

Resilience and Rethinking Education: New Zealand, Japan and the COVID-19 Pandemic

Julian CHAPPLE*

レジリエンスと教育再考 ——ニュージーランド、日本との COVID-19 パンデミック——

チャプル・ジュリアン*

The COVID-19 pandemic has exposed and highlighted many of the complex issues afflicting today's world and impacted health and education systems globally. As a result, there has been increased interest and debate into whether the pandemic represents a 'crisis or catalyst' event for educational change (Reimers & Schleicher, 2020). Nations now seemingly have a chance to reassess the purpose and method of education in a rapidly evolving world with unprecedented challenges requiring radical innovation, a rethinking of some of the fundamental elements of how we teach and the formation of a new educational purpose. This chapter aims to use two country-specific examples to examine the understanding of resilience pertaining to education systems and what impact it had in the early stages of the pandemic. Through an analysis of the literature, it explores what changes could be enacted to create a more effective model to ensure a better educational experience for every child, in turn leading to greater overall societal benefits. By looking at the meaning and application of the concept of resilience as it applies to education systems, the aim is to ascertain how the experience of the pandemic could instigate systemic educational change, what such change could look like, and how important it is for the future of schools and the next generation of learners.

COVID-19 のパンデミックは、今日の世界を苦しめている複雑な問題の多くを露呈させ、浮き彫りにし、世界の保健・教育制度に影響を与えた。その結果、パンデミックが教育改革にとって「危機的な出来事」なのか「触媒的な出来事」なのかについて、関心と議論が高まっている(Reimers & Schleicher, 2020)。各国は今、急進的なイノベーションを必要とする前例のない課題を抱えながら急速に進化する世界において、教育の目的と方法を見直し、教育方法の基本的な要素を再考し、新たな教育目的を形成するチャンスを迎えているように思われる。本章では、2つの国に特化した例を用いて、教育制度に関わるレジリエンスの理解と、それがパンデミックの初期段階にどのような影響を与えたかを検証することを目的とする。文献の分析を通じて、すべての子どもによりよい教育体験を保障し、ひいては社会全体の利益を拡大するために、より効果的なモデルを構築するためにどのような変更が可能かを探る。教育システムに適用されるレジリエンスという概念の意味と適用を検討することで、パンデミックの経験がどのように体系的な教育改革を促しうるか、そのような改革はどのようなものでありうるか、そしてそれが学校と次世代の学習者の将来にとってどれほど重要であるかを確認することが目的である。

* 龍谷大学国際学部教授

Introduction

The COVID-19 pandemic has exposed and highlighted many of the complex issues afflicting today's world — an economic system focused on short-term gain, global interdependencies that underpin vulnerable economies, and fault lines in societal structures that perpetuate ethnic, economic, social, and gender inequalities. While the public health crisis has afflicted over 500 million people and resulted in almost 7 million deaths (WHO Coronavirus (COVID-19) Dashboard, n.d.), it also created an educational crisis by causing one of the greatest interruptions to education around the world since Second World War (Azevedo et al., 2020). Most governments were forced to shut schools to slow viral transmission with UNESCO estimating at least 60% of the world's student population has been affected, with 1.19 billion learners out of school across 150 countries (UNESCO, 2020). Even a temporary lack of access to education can have detrimental effects on learners, not only short term but can also lead to increase long-term dropout rates and reductions in future socioeconomic opportunities.

Consequently, there has been increased interest and debate about whether the pandemic represents either a 'crisis or catalyst' event for educational change (Reimers & Schleicher, 2020), a kind of 'reset' of educational myths (Dobson and Boland, 2020). And, while as Harris (2020) writes there is insufficient data, yet, to decide whether a new education order is emerging or whether the old one is simply resting, educational systems now have the necessity and opportunity to reimagine and recreate human institutions in a post-COVID-19 world if they should so desire. Indeed, "the moment is ripe to imagine a responsive and resilient future for education more fully, and to dare to make it a reality" ("Education Policy Outlook 2021," 2021, p.16).

However, whereas economic and market necessities generally force rapid change, social systems—such as education—often resist it and seek to maintain 'traditional' ways and protect the systems that have remained unchanged for decades at least. This reluctance, or inability, to change is often due to fixed bureaucratic systems reflected in a mind-set sometimes referred to as "silo thinking". Just what, if any, changes countries around the world make will likely have a profound effect on generations to come. Nations now have a chance to reassess the purpose of education in a rapidly evolving world with unprecedented challenges. What is required is radical innovation, a rethinking of some of the fundamental elements of how we teach and the formation of a new educational purpose - one that reconnects thinking around social and environmental wellbeing, public health and economic fairness and is united by the need for sustainability and the concept of resilience provides an essential key. As will be examined in more detail below, resilience generally refers to the capacity to "bounce back" from some shock. However, when examining the question "what makes a resilient society?" the Commonwealth People's Forum wrote in 2016 that merely bouncing back to the status quo means returning to a flawed system, not addressing it, or striving to achieve structural

transformation (Sanjuan et al., 2016). Now several years later and facing even greater adversity, the Covid-19 Pandemic offers us a unique opportunity to implement ways to redress the flawed systems we have. And education is a good place to start because building a resilient society requires a shift in approach, to a focus on social development and dialogue as well as education capable of enabling citizens to demand substantive transformation (Sanjuan et al., 2016).

Using a descriptive and analytical research methodology this chapter, therefore, aims to use two country-specific examples to examine the understanding of resilience pertaining to education systems and what impact it had in the early stages of the pandemic. Then, through an analysis of the literature, it explores what changes could be enacted to create a more effective model to ensure a better educational experience for every child, in turn leading to greater overall societal benefits. By looking at the meaning and application of the concept of resilience as it applies to education systems, the aim is to ascertain how the experience of the pandemic could instigate systemic educational change, what such change could look like, and how important it is for the future of schools and the next generation of learners. The argument put forward here is that creating more resilient education systems capable of dealing with and overcoming adverse events, is essential to fulfil the fundamental human right to education and create the level of human capital required by economies in the short and longer term (“Education Policy Outlook 2021,” 2021). Rather than looking at the individual, the focus is placed on systems as an individual learners’ resilience is generally dependent on the communities they live in, the schools they attend and the education system as a whole (“Education Policy Outlook 2021,” 2021). Although different countries in many ways, both New Zealand and Japan reveal some similarities, useful understandings, and examples of the application of resilience in education. How students, schools, and education systems have dealt with the pandemic reveal much about the role and responsibility of education and communication in a society.

What is resilience?

While it is well beyond the confines of this paper to fully analyse and define the concept of resilience, a brief understanding is useful here before progressing. The English word resilience originates from the Latin verb *resilire*, meaning “to jump back” or “to recoil” (“Definition of Resilience,” 2023). Originally used primarily in physics (as in the ability of an elastic material to absorb energy, then release it as it ‘springs back’), a similar analogy has come to be widely applied to the ecological world (the ability to absorb change and return to normal stability or equilibrium after a temporary disturbance) and consequently, humanity. Initial resilience research focused on apparent absolute qualities in children and individuals such as ‘invulnerable’ (Anthony, 1974, cited in Fleming & Ledogar, 2008, p.2) or ‘invincible’ (Werner & Smith, 1982, cited in Fleming & Ledogar, 2008, p.2). Yet, regardless of the seemingly universal appeal, the term itself remains contested, with definitions differing

depending on how, and to what degree factors are identified as determinants of resilience. This, in turn, is largely a reflection of the different professional contexts, interests, and theoretical positions of resilience researchers. In short, from different contexts and fields, ranging from ecology, biology, social systems, sociology, disaster research, engineering, to public health, anthropology, psychology and geography, resilience clearly means many things to different people (Adams-Hutcheson et al., 2019; Aldrich & Meyer, 2015; Davidson et al., 2016; Schipper & Langston, 2015; Ziglio et al., 2017). This is evident from a Google trends search that shows a large upswing in searches for ‘resilience meaning’ over the past decade (<https://trends.google.com/trends/explore?date=all&q=resilience%20meaning>). This has led some, like Southwick et al. (2014), to claim the word resilience itself is almost useless as a single word and ... it really only makes sense if we qualify it” (p.6).

What does seem to be accepted today, however, is that resilience is no longer generally considered to be a character trait (Luthar & Cicchetti, 2000, cited in Khanlou & Wray, 2014) but a dynamic process that refers to exposure to adversity and “positive” adaptation (Fergus & Zimmerman, 2005, cited in Khanlou & Wray, 2014, p.65), “capacity” for or “outcome” of successfully adapting to adversity (Masten et al., 1990, cited in Shaikh & Kauppi, 2010, p.156). Furthermore, the scope has also been broadened to include not only features of individuals, but also how groups, communities, organisations and systems cope when faced with challenges.

The notion of resilience is directly related to (and sometimes used interchangeably with) the increasingly topical concept of ‘wellbeing,’ which has been defined as ‘a combination of feeling good and functioning effectively’ (Huppert and So, 2013, p.837). Long before the world was interrupted by Covid, wellbeing programmes for students and teachers have been implemented in greater numbers to alleviate some of the increasing mental health issues reported amongst youth (in particular) around the world. Thus, there is no doubt that wellbeing and resilience have become major educational issues recently (White and McCallum, 2021).

However, we must also remember that human beings cannot make themselves resilient, nor can they be taught to become resilient *per se*. Rather, they can learn adaptive skills and strategies that enhance their capacity to deal successfully with serious risks and adversity (Whatman & Harvey, 2020). In other words, resilience “enables students to cope with the challenges, obstacles and setbacks they are likely to experience on their learning journey, and to graduate with the capabilities and mind set for success” (University of Worcester, n.d.). It is these skills, mindset and the role of the education system to foster them that will be examined in more detail in the following sections.

The Importance of Resilience in Education Systems

As mentioned, the main focus in this chapter is on the concept and importance of resilience in education systems, as it is within various levels of systems we can understand how individuals interact with those and the world around them and because resilience in the

individual is highly dependent on multiple layers of society (Southwick et al., 2014, p.12). Therefore, by broadly applying Bronfenbrenner's (1979) ecological framework for human development, we can, for example, examine the role of resilience at the respective levels of microsystem, mesosystem, exosystem, macrosystem and the chronosystem. This is important because responsive and resilient education systems need to develop responsive policy ecosystems that promote resilience at different levels "Education Policy Outlook 2021," 2021, p.17). Banerjee et al. (2016) note that in recent years there has been considerable attention paid to the concept of resilience as a theme in education and to the role schools can play in fostering resilience in children. They suggest "schools may be well positioned in this respect, given the variety of school-based practices and experiences over an extended period of time that could influence young people" (p.9). Henderson (2012) cites research evidence that, more than any other institution than the family, schools can and do provide environments and protective conditions crucial for fostering resilience in children and young people today. In short, policymakers should bear in mind that resilience starts with education (Gavari-Starkie et al., 2021) where the development of resilient individuals; those who adjust to everyday challenges, play an active role in their communities, and respond to an increasingly volatile, uncertain and ambiguous global landscape takes place (Schleicher, 2018).

However, it is neither a simple nor singular process. From the literature it is also clear that effective implementation requires schools to treat the task as complex, place it at the core of their pedagogical programmes, embed it in wider wellbeing strategies, and recognise it as an integral component of school-wide systems that impact on all students (Whatman & Harvey, 2020, p.26). To this end, Reivich (2008) has suggested seven learnable skills that teachers can promote in the classroom to help students develop their resilience, namely: emotional awareness, impulse control, realistic optimism, flexible thinking, empathy, self-efficacy and risk-taking. Similarly, Ungar (2002) has outlined seven student resources necessary for resilience: (1) access to material resources; (2) access to supportive relationships; (3) development of a desirable personal identity; (4) experiences of power and control; (5) adherence to cultural traditions; (6) experiences of social justice; and (7) experiences of social cohesion with others. Added to this, the World Economic Forum (2015), lists 'grit, persistence and adaptability' as key character attributes that will increasingly be in demand in a more unpredictable world. (as cited in Weston, 2019, p.12). From these ideas we can get a general overarching sense of what factors are required.

It should also be noted that school communities are growing more and more diverse and resilience as a tool, can help both minority (ethnic, sexual, linguistic, religious, physical, etc.) and other at-risk groups succeed. By examining the actions taken in New Zealand and Japan, as well as how the philosophical underpinnings pertaining to resilience that already existed in these two countries were employed, we can see how prepared the respective education systems were to deal with the upending crisis the Covid-19 pandemic became as well as what more needs to

be done to prepare for a different, more resilient future. The following sections will focus on the ideas of resilience in the education systems in New Zealand and Japan and their respective educational responses to the pandemic.

The Concept of Resilience in Education in Japan

According to Ikeda (2020), it has been about 20 years since research relating to resilience became known in Japan and there have been few reports of practical activities in school education. Further, despite the fact that the movement to utilize the concept of resilience is beginning to take place in various fields, it has not spread very far in school education. What is also clear from an Internet search is that a disproportionate amount of the most recent research into the idea of resilience in education in Japan tends to focus on aspects related to the natural environment and dealing with disasters (*bōsai kyōiku*) or on post-secondary level education, with an overwhelming bias towards career formation and job-hunting.

Certainly, in terms of addressing (mainly disaster-related) issues of resilience education, Japan is clearly a world leader. In 2019, the nation's second Fundamental Plan for National Resilience (FPNR) came into force outlining four key areas: infrastructure, institutions, economy, and society. Specifically related to education (and the notion of resilience), the 2006 revised *Basic Law on Education* (MEXT, n.d.) states that “developing individuals’ abilities, cultivating creativity, and fostering a spirit of autonomy and independence by respecting the value of the individual” (Article 2), and “the national and local governments shall encourage education that takes place within the community and society, in response to the demands of individuals and of the community and society as a whole” (Article 12). Further, the New National Curriculum Standards announced in 2017 and implemented between 2020 and 2022 include (a) “active learning”, also referred to as “learning by doing”, that fosters independent individuals and creates interactive learning experiences; (b) New subjects such as scientific exploration, generic exploration, comprehensive public history, and comprehensive geography (Yamanaka and Suzuki, 2020).

Usually written in katakana, the writing form used for words from other languages, the term 「レジリエンス」 [resilience] is often translated as 回復力 [*kaifukuryoku*], 立ち直る力 [*tachinaoru chikara*], 復活力 [*fukkatsuryoku*] (<https://eow.alc.co.jp>). While Japan's Ministry of Education (MEXT) does not appear to provide a singular definition in Japanese of the meaning of resilience itself, useful summaries can be found elsewhere. For example, according to the Hiroshima University-affiliated Mihara Elementary and Junior High Schools (designated as research and development schools by MEXT), resilience includes: the ability to persevere (to keep trying even in difficult situations), to collaborate (to work together equally with others with different values) and to think from multiple perspectives (to see an event or a fact from many different points of view) (Hiroshima University, 2022). However, the word itself does not appear to be that prominent in MEXT documents. A recent search of the MEXT website in

English revealed only 13 hits (4 referring to the name of a space capsule and 4 in reference to disaster recovery). Similarly a search in Japanese for レジリエンス [*rejiriensu*] within the educational section of the website only revealed fourteen references, 4 of which relate to the abovementioned research project with Hiroshima University.

However, while within Japan there may be a sluggish approach to researching and applying the term, internationally Japan has begun to be a focus of attention. Gavari-Starkie et al., (2021) writing (again) specifically about urban disaster resilience in Japan outline some of the exemplary aspects of the Japanese education system in this regard. These include making it part of formal, non-formal, and informal education, focusing on various types of disasters (both natural and human-made), being integrated into the national, regional, and local contexts, and adopting an all-of-society approach including the participation of various stakeholders (students, families, teachers, neighbors, and civil society organizations, such as *jishu bōsai soshiki*, i.e., autonomous organizations for disaster risk reduction).

In terms of aptitude training, psychologist Angela Duckworth in her best-selling book *Grit*, also holds the Japanese school system up as a model of teaching resilience, or in her words, ‘grit.’ Another term increasingly used recently also attributed to resilience is “zest for living” (*ikiru chikara*), included for the first time in the teaching methodology with a goal of developing reasoning skills, the ability to understand concepts, and “experiential learning” to enable students to develop critical thinking skills. Furthermore, special activities such as school events, also included in the curriculum, emphasize teamwork and cooperation. For example, one scheme in Japan brings local residents into schools to deliver extra-curricular activities thus allowing teachers to focus on pedagogical issues while including the community in the school system thereby maintaining Japan’s holistic approach. In order to incorporate resilience into schools, Ikeda (2020) examined how the similarities and differences between the concepts and functions of “student guidance” and “zest for living,” which are similar to resilience. The results suggest that the incorporation of the resilience concept into “student guidance” and “zest for living” is expected to be effective by building a complementary relationship in which the functions and objectives of each are strengthened and developed (Ikeda, 2020). It is perhaps this area of the educational system that may require more attention in Japan.

Some other limitations found within the Japanese education system are most notably the lack of teaching hours available for resilience-related activities and the still somewhat negative attitude towards trying new approaches and lack of willingness to change the current system or structures even in the face of clear problems (Ikeda, 2020). This, lack of flexibility within the system appears detrimental to further expansion of resilience training programmes and is likely to stymie any larger progress.

The Concept of Resilience in Education in New Zealand

Like Japan, New Zealand has also outlined the importance of resilience in official

Education documents. The Ministry of Education's (2018) *Statement of Intent* outlines the need for schools to promote wellbeing. The vision statement reads: "We need our people to be resilient, creative, and adaptable, with great communication and interpersonal skills, and prepared to work collaboratively as well as independently (Ministry of Education, 2018, p.12). Towards that end several programmes have been offering opportunities to young learners to develop wellbeing and resilience life skills. While not universally administered, various schools in different parts of the country have adopted these or other programmes and they've been increasingly more documented and analysed.

One example, is the Resilience Project, originating in Australia, which provides "emotionally engaging programs based on evidence and practical wellbeing strategies to build resilience" (The Resilience Programme. (n.d.). The course is based on four pillars (gratitude, empathy, mindfulness, and emotional literacy) and has been offered to over 1000 schools across New Zealand and Australia. The Travellers Programme offered by the Skylight Trust, is another example. Their 8-week course aimed at helping youth cope with change and build resilience. In an evaluation of the programme, one of the outcomes reported was "increased resiliency and ability to navigate changes and challenges" (Robertson et al., 2012, p.ix). Another programme, the My FRIENDS Youth Resilience programme began in 2013 as a part of the Prime Minister's Youth Mental Health Project. Like the Travellers Programme, it is based on cognitive behavioural therapy (CBT) principles and includes guidance counsellors who support teachers and students through the programme and beyond. In a survey of the programme, 77% of teachers replied that they used aspects of My FRIENDS Youth in their other teaching indicating that the CBT principles were also helpful for teaching outside of the programme (MacDonald et al., 2015).

The key difference here between New Zealand and Japan is that schools in New Zealand are afforded considerable freedom to make independent decisions about what programmes, resources, assistance, etc. are needed and adapt the curriculum for their specific environment and local needs. This flexibility—or systemic resilience—and freedom may have made it easier to deal with the Covid-19 pandemic as will be examined in the following sections.

The Covid-19 Pandemic's impact on education

The coronavirus pandemic has had a profound impact on all aspects of life around the world. While both Japan and New Zealand were initially able to minimize serious health implications of the virus on the general population, at different times and for different periods lockdowns or other measure meant in-person teaching was replaced by online synchronous or on demand (asynchronous) instruction in both countries.

Dealing with COVID-19 in New Zealand

In New Zealand, significant disruption to schooling occurred through national or local

lockdowns, individual school closures (in response to Covid-19 cases), and from the ongoing uncertainty and new requirements (for example, cleaning and social distancing). The disruption caused by the Covid-19 pandemic meant that students had to quickly adapt to a range of new experiences. Over a relatively short period of time, students had to learn how to live in their “bubble”, manage their own learning from home and then transition themselves back into a classroom environment. Both students and teachers were required to adapt quickly to distance and online instruction. Yet, despite the abrupt change to school modality, many children (64%) in one survey still reported feeling connected to their school often or always (Meissel et al., 2021). Further, in response to open-ended questions some children indicated that they enjoyed the flexibility of the distance learning routine, having increased independence, more free-time, and increased self-regulation in their learning during lockdown (Meissel et al., 2021). This result was very similar to that outlined in Yates et al., (2020) who found that high school students in New Zealand reported more agency over their engagement with subject matter and they enjoyed having greater flexibility over their time management. In addition, they found that they could collaborate productively with classmates and their teacher.

Schools were innovative in the practices they put in place to support student wellbeing. Initial research as well as anecdotal feedback from students and teachers reveal that the main themes of how schools supported students during and after lockdowns were prioritising wellbeing, managing pressure and building/strengthening relationships with families and schools. Parents reported that they appreciated how schools had supported their children’s wellbeing and had done a good job of managing pressure by making learning from home fun, giving students resources and opportunities to do work, but giving them choices rather than making things compulsory, encouraging children to do new activities (like gardening and cooking) to learn in different ways and have a focus on caring for one another (Education Review Office, 2021). These activities and initiatives dovetail well with the list of characteristics of resilience outlined above by Reivich (2008) earlier and represent the ability to be flexible and empathetic.

Where schools made changes to their curriculum these often included an increased focus on (again) wellbeing, culture and diversity, digital literacy, practical and creative work, integration across learning areas, life skills and key competencies (Education Review Office, 2021). Some schools made changes to pedagogy and tended to increase differentiated teaching, using flipped classrooms, providing more student agency and flexible timetabling amongst other things. Schools also reported making more use of support staff such as teacher aides, social workers, and counsellors to help free up time for teachers to support students. Finally, schools sought to strengthen learning-focused relationships and communication with families with strategies including collaborative reporting on student progress more frequent contact (phone, online), learning experiences based on home life and parental involvement in student goal setting.

One unique programme initiated to deal with the educational impact of the pandemic was Te Rito Toi, an online open access resource designed to help teachers respond to the extraordinary circumstances and help them enhance communication and foster a sense of wellbeing and belonging. This programme and approach generally reflected the broader governmental and social response to the pandemic, characterised by an approach centered around *manaakitanga*. Manaakitanga is a Maori term commonly understood to refer to the idea that communal wellbeing has importance equal to, and even greater than, one's own (O'Connor and Estellés, 2021). In other words, rather than prioritizing the individual, *manaakitanga* privileges the collective, bringing it closer in line to Japanese social norms than traditional European ones, an approach that underpins many aspects of life in New Zealand (O'Connor and Estellés, 2021). Sometimes translated as hospitality in English, the term *manaakitanga* has a much wider meaning encompassing ideas of love, generosity, and mutual respect similar to that of the concept of *omotenashi* in Japanese, again reflecting similarities between the two countries.

Dealing with COVID-19 in Japan

While many developed countries transitioned to online-learning options relatively quickly, many schools in Japan found the switch challenging. In some cases, Japanese children were initially required to return to school before closures to collect homework sheets to tide them over until spring break (Kittaka, 2020). This lack of enthusiasm for digital education (Yamamoto, 2020) and inability to pivot to online teaching is a result of the fact that Japan has continued to lag behind other countries in terms of implementing education technology in their classrooms. There appear to be many reasons for this reluctance. One is the enduring traditional belief about the form (*kata*) of delivery of education, in particular parents' lack of understanding of the role of necessity of technology as well as expectations that schools train students for paper-based entrance exams (Kittaka, 2020). Another reason is institutional inertia and a lack of planning and budgetary preparation.

This lack of preparation is undeniably reflected in some negative statistics. According to a 2018 OECD survey, Japan ranks lowest when it comes to using information and communication technology outside of school for schoolwork, and Japan is below the OECD average both for access to computers for schoolwork and quiet places to study (Reimers and Schleicher, 2020). Japan also had the lowest percentage for which schools believed their teachers had the necessary skills to integrate digital devices in teaching. Shockingly, the statistics paint a bleak picture regarding teacher preparedness and training. Japan ranked last again in each of the following teacher related categories: having sufficient time for teachers to prepare lessons integrating digital devices, being provided incentives to do so, having sufficient qualified technical assistant staff and the availability of an effective online support platform. In fact, in the 2018 survey, Japan was below the OECD average in every category.

Consequently, it is no surprise that the already increasing educational gap in Japan has only been exasperated as a result of the pandemic, from the learning environment at home to access to devices, internet, and high-quality education. Japan has traditionally prided itself on its ability to provide the same level of educational opportunities to all students regardless of geographical location. However, with the closure of schools due to the pandemic, teachers, schools, and municipalities had to make their own decisions and variations in practice increased. It quickly became clear to all that schools were failing to provide “similar educational opportunities.” (Matsuoka, 2021). Many private schools in Japan were prepared and transitioned to distance learning quite quickly. “However, public schools generally seem to have not been able to cope at all. I think it was something that they didn’t really anticipate” (cited in O’Donoghue, 2020).

Despite these challenges, because Japanese education has traditionally placed a strong emphasis on notions of grit (*gambaru*) and perseverance, most Japanese students were in a good position to handle the challenges caused through educational disruption. However, the nation’s education system, which has been referred to as both first class and uncreative (Gavari-Starkie et al., 2021) is now tasked with finding more flexible, and responsive solutions. The challenge will be to increase creativity while maintaining the other exemplary parts. MEXT has pledged to make improvements. Under the so-called GIGA (Global Information Gateway for All) School Program in collaboration with the Rakuten Company, MEXT is accelerating the preparation of hardware, software, and personnel in an integrated way to realize “one computer per student” as soon as possible, as well as establishing communication environments that connect to students’ homes (MEXT, 2020). Whether this will be enough remains to be seen as the system itself is still clearly reliant on top-down direction and has had little experience coming up with creative solutions; the introduction and subsequent cessation of *yutori kyōiku* a case in point.

Reimagining Resilient Education Systems

Buzzanell (2010, 2018) theorized resilience as an adaptive-transformative processes triggered by disruption and involving five subprocesses: crafting a new normalcy; affirming or anchoring important identities during difficult times; using and/or maintaining salient communication networks; looking beyond conventional ways of thinking about and doing life by putting alternative logics to work; and foregrounding productive action while backgrounding unproductive behaviors or negative feelings. We can cultivate systemic resilience within and across the micro-meso-macro levels of our education systems through robust adaptive-transformative design and implementation.

Clearly education systems have been shaken and challenged fundamentally as a result of the COVID-19 pandemic and it is doubtful they will completely return to their pre-pandemic form as the world has evolved and needs to craft a new normalcy. “It is no longer possible to

prepare educators, educational institutions and educational systems for a single future” (“Education Policy Outlook 2021,” 2021, p.3). From now, students and teachers will at times increasingly use blended (hybrid) learning, a combination of online and in-person instruction, and formats that foster community and connectivity will be essential to online learning success. What is more, this shift will be permanent (Borke Vanhorn, 2021). This move will be challenging but, empathy, efficacy and open, salient communication networks will be the keys. If systems become more flexible and resilient then so too will the students within them. Hence it is important to ensure our educational systems are tuned for flexibility and system-level actors must constantly be planning and promoting system resilience so that they are able to ‘bounce forward’ and not just ‘bounce back’ (Hynes, Trump, Love, 2020). This in turn requires a new educational vision on the part of policy makers and leaders that reconnects thinking around environmental wellbeing, social health, and economic fairness, one that is united by the need for sustainability.

In practical terms, then, new systems need to be developed to support students, teachers, and schools, or in Bronfenbrenner’s (1979) framework, at the micro, meso and exosystemic levels. Firstly, students for example, require more holistic wellbeing support. Throughout the world mental health issues are becoming increasingly complex and important and the pandemic has only accentuated this. Greater use of counsellors and support staff as well as at times reevaluating how subjects are taught to address the needs of today’s world while acknowledging the stresses imposed on youth is urgently needed. One option that is often held up as a good role model is the International Baccalaureate (IB) designed to educate international-minded students to be “inquirers, knowledgeable, thinkers, communicators, principled, open-minded, caring, risk-takers, balanced, and reflective. Both Japan and New Zealand have increasingly begun to adopt the IB format in public schools. Not only the method of teaching, but also the curriculum itself needs to be updated to ensure students are learning the skills they need for a likely very different future employment market. “In the digital era, educators need to expand their understanding of what it means to be literate in the 21st century: not replacing traditional learning but complementing it” (Bryant, Dorn, Hall & Panier, 2020, p.5). Japan began to introduce classes for computer programming skills for elementary school students in 2020 and the aforementioned GIGA program is a good start.

Secondly, when it comes to teachers, changes in training and development will increasingly come under the spotlight. As the role of the teacher undoubtedly will change, their preparation and ongoing developmental training itself will need to adjust. In terms of the role of the teacher, already there have been moves in some schools to have more than one teacher present in the classroom. In New Zealand, some schools like Orewa College, for example, have changed its approach from regular small classes (1 teacher for 20-25 students) to combined groups (3 teachers with 75 students) for 60-90-minute block classes. At the same time, the role of the teacher is likely to evolve into a facilitator or learning motivator and progress manager

(Kang, 2021). Similarly, new training styles and professional development ideas are required. For example, links between teacher training and local schools, akin to like links between medical schools and hospitals to anchor learning in real-world practice is one novel idea (Bryant, Dorn, Hall & Panier, 2020). Although likely to be heavily contested, communication with and trust of teachers' expertise in this revamping process is essential. Any approach "that places little trust in teachers' knowledge and underestimates the value of their professional judgement militates against good teaching and undermines system resilience" (University College London, n.d.). Furthermore, teachers must be afforded the tools and capacity to initiate change at the local level to strengthen the responsiveness and resilience of educational institutions to their communities ("Education Policy Outlook 2021," 2021).

Thirdly, school systems need to take calculated risks to reimagine their structures, methods, and policies, looking beyond conventional ways of thinking about and educating by putting alternative logics to work (Buzzanell, 2010, 2018). This means, for example, approaches like more active use of blended learning/flipped teaching, being creative and flexible with calendars, physical spaces, events, curriculum, and educational purpose. Naturally, this also means that new assessment approaches will be required. The current arrangements for most testing and inspection apply inappropriate and counterproductive pressure to schools and therefore require radical overhaul (University College London, n.d.). In this respect, Japan's heavy reliance on high stakes paper-based entrance exams raises many problems going forward for dealing with future disruptions, not to mention their questionable value in assisting student agency for their development and learning. Similarly, systems need to develop greater communicative efficacy across the various levels allowing for input and feedback in order to make the entire system more transparent, accountable and forward-focused.

Summary

The pandemic has starkly reminded us that the world we live in is a challenging and constantly changing environment. Our educational institutions and systems need to become more resilient to succeed amid unforeseeable disruptions because "resilience provides individuals, institutions and communities with the flexibility, intelligence and responsiveness they need to thrive in social and economic change" ("Education Policy Outlook 2021," 2021, p.5). By adopting a more flexible and resilient educational system, some of the social and economic problems nations are presently facing could begin to be alleviated.

From a systemic point of view, schools are in a continuous connection with individuals and their immediate environment (family, neighbors, stakeholders, etc.), as well as with communities and society at large. Communication across all levels of the educational system is essential for increasing and enhancing the role and relevance of resilience. Consequently, in a system characterized by mutual feedback and the generation of synergies, to create more resilient societies and cities, it is first necessary to address the challenges of our educational

systems. As shown, both Japan and New Zealand's education systems reveal differing, yet effective, applications of resilience contributing to their ability to navigate the COVID-19 pandemic better than some other countries. While neither is by any means ideal, they both demonstrate the benefits of increasing resilience within education and society at large and are therefore useful case studies for future models.

And it is with an eye to the future that we must look. "The COVID-19 pandemic has accelerated trends that are reshaping the skills and demands that today's students will need to meet. The war for talent is likely to intensify" (Chen et al., 2021, p.10). To be able to support the learning and needs of students we need education to allow for greater flexibility in terms of teaching style, classroom technology, assessment methods (and a reevaluation of their merits) along with other factors. In other words, perhaps the biggest incentive the pandemic has given us is to make a paradigm shift away from a teacher-led educational philosophy to one in which all involved actors can learn and progress together, both inside and outside classrooms for the benefit of all.

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