68.8%), financial hardship (36.6%), internet shutdowns (50.9%), technical issues (14.3%), poor device quality (16.1%), security concerns (23.2%), and electricity outages (22.4%). These findings highlight compounded challenges in accessing crucial online educational resources.

Participants have varying levels of digital and online platform proficiency, from no awareness to excellent competency. Some quickly adapt to these tools, but many lack basic computer skills, indicating a need for targeted digital literacy programs. Proficiency in communication tools varies, affecting professional use. Skills in searching for educational resources online and analyzing digital information also vary, affecting learning outcomes. These challenges underscore the need for tailored support and infrastructure improvements to enhance digital literacy across Myanmar.

In late 2023, conflicts affected 51.7% of participants, disrupting education. Conflict-free areas have better access to digital resources than conflict zones, where access is limited or nonexistent. Engagement in digital education is higher in conflict-free areas, suggesting that conflict disrupts regular learning activities. Family support varies but remains crucial in both conflict and non-conflict zones. Digital literacy is lower in conflict zones, highlighting the need for interventions to improve skills and ensure equitable access to digital education opportunities.

Issues like internet shutdowns, electricity outages, and security concerns due to conflict are major barriers to digital education. Disparities in digital literacy between conflict and non-conflict areas exist, with better proficiency in non-conflict areas. Participants in non-conflict areas engage more consistently in digital education than those in conflict zones, where engagement is sporadic. Despite challenges, digital education is seen as effective, providing flexibility and access to diverse resources. However, concentration and motivation issues persist. Addressing these disparities requires improving infrastructure, digital literacy, and support systems across different regions.

Socio-economic factors significantly affect digital education access in Myanmar. Device affordability and internet access are barriers, especially for lower-income groups. Addressing these challenges is crucial for equitable education access and narrowing socio-economic gaps.

Acronyms

TEL - Technology Enhanced Learning

SDG - Sustainable Development Goals

ICT - Information and Communication Technology

MOE - Ministry of Education

HEIs - Higher Education Institutions

TVET - Technical and Vocational Education and Training

NESP - National Education Strategic Plan

NUG - National Unity Government

CDM - Civil Disobedience Movement

MNOU - Myanmar Nway Oo University

SUM - Spring University Myanmar

IUC - Interim University Councils

ERO - Ethnic Resistance Organizations

ASEAN - Association of Southeast Asian Nations

YTU - Yangon Technological University

GDP - Gross Domestic Product

SGBV - Sexual and Gender-based Violence

E-learning - Electronic Learning

WHO - World Health Organization

UNESCO - United Nations Educational, Scientific and Cultural Organization

GZ - Generation Z

UNICEF - United Nations International Children's Emergency Fund

Telcos - Telecommunication Companies

ILO - International Labor Organization

IDPs - Internally Displaced Persons

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