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The impact of resilience acquisition on students transitioning to university during covid-19: a follow up study with Myanmar students

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Abstract
In our previous study (Gomersall & Floyd, in Asia Pacific Education Review 24:447–459, 2022), we reported that a group of Myanmar students, who studied online for their high school qualifications during COVID-19, reported drawing on a range of factors to enable them to overcome the adversity and continue their education. Moreover, they claimed that they had benefited from the online experience and were ready to progress to university. This study returns one year later to interview some of the original participants to see if their perceptions became reality. In addition, a group of students from the 2020 cohort are also interviewed so that a comparison can be made between the last group of students who studied 'normally' before COVID-19, and those who experienced online learning for the first time. This study addresses a gap in the literature by examining student perspectives of the ways in which they thrived as a result of digitally enhanced learning. We conclude that learning online enabled students to develop personally, enhance their digital skills, and acquire skills and knowledge that could be utilised again in the future. Moreover, those who studied online in both high school and university found the process of commencing online studies at university easier, which supports the tentative conclusion that even in low resource settings, it would be beneficial for schools to explore integrating more digital skills into the classroom.

Keywords Resilience · COVID-19 · eLearning · Transition to university · Digital capabilities · Myanmar

As the world moves on from Covid-19 and the associated restrictions on travel, social life and education, key questions are beginning to be asked about what lessons can be learned moving forward, especially in relation to incorporating digital technologies into daily school life and retaining innovative teaching practices. However, there is a longstanding principle that any key changes to teaching methodologies should be informed by research rather than anecdotal evidence (see, for example, Elbaz, 1981; Groccia & Buskist, 2011; La Velle et al., 2020).

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While there is research work emerging from highly resourced western contexts relating to this topic (see, for example, Baxter et al., 2022) there is a need to explore these issues in under-resourced contexts, such as the Thai-Myanmar border, especially since these areas have been identified as being especially negatively impacted by the lockdown policies and school closures (Blackman, 2022). Emerging research from such settings shows a range of attitudes towards the integration of ICT into standard teaching pedagogies. Whilst some educators recognise the increased flexibility and opportunities that digital learning can bring, others are hesitant over the potential for disruption, lack of infrastructure, and underdeveloped digital capabilities (see, for example, Adarkwah, 2021; Muliyah et al., 2022). Locally, the acute difficulties that online learning can cause families in terms of financial commitments to purchase mobile data, the increased need for parents to supervise young learners before and after work, and the lack of critical infrastructure have all been highlighted as potential barriers to the uptake of online learning (Lowe et al., 2022). Despite this, research shows

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a growing interest from educators in retaining elements of online learning, with potential uses for this in widening access to university (Lwin et al., 2022) or equipping youth with the skills needed for employment in the twenty-first century (Lowe et al., 2022).

This article is a follow-up to our previous qualitative study published in this journal (Gomersall & Floyd, 2022), which explored, through semi-structured interviews, the development of resilience in a group of 12 Myanmar pre-university students during the Covid-19 pandemic and national political instability following the events of 2021. In that study, we defined resilience as including adversity, utilization of resources, and bouncing back (Windle, 2011), and will continue to use that definition in this follow-up study. The main findings of our previous study were that the students who participated demonstrated resilience as they persevered in their education, and this perseverance was driven by both internal factors (specifically community focus, goal orientation, and coping mechanisms), and external factors (impact of notable others, provision of basic needs, and a prior pattern of overcoming). It was noticeable that several of the students who participated articulated benefits of online learning, such as flexibility and greater self-management, which they believed would better prepare them for university. Similar positive findings have also been noted in a study exploring the impact of Covid-19 on education in the United Kingdom (Jewitt et al., 2021), demonstrating how studies from diverse settings can be used to inform educational research and policy.

However, despite our working definition of resilience encompassing both the process of overcoming and the ability to bounce back, due to time constraints, one limitation was that it was outside of the scope of the study to evaluate whether the students' perceptions would be realised. Consequently, we identified the need for more longitudinal research with this target population. Therefore, the aim of this follow-up study is to address this knowledge gap by revisiting some of the students who are now at university and analysing whether their initial positive impressions became actualised. Moreover, we have widened the sample pool of this study by also inviting students who started university in 2020. This group would have graduated from high school in March 2020, just before the pandemic caused schools to be closed in Myanmar, and therefore is the last cohort to have completed their pre-university studies before the consequences of Covid-19 impacted educational delivery.

The research questions addressed in this study are:

RQ1 What challenges did the students face with online studies and how did they overcome these?

RQ2 What opportunities arose as a result of studying online?

RQ3 How were the experiences of those who graduated from high school in 2020 and 2021 different?

Following this introduction, there is a short section focussed on the specific local context of education on the Thai-Myanmar border. Then there is a literature review followed by the methodology section. The subsequent findings are separate from the discussion, so that readers may hear the participants' authentic voice before continuing to our analysis in the discussion section. The article closes with a conclusion that offers implications for future research and practice.

Local context

Despite having a reputation for offering quality education in the past, modern-day education in Myanmar is crumbling due to decades of political instability, chronic underfunding, and outdated curricula and infrastructure (Htut et al., 2022). Similarly, political and economic instability and intermittent civil wars since independence in the 1940s have led to a long-standing crisis whereby many citizens sought shelter, safety, and employment in Thailand (Eberle & Holliday, 2011). Since the 1990s, migrant learning centres (MLCs) along the Thai-Myanmar border have provided informal and unaccredited education to youth who are outside of the formal education systems of either government. In response, coordinating organizations have organised several pathways for students to gain accreditation in order to continue their education (Lwin et al., 2021). Alongside government initiatives such as the Thai Non-Formal Education Pathway, MLCs wanting to gain internationally recognised qualifications for their students have turned to foreign exams which are available internationally. One of the most popular is the American General Education Development (GED) high school equivalency examination, as this is accepted by most international universities in Thailand and elsewhere in South East Asia. Nevertheless, progress to university depends not only on passing the GED but also on obtaining a scholarship in a very competitive process (Johnson & Gilligan, 2021).

In early 2020, COVID-19 began to spread internationally. Both Thai and Myanmar schools take summer holidays in March and April, and so the impact was not felt until the start of the 2020–21 academic year, in May 2020. The lack of infrastructure in Myanmar led to most government schools closing for the entire academic year without any replacement beyond students who were able to study in private courses. Students attending MLCs in Thailand were more fortunate. Although lacking critical infrastructure, for instance 67% of MLCs reported having no Internet connection onsite, with the assistance of government and non-governmental agencies, MLCs delivered home based learning (Sasaki & Tyrosvoutis, 2020).

The participants in this study prepared for the GED in three different programmes, two of which are on the Thai

side of the border, and the third, which was founded by the first author of this study, is in Myanmar, having relocated in 2018. When restrictions due to COVID-19 began to be imposed in 2020, 11 of the participants were at the stage of sitting their final GED examinations. Some were able to complete these before lockdowns forced exam centres to close, and others were forced to postpone their test dates. Those who finished their exams were able to progress to university in 2020 and this was delivered online or in a hybrid approach, whereby Thai nationals already in the country were able to study on site, and international students joined online (Ulla & Espique, 2022). Those who were studying for their GED in the 2020–21 academic year were forced to study online and then entered university at a point when all classes continued to be delivered online.

Moving on from Covid, there is an acknowledgement that one effect of the move to online education is that potential employers have higher expectations of potential employees' digital skills and consequent ongoing needs for training and infrastructure for MLCs (Lowe et al., 2022). Furthermore, Thai universities have begun experimenting with the use of hybrid classes, for example replacing large lectures with online content (Triyason et al., 2020), which again demonstrates the need for students graduating from MLCs to have a greater range of digital capabilities. In addition, given the lack of insufficient number of scholarships for tertiary education, access to online university courses has been offered as one possible solution (Lwin et al., 2022). The findings of this study have the potential to strengthen these efforts and similar initiatives by exploring students' perceptions of online learning during COVID-19.

Literature review

Defining resilience

As with our previous study, we are utilising the definition of resilience which Windle (2011) developed following a systematic review of interdisciplinary research, which highlights three central components: adversity, utilization of resources, and adaptation. Windle wrote:

> Resilience is the process of effectively negotiating, adapting to, or managing significant sources of stress or trauma. Assets and resources within the individual, their life and environment facilitate this capacity for adaptation and 'bouncing back' in the face of adversity. Across the life course, the experience of resilience will vary. (p.163)

To avoid repetition, this review will focus on the outcome of resilience, which Windle refers to as 'bouncing back'. For a fuller treatment of the first two aspects—adversity and utilization of resources—readers are directed to our previous paper (Windle, 2011). Lindberg and Swearingen (2020) note that the process of bouncing back implies thriving and thereby refers to novel advantageous developments, rather than mere coping and return to pre-adversity conditions. Similarly, Magis (2010, p.401) notes that can enable "community members to thrive in an environment characterized by change, uncertainty, unpredictability, and surprise".

It is noticeable that many studies into resilience focus on the process of adapting to adversity, but these often fail to discuss the positive outcomes (Brewer et al., 2019), which is the focus of the third part of our definition. For example, in a review of literature into resilience Condly (2006) focuses on the factors impacting upon resilience such as the self, family, and community and discusses these in relation to fostering greater resilience. Similarly, Meredith et al. (2011) discuss the positive processes involved in overcoming adversity such as behavioural control, positive thinking, and encouragement from family, without analysing the extent that the participants thrive. Our previous study (Gomersall & Floyd, 2022) whilst concurring with these findings, also highlighted the importance of goal orientation, significant individuals, and the community. Where research has explored the outcome of acquiring resilience, it has focussed on the benefits for academic success and mental health (see, for example, Ahmed & Julius, 2015; Archana & Singh, 2014; Baxter, 2012; Yokus, 2015).

Positive adaptations

One of the documented positive outcomes of students deploying resilience is encouraging participation and reducing attrition rates (Schwarze & Wosnitza, 2018). For instance, research in Kenya demonstrated that free education alone was insufficient to prevent school dropouts, when poverty affected every ecological level of the child. Instead, dropout rate was reduced when students had a positive home environment and benefited from school and community level interventions (Abuya et al., 2013). Focusing specifically on transition to university, Munro and Pooley (2009) reported that the acquisition of resilience accounted for almost a third of the variance displayed in the adjustment of students to university life. Likewise, van Breda (2018) also reported the positive impact that resilience acquisition has on both life satisfaction and academic achievement of young adults starting university. Correspondingly, in the UK Baxter (2012) identified educational support at the institutional level as being significant in reducing the dropout rate of students studying at an online university. A second positive outcome that resilience studies have highlighted is an improvement in the mental health of students (see, for example, Cilliers & Flotman, 2016; Eley et al., 2016). Moreover, the presence of resilience in university students has been shown to correlate

to career adaptability (Buyukgoze-Kavas, 2016), and thus Slavin et al. (2014) argue for the need to incorporate opportunities for resilience acquisition into the curriculum.

Turning to recent research conducted during the COVID-19 pandemic, Godara et al. (2022) propose the novel situation of a whole population being simultaneously impacted by wave after wave of adversity as COVID-19 spread and lockdowns ensued necessitates resilience being looked at in a new way, and they propose the Wither or Thrive model. They argue that there is a cumulative impact upon individuals, as repeated occurrences of stressors lead to a decrease in their capacity to be resilient as they become fatigued. However, given that a precursor for this is the presence of multiple waves of adversity, studies utilising such an approach need to be longitudinal. This fits with our current pair of studies, as we follow half of the participants from our previous paper and re-interview them one year on, after starting university. This approach has been similarly used by Xu and Yang (2023) in China, who studied the impact of COVID-19 on college students. They found a correlation between adopting positive coping mechanisms and a reduction in negative effects.

Throughout COVID-19, the presence of resilience has enabled educators and students to not only survive, but also thrive through collaborating and the innovative use of technology (Waller et al., 2020). Studies have found that the transition to online learning led to a number of positive adaptations such as better communication with parents and local stakeholders (Baxter et al., 2022); increased flexibility such as the ability to record and rewatch lessons at a later time (Manea et al., 2021) and additional free time (Tian, 2021); and personal developments such as improved self-efficacy and employability in learners (Deroncele-Acosta et al., 2023). Comparing to our previous study (Gomersall & Floyd, 2022), participants similarly mentioned increased flexibility, the ability to record and rewatch lessons, and improved self-efficacy, and therefore this follow-up study will explore whether these perceptions remained after progressing to university. However, it should also be noted that an organizations' ability to adapt is impacted by its preparation and anticipation of challenges (Bozkurt, 2022) and its ability to effectively communicate (Bartusevičienė et al., 2021). Accordingly, whilst the data from this study will offer general insights into how the sample of students transitioned to university, it is also expected that there will be considerable variation as each of their institutions responded in different ways.

Finally, whilst many studies into emergency remote teaching practices during COVID-19 have been conducted in developed settings, a growing number have been conducted in lower economic countries. These countries have less infrastructure and so both a lack of access to technological devices and the Internet and a lack of digital competency have been reported as a hinderance to online learning (see, for example, Fitriani & Fatimah 2022; Sahib, 2022). For example, in a comparative study drawing participants from Australia and four Asian nations Eri et al. (2021) identified Internet connectivity as an issue in the four Asian nations, but not Australia, and specifically the cost of accessing the Internet and necessary devices was raised as an issue in Cambodia. Whilst the impact of digital poverty is not limited to developing nations (Crick et al., 2021), endemic poverty and political instability will accentuate the repercussions experienced by the participants in our study on the Thai-Myanmar border. However, the inclusion of similar countries of a similar socio-economic level in Eri et al. (2021) demonstrates that it is still possible for participants in such nations to benefit from online education. In particular, Eri et al. reported participants displayed an increased competency in accessing online resources such as databases and improved digital skills enabling more efficient online communication whilst working collaboratively on projects.

Referring back to our definition of resilience, all the participants of this study are currently enrolled in university courses, with one group having graduated from their GED courses in the spring of 2020 and the second in the spring of 2021. Therefore, their progression to university implies that they successfully overcame the adversity arising due to COVID-19 and the pandemic. However, this article is especially focussed on how online education may have led to instances of positive adaptation, which are exemplified by preceding the literature review. To assess how the students are doing, the interview schedule will incorporate specific questions linked to the potential benefits of studying online during COVID-19, as well as the drawbacks and challenges that they faced and will invite the participants to articulate how they navigated the difficulties faced both in their pre-university and university courses. Crucially, the questions will be open ended and allow the students' freedom to choose the aspects which they felt were important, rather than imposing specific notions based on studies from vastly different contexts. Therefore, the aim will be to both extend our general understanding of how resilience can lead to positive adaptations and specifically highlight the challenges and opportunities for students in the less developed setting of the Thai-Myanmar borderline.

Methodology

As the goal of this study was to understand the challenges and opportunities which the participants experienced as a result of studying online during COVID-19, a relative ontological approach was adopted and informed by social constructivism. Whilst the exploratory nature of the study does not lead to generalisable findings, such studies can offer

rich insights into comparable situations (Scotland, 2012). In order to build credibility, care is taken throughout this article to document both the process and justification for decisions made. This should enable other researchers and practitioners to make an informed judgement regarding the extent to which the findings are transferable to their own unique settings (Nowell et al., 2017).

The study adopted a case study approach and utilised the insider position of the first author to identify suitable participants and invite them to take part. It is felt that the potential drawbacks of this approach, in particular the possibility of introducing bias into the findings and analysis, are outweighed by the advantage of being able to access a wide network of potential participants. Moreover, research has shown the benefits of utilising insider knowledge to inform the design of data collection instruments and analysis of data (see, for example, Norum, 2000; Webb, 1992; Worland, 2017).

Sample

In addition to running a university preparation programme in Myanmar, the first author acts as a consultant for several similar programmes in Thailand. This work naturally brings the author into contact with a large number of students as they apply to university. In total, 25 university students were invited to participate, and 20 accepted the invitation. Of these, 11 completed their GED studies in the spring of 2020, and the remaining 9 passed their GED examinations in 2021. Given the spread of COVID-19 accelerated from March 2020, those who passed their exams in 2020 either predominantly or exclusively had a 'normal' GED experience, learning face-to-face in the classroom and then started their university online due to national travel restrictions. Those who passed in 2021 spent the majority of their final year studying GED online and then continued to study online when commencing their university studies. The students studied for the GED in three different centres and are currently studying in five different international universities; 15 are studying in Thailand and the remaining 5 in Bangladesh. A summary of their details is included in Table 1: Participants, however due to the ongoing political situation in Myanmar, a decision has been made not to reveal any further identifying details.

A purposive sampling approach (Cohen et al., 2017) was used to identify potential participants with the qualifying criteria being having completed their GED studies in either 2020 or 2021 and being currently enrolled in university. All the participants explained they had gone directly from GED to university with the exception of XIX Naw Win, who had taken a gap year due to difficulties in making a passport during the Covid pandemic.

Table 1 Participants

No	Pseudonym	GED Cohort	Year of University	Gender
I	Khin Aye	2020	3	Female
II	Saw Wah	2020	3	Male
III	Ma Khin	2020	3	Female
IV	Naw Dah	2020	3	Female
V	Saw Thu	2020	3	Male
VI	Naw Su	2020	3	Female
VII	Daw Phin	2020	3	Female
VIII	Saw Htwe	2020	3	Male
IX	Naw Hla	2020	3	Female
X	Ko Gyi	2020	3	Male
XI	Maung Kyaw	2020	3	Male
XII	Saw Chit	2021	2	Male
XIII	Kyaw Kyaw	2021	2	Male
XIV	Kyaw Tun	2021	2	Male
XV	Maung Soe	2021	2	Male
XVI	Poe Pit	2021	2	Male
XVII	Maung Maung	2021	2	Male
XVIII	Thar Htoo	2021	2	Male
XIX	Naw Win	2021	1	Female
XX	Kwe Lo	2021	2	Male

Ethical approval

The research was approved by the Ethics Committee at the University of Reading's Institute of Education. All participants were over the age of 18 and given an information sheet about the aim and scope of the study. All the participants gave informed consent, specifically authorising the recording, storage, and usage of quotes in publications. The raw data recordings were stored on a local computer until transcription. At that stage, all identifying markers were removed and the transcripts anonymised. As there will be no further follow ups, no key was kept, and the consent sheets have been stored on a separate device. Given the nature of the pandemic and coup, local community members were identified in case any participant wished to further explore the recollections and memories they shared. However, none of the participants required this. As the students were also at an early stage of their university studies, there was the potential benefit of exposing them to the research process which they will later be undertaking for themselves.

In addition, two non-standard issues were considered. First, varying online platforms were considered for hosting the interviews. With the potential for sensitive details to be raised, the priority was for a secure application. Hence, participants were offered the choice of conducting the interviews on either Microsoft Teams or Signal, which is an application offering end-to-end encryption as a default

setting. Second, the insider position of the first author was addressed. As with Worland (2017), this afforded unique access to a pool of potential participants and additional insights gleaned from working in situ for over a decade. However, as Floyd and Arthur (2012) articulate, care was needed to avoid undermining the authentic narrative of the participants lived experiences. This is reflected in our decision to separate the findings from the discussion, so that the thick data elicited from the interviews may be appreciated before our analysis influences the reader.

Data collection

The interview protocol was co-constructed based on both our previous study (Gomersall & Floyd, 2022) and the literature review. As the research questions address each of the three stages of resilience, namely adversity, overcoming, and thriving, questions were asked to guide the participants' reflections in relation to these areas. For example, they were asked about the challenges faced during COVID-19, how they felt, how they solved the problems, and whether they perceived any long-lasting benefits of deficiencies in their experiences. Similar questions were asked about their high school experiences and, given the literature's focus on self, family, and community, specific questions were devised to explore who and what enabled them to overcome the obstacles faced.

Potential participants were identified by the first author and contacted by email. For those who expressed interest, a follow-up email was sent including the Information Sheet and Consent Sheet. A mutually convenient time was agreed, and the interviews conducted online on either Microsoft Teams or Signal, dependent upon the participant's choice. The interviews lasted between 27 and 44 min, with an average duration of 34 min 38 s. The raw data recordings were securely stored in a password protected folder on a local computer which only the first author has access to. These were transcribed at the earliest opportunity, with verbal fillers and repetitions removed to enable a smoother analysis of the content. Once transcription was complete, the original recordings were deleted.

Data analysis

The 20 interviews were divided into two data sets for the purpose of analysis. Data Set A contained the transcripts of those who graduated from GED in 2020, and Data Set B contained the transcripts from those who graduated in 2021. Each of the interviews was initially coded, and then the codes were grouped into categories under five broad themes: adversity, overcoming, thriving, face-to-face classes, and online classes. The codes from each interview were then merged into an analysis for each data set, along the lines of the process outlined by Lichtman (2010). Where similar codes for the same idea existed, they were merged, but any codes for new ideas were retained. An example of this is shown in Table 2 below, which shows the code groupings and occurrences for Data Set A, Theme 3: Thriving. Each filled square represents the occurrence of the code in an interview.

For Data Set A, 71% of the codes and 92% of the categories were identified in the first six interviews. For Data Set B, the first five interviews revealed 81% of the codes and 100% of the categories. New codes continued to be added in every interview in both data sets, and this is a reflection of the variety of life experiences the participants had experienced. It is also a result of our decision to keep codes as close to the participants' own words as possible, which is based on our desire to emphasise their authentic voices. The drawback in this choice is that new codes continued to be needed. Whilst there were many issues that nearly all the participants discussed, such as travel restrictions, depression, and acquiring new ICT skills, there were other aspects that were more unique to the participants such as early life experiences of fleeing from natural disasters and war, and varying goals for the future. The distribution of codes and categories across the interviews for Data Set A are recorded in Table 3 and in Table 4 for Data Set B.

In assessing the adequacy of the data, one factor to consider is thematic saturation (Namey et al., 2016). Existing research by Guest et al. (2006) found that in a sample of 40 interviews, only six were required to reveal the metathemes, and 12 for the themes. Similarly, Hagaman and Wutich (2017) found that less than 16 were required for reaching thematic saturation. Key to both of these studies was the homogeneity of the target populations. In our present study, although the participants had different life experiences and studied in three different GED preparation centres, there is more that unites than distinguishes them. All of the participants studied in education system outside national government accreditation. All of them travelled to, and studied in, the Thai-Myanmar border area for a period of their studies. All of them studied online during COVID-19. And finally, all of them were successful in gaining scholarships to study at international universities. Therefore, due to the homogeneity of the sample, 95.7% of the categories coming from nine of the interviews, and 35% of the interviews revealing no new categories, we are satisfied that the data collected is a sufficient representation of the target population's experience of online learning during COVID-19.

Findings

This section focuses specifically on providing thick data that links to the three research questions outlined above. Question 1 addresses the two initial aspects of resilience,

Table 2 Codes for thriving in data set A (2020 Cohort)

Code	Category	Theme
Became independent	New personal skills	Thriving
Become stronger		
Become more confident		
Managing time		
Improved English	New language skills	
Google translate		
New computer skills	New ICT skills	
Video editing		
Submitting assignments online		
Live presentations		
Recording and uploads		
Able to research online		
Learnt new software		
Online discussion/break outs		
Online data collection		
Watched recorded lessons again	Other academic advantages	
Passed courses / progress		
No other way to continue		
More independent learning		
Sought answers in library		
Learnt value of diff. online sources		
Attend several things same day		
Close to family	Other personal advantages	
Time to plan for career		
Made friends outside major		
Used online platforms for gen conversations		
Confidence in social platforms		
Become qualified	View of self	
Become adult		
Learnt digital skills	For future career	
Familiar with online meetings		
Meet easily online		
Prepared for future events		
Ability to work from home		

namely adversity and overcoming, whilst questions 2 and 3 consider how the students thrived. Whilst these questions focus specifically on the students' experience of studying online, the interviews revealed a pattern of resilience which had been built up through overcoming various challenges. In total, 55% of the participants had spent time in refugee camps, 65% had siblings who had dropped out of school, and 100% had been forced to migrate to Thailand to continue their education. The strategies deployed to overcome adversity during online studies largely reflected those used throughout their lives.

RQ1 What challenges did the students face with online studies and how did they overcome these?

The major challenges of online study can be categorised as linking to infrastructure, knowledge, and people. Of the 20 participants, 15 were based in Myanmar for a significant portion of their online studies. In addition to the disruption of COVID-19, they also faced a national political challenge which added to the logistical difficulties in accessing online education.

Table 3 Codes and categories in data set A

Number	New code	New code %	Cum. code %	New categories	New categories %	Cum. categories %
I	71	19.51	19.51	29	60.42	60.42
II	58	15.93	35.44	6	12.50	72.92
III	40	10.99	46.43	4	8.33	81.25
IV	26	7.14	53.57	1	2.08	83.33
V	45	12.36	65.93	3	6.25	89.58
VI	18	4.95	70.88	1	2.08	91.67
VII	13	3.57	74.45	0	0.00	91.67
VIII	40	10.99	85.44	3	6.25	97.92
IX	28	7.69	93.13	1	2.08	100.00
X	15	4.12	97.25	0	0.00	100.00
XI	10	2.75	100.00	0	0.00	100.00
Total	364			48		

Table 4 Codes and categories in data set B

Number	New code	New code %	Cum. code %	New categories	New categories %	Cum categories %
XII	87	25.89	25.89	31	70.45	70.45
XIII	57	16.96	42.86	7	15.91	86.36
XIV	41	12.20	55.06	2	4.55	90.91
XV	49	14.58	69.64	3	6.82	97.73
XVI	39	11.61	81.25	1	2.27	100.00
XVII	28	8.33	89.58	0	0.00	100.00
XVIII	13	3.87	93.45	0	0.00	100.00
XIX	10	2.98	96.43	0	0.00	100.00
XX	12	3.57	100.00	0	0.00	100.00
	336			44		

> In Myanmar, the connection is bad, and also we have to give a lot of money to get Internet in Myanmar. Sometimes, if the connection is very bad, we will miss the assignment that teacher give us. [Maung Maung, 2021]

Whilst some instructors were understanding of the situation, and offered support, others had a negative impact on the students.

> For the math teacher, he didn't help at all. The first time, I sent him email and asked him to explain me more in detail about the class, and it took me a week for him to reply to me. What he explained was like, nothing I could understand at all. [Saw Wah, 2020]

This was sometimes compounded by a lack of familiarity with the software and applications being used:

> At the time, I don't know how to use Google Classroom much, and sometimes I submit it one minute late, and the teacher call me directly and scold me a bit. He said how will you come to university when you don't even know how to submit your assignment? [Saw Wah, 2020]

There were a variety of strategies deployed to overcome the various forms of adversity. Some factors, such as a community focus, focus on reaching goals, and encouragement from significant others such as friends, family, or former teachers were universal and were explored more thoroughly in our previous paper. Other approaches tended to follow a pattern based on the university the students were enrolled into. In one institute, the students struggled to make friends online and so often referred back to the friends they had already made during their university studies. But in another university, there seemed to be a deliberate plan to use group work and discussions in break out rooms to help students make new friendships, despite studying in different countries:

> The teaching method was completely online. We had to go online, open Microsoft Teams. We went online

> and the teacher would give us a lecture as normal, and after the lecture, he would give us about 30 minutes to do a discussion online. [Saw Htwe, 2020]

Some university lecturers were also more helpful than others, allowing students to communicate through social media and offering appointments to discuss areas of difficulty with both university education in general, and aspects specific to the courses:

> For my university, our main communication platform is LINE [Thai social media messaging application]. So for most of the teachers, we can just text them through LINE and they will respond. And one of the coordinators for our major, we can text to her all the time, regarding any problem. She is like some kind of assistant for some of the lecturers. So I can text her anything when I have any problem. So it is ok. [Naw Hla, 2020]

A range of positive and negative responses was also clear in lecturers' approaches to offering recordings of online sessions. For those who were living in remote areas of Thailand, or in Myanmar during the 2021 political difficulties, access to such recordings was seen as an important factor in mitigating against their unreliable Internet connection. The majority of participants reported that their lecturers automatically recorded and uploaded links, which they watched again repeatedly, either in part or whole depending on the difficulty of the lesson. However, others only gave permission for the students to record by themselves, which necessitated having a stable connection and did little to alleviate the difficulties faced with infrastructure. Moreover, one reported:

> When I was attending the class, some teachers were recording, but others were not. If teachers recording, they upload in the Google classroom. Some teachers record but they did not upload in the Google classroom. But if you want to watch again for the video recording, you need to ask from them and they will send directly. … Sometimes I was afraid to ask for the Ajarn [Thai word for professor]. And sometimes the lecture I don't know and they don't upload, so I look at the pdf file, and I chat in the Google Classroom. [Saw Thu, 2020]

In this case, the lecturer's reluctance to upload, combined with the student's lack of confidence to email and request the link, acted as a barrier to the student learning. However, that the same student reports a difference between lecturers shows that this was a personal choice of the individual lecturer rather than a university wide policy.

RQ2 What opportunities arose as a result of studying online?

Despite the challenges and disruption, only one of the twenty participants said they found no benefits in studying online. In general, the opportunities can be separated into groups linked to personal skills, ICT skills, preparedness for studying, and preparedness for future work.

In terms of how learning online affected the students on a personal level, several of the students highlighted aspects such as being nearer to their family during the pandemic and the comfort of being able to study at home. There was also an increased amount of freedom which 14 of the participants specifically linked to them becoming more independent. For example, "I feel like I am more like resilient with the situation. … I think I can manage myself, like my time, well." [Naw Win, 2021].

Alongside these opportunities to develop personally, there was more free time and flexibility, which was used in a variety of ways including learning additional subjects, planning for future careers, and volunteering online:

> I got more opportunities such as teaching students online. I have teach [sic] them through Moodle. I had to write questions for them. So it helped me, and also I teach them grammar. For grammar, even foreigner, they don't want to teach grammar because it is very hard to explain online. [Kyaw Kyaw, 2021]

With regard to ICT skills, there was a significant variation in the level of skills which students brought to their GED studies. Some, such as Maung Soe, had only had to submit one online assignment per year prior to entering GED studies, and five students specifically mentioned needing to learn how to type during their GED courses. One student, Maung Kyaw, even learnt to email during the GED studies. On the other hand, there were students such as Saw Thu and Kyaw Kyaw who had attended special Computer Skills courses in refugee camps, and thus felt they already had rudimentary skills for using Microsoft Office. However, universally, all the participants commented on developing their ICT skills when studying online university courses and named a range of platforms with which they became familiar such as Microsoft Teams, Zoom, and Google Classroom. For instance:

> I think I have got one thing, like technical skills, or technology skills. In the past I didn't know how to use Google Meet, Google Classroom, Microsoft Teams. However, because of Covid, I was introduced to those things, those online learning. And PowerPoints, and Carva for making presentations. [Maung Soe, 2021]

In some cases, these skills were specifically taught by senior students:

> A senior make a workshop one time and I joined that, he explained about Google Slides and Google Docs. And it was really helpful. When we study with group work, we use that platform for slides and the report, we share together and we can edit our part. So in GED I learned the skills how to use Google Docs and Google Slides, so it was easy for me when doing group work assignments in university. [Poe Pit, 2021]

However, the academic skills weren't limited to just improved software skills. Some students had to record their practical experiments and find ways to share and present to their peers and teachers.

> For the practicals, the teacher first create the sheet to explain how to do, step by step. … Then we share it. … I have to make recording, like short video clips, and finally I took some pictures and made a small presentation and presented it to my friends and my teacher and the teacher evaluate it. [Saw Wah, 2020]
>
> We can do self study, we can research online. Online is actually better to do research. If you want to know something, you just research online and you can know everything. Also you can do self study, and practice tests, and read other books. [Poe Pit, 2021]

Furthermore, it was evident that the participants felt the news skills they had acquired would have a long-term impact, in both preparing them for future online studies, and new ways of working.

> [I've learnt] skills when it comes to these kinds of platforms and using computers. And it can be useful in the future too because who knows? This kind of thing might happen again in the future, and then when it comes, people might not be surprised anymore, because they adapt to the situation already when it comes to teaching and learning and doing things online. [Naw Hla, 2020]
>
> It will be really useful for me. When I go to make a list or collect information, I can meet people far away, so it will be more useful and good for me. [Thar Htoo, 2021]
>
> When we start to work, some of our colleagues might be in other places, and might be busy when we call a meeting. So if that is the case, we can organise a hybrid meeting with some attending online and others coming on site. That is the skill that we can use later. In refugee camp, we never do like that. [Kwe Lo, 2021]

RQ3 How were the experiences of those who graduated from high school in 2020 and 2021 different?

Having seen that students across both cohorts thrived in online learning in a multitude of ways, RQ3 seeks to explore any differences between those that first studied online at university, and those who spent their final year of GED studies online. Whilst both cohorts had similar experiences, those who graduated in 2021 often felt that they were better prepared for learning online and in particular, more ready to take the GED examination, which is a computerised test. There were nine students in the 2021 cohort, from three different GED centres, who had studied online with a variety of applications such as Zoom, Moodle, Schoology, and Google Classroom. Despite this variance, a general sentiment is illustrated here:

> [GED on Moodle] is quite similar to Google Classroom or Microsoft Teams, in terms of its functions. We submit our assignment, and we know how to find the resources that the teacher has posted for us, so it helped us a lot to study online at university. [Maung Soe, 2021]
>
> I think doing [practise tests] in the computer is better. … Because in the computer it is more reality the real exam. In GED we have to use the computer to take the exam So if we use the computer regularly, it will be more easy for us in the real exam. [Maung Maung, 2021]

However, there was a trend that students who graduated in 2020, having had a traditional GED experience, felt better prepared to communicate in English and less ready to study online, whereas those who graduated in 2021 felt confident using online applications, but less ready to study in English, and in particular 7 of the 9 participants mentioned a weakness in speaking or verbal communication skills:

> Before you go to university, you want to study with online system. We need to prepare with the Internet, and know how to find information with Google. So the lectures that the Ajarn [professor] give in Thai, it will be easier to understand. [Saw Thu, 2020]
>
> Well, at the end of GED, because during Covid we jump from face to face to online, so I am very well aware that if I come to university, I will also have to study online, so I am not strange to online study because I already learned it in GED. So that is my strength. And one of the weakness is that during Covid, I haven't really go out much. So when I come here, I think I am not good at communicating with people. [Saw Chit, 2021]

Discussion

At the outset, we choose to continue using Windle's (2011) definition of resilience which emphasises three aspects: the adversity, overcoming, and thriving. Our first research

question centred on the first two of these aspects and our findings broadly concur with our previous study. Despite COVID-19 differing from other forms of adversity in that it afflicted the whole nation simultaneously (Godara et al., 2022), our participants were able to utilise patterns of resiliency previously acquired in order to positively adapt to the new situation. As both Abuya et al. (2013) and our previous study (Gomersall & Floyd, 2022) demonstrate, Bronfenbrenner's (1979) ecological model offers a suitable model for analysing the factors which students utilise in overcoming, with mechanisms at the individual, family, school, community, and national level all reflected in the data. To avoid repeating the findings of our previous study, we will only explore two new areas here: the role of teachers and the role of educational institutions.

It has already been explored how significant individuals such as teachers or community leaders can have a positive impact on the development of resilience, through encouragement and practical interventions (see, for example, Abuya et al., 2013; Condly, 2006; Gomersall & Floyd, 2022). However, this study also revealed the opposite to be true. A sizeable minority of the students commented on their perception that their lecturers were 'careless' or more concerned about those onsite than those studying online where education was being delivered in a hybrid form. There was also a variety of approaches taken to providing recordings of online lectures, demonstrating that like in the UK (Baxter et al., 2022), some educational institutes lacked a coordinated strategy to digital learning at the onset of COVID-19. Moreover, there was a sense of isolation with 85% of the participants commenting it was hard to make friends, and 50% saying they only communicated with other students about classwork as they didn't know each other well. With some universities continuing to use a hybrid format this highlights the need for lecturers to consider how to equally include all students and promote relationship building as well as the technological and financial implications which have already been detailed (Triyason et al., 2020).

Nevertheless, good practice was articulated by five participants in our study who reflected on the use of discussions at the beginning or end of lectures, and the use of break out rooms on Microsoft Teams. In particular, it was felt that these opportunities led to greater critical reflection and enhanced the opportunities to make friends amongst their peers. In three cases, the participants explained that the group work led to them making connections on social media with their peers, as they had gotten to know them more through working together online. Other examples of good practice reported by the participants in this study, which may be more widely applicable, included elements such as instructors setting clear expectations and boundaries in terms of communication; use of peers for formative feedback; and modified assignments which allow students to demonstrate their range of digital capabilities. Given that these aspects were described by students studying in a wide variety of universities, it may be more appropriate for educational managers to look within their own institutions for examples of good practice that can be shared through a communities of practise approach to professional development.

Turning to the second research question, which is the main motivation for conducting this study, it is clear that students adapted and grew in a variety of ways. The most evident was in their development of digital capabilities. For some, learning online was a steep learning curve as they had previously had limited access to technology. But regardless, every participant described new digital capacities acquired from their online studies. Universally noted was an improved capacity to use new software and a growing comfort organising and engaging in online meetings. Additionally, 25% of the students had learnt how to edit video presentations and upload and 75% of the students had developed online research skills which they continued to utilise even after returning to onsite classes. Seven of the students also articulated how online learning had enabled the teacher to flip the class, with initial readings and videos set in advance, with more time in class devoted to discussions and questions.

In addition, students articulated a number of other opportunities such as for personal growth, academic development, and flexibility in use of time. Whilst acknowledging that our sample is biased by only including those who successfully overcome the challenges of studying online, the increase of self-efficacy and independence both mirror and complement the findings of Deroncele-Acosta et al. (2023), with our study adding a student perspective to their study which focused on gathering the insights of teachers. In particular, our findings above detailing how the students feel their new digital skills will be helpful in the workplace offer encouragement to those seeking to integrate greater use of ICT into the curriculum, as there is a buy-in effect, with the students showing that they appreciate the challenges they face now in learning new skills will be of use in the future.

Finally, the third research question explored the differences in the experiences of those who graduated before COVID-19, and those who studied online during their GED studies as well as university. It is noteworthy that specific to this context, students are expected to sit for computerised exams when studying for the GED, TOEFL, or IELTS qualifications, and yet some have very limited digital exposure. This is highlighted by the five students who learnt to type during their GED studies and the one who learnt how to email. The findings related to greater comfort taking online exams following online learning suggest there is a benefit to integrating a digital strategy from at least the high school level—possibly even earlier but that is beyond the scope of this study. Moreover, this would also help prepare students for university or work, where there are increasing digital

capability expectations (Lowe et al., 2022; Triyason et al., 2020). One of the themes that Eri et al. (2021) identified across countries was a need for greater digital training to prepare students for online studies. This contrasts with our 2021 cohort who generally found the transition easier, stating that the programmes used at university were similar to those used in the GED and hence they were already accustomed to studying online. However, one of the drawbacks articulated was that studying exclusively online left students weaker in communication skills, especially the confidence to speak with peers and instructors. This contrasts with the 2020 cohort who initially struggled with online learning, and even registering for an account on programmes such as Microsoft Teams, but did feel competent to speak in class. Therefore, leads to questions over whether a blended learning approach would meld the best of both onsite and online learning.

Conclusion

In summary, this study has explored how the resilience acquired during studying online during COVID-19 has enabled the students to positively adapt and thrive. Whilst there is some variation in the specifics, overall the students have demonstrated increased self-efficacy, marked by more mature outlooks and deployment of positive coping strategies; improved digital skills including ability to use online platforms for meetings and research; and better preparedness for future careers including confidence to communicate online.

One limitation is the size and scope of this study. All 20 of the participants had similar life experiences, being outside of accredited education prior to attending university. Therefore, it must be acknowledged that a wider study, with participants with a more diverse range of experiences, may reveal different results. Moreover, the purposive sampling criteria adopted excluded those who didn't thrive, and educators would need to understand more about the potential correlation between increased online learning and a failure to succeed academically. However, this is negated by the reality that both employers and universities are expecting more developed digital capabilities, and thus it incumbent upon educators to prepare their students adequately for the challenges which they will face. A further limitation was the decision to focus solely on the use of resilience as a coping mechanism. A larger study, exploring other mechanisms such as the positive use of exercise or the negative behaviour of substance abuse would offer a more comprehensive understanding of how students positively adapted to university transition following online learning during the pandemic. However, this lies beyond the scope of this paper and suggests a thematic review of research may be needed to gain a fuller understanding.

There is debate over whether the recent interventions should be described as emergency responses or digital learning (Hodges et al., 2020). This debate arises due to the unplanned nature of digital interventions, and the question over the permanency of such interventions. In this study, we have found that students who studied online during high school found it easier to adapt to online learning at university and advocated for more digital skills being included in the curriculum. Therefore, we assert that this can form part of an evidence-based approach to assessing how education in low-resource settings can evolve in a world that is returning to 'normal'.

However, this improvement in some cases came at the expense of effective communication skills, which highlights the trade-off in an approach that is either fully online or onsite. This suggests that blended approaches may retain the benefits of both face-to-face interaction and digital learning. In order to investigate this further, one potential avenue of research would be the design and piloting of small-scale blended learning modules that could be embedded into the normal learning of students along the Thai-Myanmar border. However, any such research should consider the challenge of accessing reliable Internet, and the lack of widespread laptop ownership. Given the advantages outlined above, it is suggested that there would be value for students if educators planned to incorporate the aspects of online study that were most beneficial into a more permanent pedagogical approach, which would require a clear strategy for digital integration (Baxter et al., 2022). Future research would benefit from understanding the integration of ICT from a wider range of stakeholders including teachers, education managers, and prospective employers.

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Declarations

Conflict of interest All authors declare that they have no conflicts of interest.

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