

Shifting from the Hidden Shadow to the Bright Sunshine under the COVID-19 Pandemic: Implications for the Education New Normal from Hong Kong's Learning System

Man-Ho Adrian Lam
University of Hong Kong

The sudden and unprecedented outbreak of the global pandemic of coronavirus disease 2019 (COVID-19) has brought along a series of abrupt and sweeping disruptions to almost all learning systems around the world. The pandemic has simultaneously revealed many weaknesses and problems associated with the existing educational model, which serves as a timely and critical reminder that educators should start thinking and doing education in a very different manner. Nonetheless, this does not simply mean restoring long-standing norms, or reorganizing and perpetuating existing practices as “back to normal,” but discarding and transforming many obsolete assumptions and conventional operations as a “new normal.” As one of the high-performing learning systems around the world throughout the decades, Hong Kong has successfully transitioned from disruptive schooling to a “new normal” throughout the pandemic. By collecting concrete examples emerging and evolving across different layers of Hong Kong's learning system, this conceptual article aims to contribute to the field of comparative and international education by shedding light on ten key principles in terms of shaping a more responsive, resilient, and sustainable curriculum system for all students to thrive in the uncertain and unpredictable environment ahead of them.

Keywords: COVID-19 pandemic; student learning; curriculum studies; future education; learning system; Hong Kong

Introduction

Since mid to late January 2020, the unprecedented global pandemic of coronavirus disease 2019 (COVID-19) has brought along a series of unwanted disruptions to learning systems around the world (Di Pietro et al., 2020). Hong Kong was impacted by both the COVID-19 pandemic and the social unrest of 2019-2020 protests (Whitehead, 2021). Nonetheless, compared with many counterparts, Hong Kong demonstrates its flexibility and agility in prompt response to the crisis, especially in terms of supporting and optimizing student learning as well as enriching and diversifying student experience (Al-Sholi et al., 2021). As a high-performing education system, Hong Kong has consistently impressive student performance as reflected in many international large-scale assessments and reports, including Programme for International Student Assessment (PISA), Trends in International Mathematics and Science Study (TIMSS), and Progress in International Reading Literacy Study (PIRLS). Meanwhile, these outstanding educational achievements are further attested to in some international reports, such as the McKinsey and the Economist Intelligence Unit (Marsh & Lee, 2014; Tan, 2018). While the lingering pandemic is highly damaging, it is simultaneously a window of opportunity in terms of motivating and catalysing changes in habits or structures which would otherwise take decades in

merely a few months, given the fact that individuals can now refocus on their values and intentions as the underlying drivers of their behaviors (Richter et al., 2021).

Under the principle of “suspending classes without spending learning” as insisted by the Education Bureau, the overarching authority responsible for formulating and implementing education policies in Hong Kong, many teachers started with strong reluctance and surface transference or duplications. Teachers moved to gradual acceptance and progressive adjustments, and eventually led to constant experimentations and mushrooming innovations (Cheng, 2020). Throughout the five successive waves of the pandemic outbreak in the last few years, until the author’s current time of writing, there have been prolonged and periodic school closure and resumption, which led to ongoing adjustment in response to the situations or resurgence of the pandemic (Chan, 2022). Hong Kong’s educational community can recall how frustrated schools and teachers were at the beginning of the pandemic, and gradually become more adapted to the new context as demonstrated by the series of collective endeavors, pleasant surprises, and unanticipated successes that emerged from all of them (Cheng, 2020).

Crises like the pandemic are forcing the education sector to rethink, revamp, and design the entire learning system comprehensively and thoroughly (Pokhrel & Chhetri, 2021). While many of the responses are first primarily developed to address the immediate and urgent need for continuing schooling and teaching online in the short run, they should be seized by schools and teachers to rethink what makes the necessary and desirable education for the future generations in the long run (Zhao & Watterston, 2021). The reality is that the pandemic is merely a case in point, given the fact that there are far more world changes or even unprecedented crises that are currently taking place or will be emerging in the future (Sneader & Singhal, 2020). All these will not go away immediately, so the lingering discussion for educators around the world is to what extent is the contemporary younger generation prepared for the future of education (Organisation for Economic Cooperation and Development, 2020).

Hong Kong has had an ambitious and forward-looking perspective since the early preparation of its educational reform in 1999, which aims to transform the administrative-led system into a highly learner-centered one. The then government recognized society had changed and that education had to change accordingly, especially since the ultimate aim of education is for students’ futures. The above logic underpinning the reform is indeed still maintained or even reinforced at the contemporary time of pandemic (Whitehead, 2021). All of these reflect the importance of drawing upon the series of emerging and evolving experiences of Hong Kong, to demonstrate how it has been moving from disruptive schooling to the “new normal” successfully. Drawing upon the author’s personal observations and professional experience as well as relevant academic literatures in the field, this conceptual article aims to highlight ten key principles shaping a more responsive, resilient, and sustainable future curriculum system for students to survive or even thrive in the uncertain and unpredictable environment ahead of them.

While this paper is focusing Hong Kong as the specific location for a case study, it is important for the wider discussion of comparative and international education for several reasons. First, identifying some of the contemporary best practices around the world can help jurisdictions to better enhance, modify, or even transform their learning systems into a more effective, efficient, and equitable one (Arnone, 2013). Second, given the continuous and dynamic interactions between the global trends and local responses, the focus of a specific jurisdiction with an interpretative perspective can better reveal and understand how the learning system is responding to and interacting with the changing and

surrounding contexts (Adamson & Morris, 2007). Third, the key principles themselves can invite further professional discussions around transformative changes by revealing a wide range of possibilities, which nonetheless require a deeper understanding of the present before moving towards the consideration of the future (Broadfoot, 2000). All these illustrations are not aiming at privileging one system at the expense of others, but recognizing diversity and pluralism, especially the unique features and unconscious assumptions which are overlooked when one focuses primarily on his/her own system (Clark, 1986).

To make a better sense of Hong Kong's learning system, this paper takes reference from Marsh and Lee (2014) who focused on looking into the detailed educational structures and infrastructures, policies and practices, as well as values and ideologies reflected by and incorporated into Hong Kong as a high-performing system in Asia. The wide range of discussions in the edited volume reveals some of the common elements of a learning system, which mainly include policy formulation at the systematic level; quality governance at the organizational level; comprehensive planning at the curricular level; targeted support at the school level; professional development at the teacher level; as well as learning experiences at the student level. However, as a number of the principles put forward in this article are cutting across more than one of the above levels, this conceptual paper is hence structured based on the ten principles rather than these six levels. It is hoped that researchers can build on all these features for conducting further conceptual analyses and empirical studies to acquire more in-depth insights.

Principle 1: Putting Student Learning as the Overarching Focus

Education is an institution of learning which bears contextual underpinnings of the time, meaning that its design could easily become obsolete. Nonetheless, learning as a human instinct should serve as the core concern and business of education, regardless of the dynamics of the surrounding environment (Cheng, 2017). The ambitious and encompassing notion of "learning" is also associated with wide scope and inestimable possibilities for individuals to make sense of education from the past to the present and eventually to the future. Lamentably, while student learning is taken for granted as a priority, it is often neglected in everyday reality, especially when it is yet to be on the agenda of many government education policies. Worse still, many learning systems around the world organized in the industrial era for mass production still contain components and structures which are incompatible with what the science of learning advocates as being the best for student learning (Tucker, 2014). Nonetheless, in Hong Kong, the discourse of learning has been the focal point of all educational decisions and policy-making processes (Forestier & Crossley, 2015).

According to the Education Bureau (2021c), Hong Kong's curriculum aims to offer a quality and diversified education to prepare students for life-long learning and foster their whole-person development through a broad and balanced curriculum and diversified by students' needs, interests, and expectations. The notion of "learning-to-learn" is also the overarching rhetoric that the government employed throughout the entire bold and transformative, still ongoing, educational reform journey. The underlying implication is that students should be capable of setting their own goals, choosing their paths, and witnessing their success (Cheng, 2010). The distinctive strength of employing such mutual discourse of learning hinges on unifying all individuals within the educational community to develop shared understanding, interpretations, communication, and practices. This has also become particularly prominent during this uncertain and complex time of the COVID-19 pandemic (Maguire & Ball, 1994). The unknown pandemic to many

individuals, especially at the very early period of the outbreak, brings along a series of knock-on effects on various parts of the learning system, not to mention there is no precedent to guide individuals in navigating and acting out their ways, regardless of the decisions, routines, or processes (Kuhfeld et al., 2020). Therefore, if such idealized discourse is not fully shared across stakeholders, successful implementation would be challenging as there are often gaps in discourses in the educational domain (Lenhoff & Ulmer, 2016).

Throughout all these considerations and discussions about student learning, there will inevitably be competing tensions and conflicting claims as they touch upon the interests and concerns of different stakeholders within the educational community. This phenomenon is once again more prevalent during the pandemic. For instance, in Hong Kong, there are ongoing and intense debates over the adjustment of the school annual calendar and weekly teaching schedule, time allocation for asynchronous or synchronous learning, logistics arrangement for class resumption, as well as contingency plans for the Hong Kong Diploma of Secondary Education examination as the local high-stake university-entrance examination (Chan, 2020b; Low, 2021; Lam et al., 2022). Nonetheless, mutual discourse helps one to attain an optimal point through coordinating, reconciling, and balancing the polarized so that student learning is put at the center. This reflects a remarkable comment made that contemporary Hong Kong education policymaking can be largely characterized as driven by educational values and evidence but not ideologies and politics, as well as refusal to dichotomize choices but strive for dynamic balance (Forestier & Crossley, 2015).

Under the overarching rhetoric of enhancing student learning, all stakeholders within the educational community can come up with their contributions to realize this mutual goal, based on their unique expertise and experience (Vegas & Winthrop, 2020). This echoes the fact that as curriculum reform gets more mature, the Hong Kong government in recent years has claimed that the local curriculum has moved to a new phase of ongoing renewal, which involves focusing, deepening, and sustaining in response to the changing context (Education Bureau, 2021b). On the other hand, if the entire educational sector does not remain grounded in and committed to an explicit and clear rhetoric, the series of decisions and changes made would easily result in misalignment or even contradiction, not to mention the potential to undermine the recognition and positioning of the sector. This is particularly valid during the evolving and uncertain time of pandemic when many decisions and changes must be planned and executed within a short period or even at the same time. By keeping learning as the center, all stakeholders will continue to advance a learner-focused system in the best interest of all students as a coherent and continuous goal (Cheng, 2020).

Principle 2: Avoiding Being Slow and Stagnant to Adaptation

Currently, many learning systems around the world are still not forward-looking enough as the emphasis is still primarily focusing on teaching students to respond to immediate problems after they have emerged. A lot of them are advocating the addition of elements on top of what they are currently teaching, which are at most teaching old things in new ways. Such a line of thinking is lagging far behind as students receiving such learning will remain relatively slow, unresponsive, or even resistant to the wide range of changes and crises which remain ever-changing and multifaceted (Lui & Lam, 2022). There is now an imperative need to enable and empower students, who are possessing different talents, experiences, and passions, to conceive and create a future themselves, and explore and follow pathways towards new directions that they currently cannot yet foresee. This can

also bring students to the center of the learning experience as their capacities and capabilities are recognized and realized, so as to allow them to take a series of actions for initiating all sorts of positive changes in their own life (Ng et al., 2020). In the words of Ponnudurai and Ponniah (2020), this is focusing on “teaching for change” rather than “teaching change” as education is seen as the paradox of change. Similarly, Young and Muller (2013) urge curriculum designers to depart from the perspective of “what students have to learn” to “what will enable students to learn”. According to Schleicher (2018), the focus on the future of education should be placed on cultivating the fundamental and core human traits that will enable education to stay ahead of all changes as well as students to accommodate whatever novel changes and ill-defined problems come along.

Meanwhile, students need to foresee what may be needed in the future as well as how actions taken currently might bring along implications for the future. As the future remains unpredictable, the future-oriented curriculum should never remain rigid and prescriptive, but fluid and dynamic, equipping students with the capacities and capabilities to deal with the new and unfamiliar situations and environments (Organization for Economic Cooperation and Development, 2018). Therefore, the curriculum should be better organized, resourced, and supported in the dimensions of knowing, doing, and being, such that students can make a better sense of the series of significant and future-oriented issues (Bolstad et al., 2012). According to Li et al., (2021), grounding the curriculum within an authentic context can better cultivate students’ key dispositions and competencies, and facilitate their flexible and active thinking in an engaging and motivated manner. The lingering implication is making more explicit and clear the adoption of long-term and continuous perspectives on learning (Demirel, 2009). After all, the value and influence of learning and teaching are long-term, given that the inspirations, experiences, and reflections of students can be possibly remembered, retrieved, and utilized in the later parts of or even upon the completion of their studies (Bressoux & Bianco, 2004). With the description and illustration of progress or growth in learning over time, students can witness its continuous, progressive, and developmental nature, which allows them to better cope with the future ahead of them (Millar, 2022).

Principle 3: Delivering a Holistic and Competent Learning Experience

In Hong Kong, given the fact that learning is framed as the focal point, the curriculum is subsequently broadly defined as the totality of learning experiences, which implies that all components should be integrated as a comprehensive and competent education for students (Education Bureau, 2019). Under conventional learning, the dimensions of knowledge, skills, as well as attitudes and values are interacting with one another (Curriculum Development Council, 2014). Students need to connect and integrate academic knowledge, generic and specialized skills, as well as positive values and attitudes to think about and cope with various real-life problems, phenomena, and issues, especially when understanding and application are intertwined rather than isolated. The introduction of Liberal Studies, which is now revamped and renamed Citizenship and Social Development, allows students to understand, explore, and investigate different topics from multiple perspectives, so as to construct more knowledge relevant to various themes, and build up a more solid and concrete knowledge base (Curriculum Development Council & Hong Kong Examinations and Assessment Authority, 2021). The COVID-19 pandemic once again demonstrates that a single disciplinary perspective is far from sufficient when it comes to responding to complex challenges. Therefore, there is a need for further equipping students with interdisciplinary readiness which allows them to analyze, conceptualize, synthesize, and integrate diverse forms of knowledge and inquiry (Spelt et al., 2009).

The pandemic with its emphasis on social distancing as an important strategy of disease containment has led to the rapid emergence of home-based learning. Nonetheless, apart from academic learning, the non-academic dimensions which are normally taken within the school campus are equally important for ensuring a balanced and diverse learning experience. While there are concerns that some non-academic classes could not be conducted in an online setting due to limited equipment and space as well as insufficient supervision and support, the reality shows that home-based learning is not necessarily limited and constrained but can be far more versatile and resourceful (D'Agostino et al., 2021). Alsuwaida (2022) mentions that learning in the online setting can indeed foster creativity, strengthen relationships, and encourage collaboration among teachers and students. For instance, Hong Kong University Graduate Association College students continue to have their weekly non-academic classes in an interactive online setting. During physical education lessons, students would follow teachers' instructions and comments to do exercises such as squats, lunges, stretching, and running in place, while during music lessons, students are taught about topics like music history and composers, and conduct singing and instrument practices (Chan, 2020a).

The non-formal learning that is deemed to be undermined during the pandemic should also be reinforced, especially when many events and activities with face-to-face or social elements are often deferred or cancelled. Nonetheless, all these events and activities are crucial for students to build up confidence, friendships, and social networks in an informal setting, which contribute to their academic engagement and emotional health. Therefore, many schools have been shifting all these to the online setting in the hope of allowing students to continue benefiting from these learning opportunities, despite the ongoing school closure (Ng, 2021). Some illustrative examples include how Hong Kong Taoist Association Wun Tsuen School and Hong Kong Taoist Association The Yuen Yuen Institute No. 3 Secondary School have successfully started and bridged the learning of their cross-culture and cross-border students through organizing a wide range of orientation, immersion, and exchange programs. The spatial and temporal constraints associated with the pandemic have now unleashed many innovative responses where students could continue with their implicit learning in an online environment (Centre for Advancement of Chinese Language Education and Research, 2022).

As students have been isolated from society, the pandemic has reiterated the importance of life-wide learning, which focuses on letting students learn beyond their classrooms and schools, as well as to reach out to their immediate communities and the larger world. In Hong Kong, schools can utilize the life-wide learning grants offered by the Education Bureau to develop a wide range of partnerships for student learning with the business sector, non-governmental organizations, and other non-education bodies. Some of the illustrative community partners include theme parks (e.g., Hong Kong Disneyland and Hong Kong Ocean Park), museums and galleries (e.g., Hong Kong Museum of History and Hong Kong Science Museum), as well as non-governmental organizations (e.g., Worldwide Fund, Hong Kong Council of Social Service, and Centre of National History Education). As a result, many activities like excursions, field trips, visits, and student exchanges subsequently emerged (Education Bureau, 2022). Most crucially, these experiential opportunities and hands-on experiences allow students to decrease social isolation, improve engagement, nurture key developmental relationships, and champion youth agencies (Butler, 2022). Similar to home-based and implicit learning, this type of learning is made even more accessible and diverse online by reducing the friction of time and space boundaries that has allowed only limited capacity in on-site settings. One can see how schools sustain and expand such learning more easily than before and adopt practices not anticipated before the outbreak of the pandemic.

In the past, learning occurred largely within the confines of classroom settings and relatively rigid school timetables, especially in terms of academic dimensions. Nonetheless, this fails to realize the nature of learning as a broad, ongoing, and potentially life-long process (Laal & Salamati, 2012). After all, various levels and modes of learning can take place with anyone, at any time, and in anywhere. Meanwhile, the long-standing practice of school-based development grants each individual school the autonomy and flexibility to come up with their own rigorous, rich, and meaningful learning experience across intellectual, social, emotional, physical, and ethical dimensions for students based on their distinctive contexts and cultures as well as strengths and resources (Education Bureau, 2021a). Most importantly, this decentralized move has also allowed schools and teachers to come up with their own learning and teaching initiatives and strategies that cater to their own students' unique backgrounds, abilities, and needs (Yuen et al., 2018). According to Ng et al. (2020), different Hong Kong schools have been coming up with diversified and innovative modes of learning and teaching to support student online learning according to their unique school-based situations and students' needs.

Principle 4: Highlighting Mental and Emotional Adaptation

The COVID-19 pandemic crisis is associated with a series of negative emotional experiences which require one to recover from or even adapt to such stressful and anxious circumstances spontaneously and flexibly. Many empirical studies around the world have shown that children and teenagers, when compared to adults and seniors, are far more vulnerable to the emotional impacts brought by unpredictable and traumatic events like the pandemic, which disrupt their everyday lives and structured routines (Chai et al, 2021). For instance, many students struggle in terms of coping with and adapting to school closures, physical distancing, and quarantining time at home. Meanwhile, some experienced gaps in their learning and teaching conditions, progress, and outcomes (Schwartz et al., 2021). A lot of stakeholders have worked to ensure students feel safe and secure about their fast-changing future. This is manifested by advocating models and concepts like emotional intelligence, positive psychology, growth mindset, and psychological capital. For example, the Bei Shan Tang Foundation has initiated Positive Education Hong Kong (2018) for promoting positive education through training local education practitioners, offering accurate and evidence-based resources, as well as bringing together institutes and organizations for dialogues and actions. Another instance is JUST FEEL (2022) which aims to cultivate a compassionate communication culture in schools and families to enhance the emotional well-being of children. Furthermore, the Hong Kong Jockey Club Charities Trust supported the Faculty of Social Sciences (n.d.) of the University of Hong Kong to launch the Jockey Club "Peace and Awareness" Mindfulness Culture in Schools Initiative, which targets promoting mindfulness and improving students' mental well-being.

Nonetheless, the complexity of discomfort and frustration that emerged during the pandemic are equally valuable learning resources, which should not be immediately and easily dismissed for the sake of attaining control and harmony within the classroom and larger societal contexts. The homogenization, simplification, or even avoidance of these seemingly negative and destructive concepts might lead students to lull themselves into a false sense of security (Jackson, 2020). Students should be systematically and carefully guided by their teachers to confront and deal with their struggles, failures, and setbacks healthily and constructively, which can help them to attain fulfillment and contentment in the long run. This also remains crucial as many students unfortunately must cope with all these situations in their lifetime. After all, the future curriculum needs to further relate to the younger ones, and prioritize personal and social flourishing, such that they can

better cope with the situation without undesirable consequences in their mental health (Amorós et al., 2020). For instance, Just Feel offers a deck of 36 cards featuring various emotions like “scared,” “curious,” “ambivalent,” and “ashamed,” as well as 25 cards depicting different needs like “rest,” “learn,” and “trust.” As a learning and teaching tool, it aims to facilitate and prompt students to identify their subtle feelings and underlying needs by offering an accessible starting point for describing and thinking about what they are currently experiencing (Chan, 2021a).

Principle 5: Rejuvenating Relationships and Connections

The collective nature of the COVID-19 pandemic reminds individuals of their underlying humanistic side, which subsequently lead them to move away from self-sufficient and independent to interconnected and interdependent units within their differences and diversities (Mazzocchi, 2021). Throughout the years, individuals often devote too much time and effort to comparing with and competing against one another when meritocracy and elitism are driving the larger climate, which lamentably deviates from or even violates the original purpose of education (Hughes, 2021). After all, genuine learning is all about having human interactions, dialogue, and exchange, especially when others are essential to facilitating and contributing to one’s learning. This implies that the social space of the school with various forms of collective living cannot be replaced by distance or remote learning at the individual level. At the same time, students can encounter many others from diverse backgrounds who are not like themselves, whom they learn from and learn with, and who expand their understanding of the wide range of ways of being human (United Nations Educational, Scientific, and Cultural Organization, 2020).

At the classroom level, there should be a heavier emphasis on cultivating a community of inquiry with a productive knowledge-building environment, which helps enhance students’ learning motivation and performance (Mok et al., 2021). According to Li et al. (2021), knowledge is socially constructed, and specific ways of thinking are mutually reinforced, meaning that collaborative, interactive, and participatory elements should be embedded into the curriculum. Learning is only meaningful when connections are made, especially when one acquires good personal thinking through thinking together with others. The most illustrative example would be student-driven knowledge building and creative inquiry across classroom communities that are gaining currency in recent years (Chan & van Aalst, 2018). Many of the online software and platforms that are commonly utilized for learning and teaching nowadays afford the cultivation of online knowledge-building communities. Some of the common examples used in Hong Kong classrooms include discussion threads in Google classroom, collaborative writing through Google Document, spontaneous discussions in real-time Zoom breakout rooms and chat boxes, as well as graphic visualizations in Google Jamboard and Padlet (Kumi-Yeboah et al., 2020).

At the school level, human connections and meaningful interactions should continue to remain an essential part of the learning experience, which can go beyond the academic level. Students should be offered abundant opportunities to socialize with their peers to elicit continuous support and seek help when needed, especially during the turbulent period of the pandemic. Throughout this process, students can build interpersonal cohesion and shared identity as well as emotional connection and intimate closeness (Elmer et al., 2020). Meanwhile, this can help them seek common ground within the differences, show tolerance and respect for diversity towards others’ ideas and beliefs, as well as cultivate cross-cultural understandings, especially in a hyper-connected world with blurred lines and boundaries (Wang, 2020). Many Hong Kong primary school

students express that they still met a few friends for a meal or even met on Zoom during online learning. They also further show their strong desire for having school life and interaction with peers through in-person classes (Chan, 2021b).

At the family level, parents should devote more support to student learning. Since students are now staying at home for most of the time throughout the pandemic, apart from offering guidance and coaching on schoolwork, parents become a reliable source of comfort in easing pain and anxiety in the emotional dimension. They can offer ongoing support and timely intervention for students at times of uncertainty. As the core people who accompany their children as they grow up, they also have unique knowledge of and affection for their own children (Morelli et al., 2020). According to Law et al. (2021), parent-child communication and relationships are reported to be the single most important supportive and protective factor in Hong Kong students' well-being at home and in school. While there is a tendency for many parents to make schools or even the government fully accountable for student learning, the pandemic reminds educators and parents themselves of parents' unique roles and responsibilities.

Principle 6: Granting Students Sufficient Time and Space

The mainstream rhetoric throughout the COVID-19 pandemic invited teachers to come up with as many strategies as possible, such as distance learning, remedial curriculum, or shorter breaks, so as to mitigate and compensate for the learning loss due to school closures and remote learning (Engzell et al., 2021). However, one seldom appreciates the beauty of offering sufficient time and flexible space for students as an important strategy of "letting go." This involves reshuffling the curriculum by removing the extensive procedural practices, to retain the most fundamental principles and essential concepts. Students can thereby make flexible and personalized choices in terms of learning, exploring, and questioning based on their desires, targets, and pace. It is also an important way to engage and recognize students as partners of change and owners of their learning. Zhao (2021) points out that short-term, cognitive, and instructional outcomes do not necessarily translate directly into long-term, non-cognitive, and educational outcomes.

Learning is not only about delivering knowledge but also about how students grow throughout the process' various dimensions. Students will eventually make individual ongoing and lifelong progress towards the development of more sophisticated knowledge, deeper conceptual understanding, higher level of skills, or even more incisive and innovative thinking. Therefore, a progressive continuum of development rather than a static checklist of sequenced instructional objectives should be reiterated throughout curriculum design and implementation. For example, Fukien Secondary School Affiliated School comes up with a new educational model upon the resumption of face-to-face classes. On every school day, students can have all classes in the morning as the academic curriculum, and leaving the entire afternoon as the free time for personal development and growth. Students can freely choose to take classes on topics that interest them (Chan, 2021c).

Moreover, the reduction of a fully packed and highly intense curriculum allows students to own more comfortable spaces to undergo more nuanced and much deeper reflection and assimilation as they are responsible and accountable for their learning processes and outcomes. By making their mental models and sense-making active and conscious, students will become more aware of their positions, thoughts, feelings, and changes in their learning. As students will acquire very different learning experiences, they will develop their own worldviews. According to Lam (2020), as the world is changing, each

student's understanding of why and how things are changing are also simultaneously different, which signifies the need for students to understand and remain open to learning to get prepared for the future. Meanwhile, future education points to the fact that students will regularly encounter new and unique problem situations, and the process of coming up with novel solutions will offer a fertile ground for them to reflect on their actions. Such pluralism and diversity should be embraced and celebrated with clear thinking and strong sensitivity. An illustrative example is Wah Yan College Kowloon (2019), which encourages students to spend 10 minutes after lunch every day reflecting on their daily life. While this practice of Examen of Consciousness emerged because of Jesuit schooling, it still serves as a good example of showing how students can touch upon various deep yet important conceptual and personal questions like what life is revealing to them, what they have learned from their choices made or not made, as well as how they can better approach their anticipated challenges and opportunities.

Principle 7: Harnessing Technology and Digital Innovations

There are abundant discussions highlighting the importance and value of leveraging digital technologies in the learning system, so as to promote and advance student learning (Uttam, 2020). Meanwhile, many teachers claim themselves to be introducing various innovative learning and teaching initiatives. Nonetheless, the key here is not ritualizing and replicating the latest tools, practices, and trends or even reproducing the status quo, but employing them to stimulate and extend thinking towards student learning. Teachers should possess the ownership to enact, reflect, examine, and change their beliefs and practices when introducing all these innovations (Brown, 1997). For instance, from students' perspectives, heavy and continuous use of technology does not automatically lead to boosted engagement, direct translation to deeper learning and understanding, or better academic performance (Manca & Meluzzi, 2020).

The rapid influx of many educational technologies and innovations can easily lead one to focus on the dimensions of what and how but forget the dimension of why that is supposed to be the driving question. This presents the danger of bearing a catch-up mindset, which neglects the unique context and nature of the technology introduced (Means et al., 2014). While conformity may be perceived as easy, the subsequent trade-off is that one does not exhaustively utilize the underlying distinctive features and long-standing traditions to maximize learning outcomes. As a result, the introduction of a new educational initiative would simply be changing the surface artifacts passively and mechanically, which does not touch upon the more subtle and fundamental issues proactively and reflectively. Worse still, conformity can easily breed a sense of deficit which makes one to feeling not good enough all the time or think many things go wrong which requires endless fixes and modifications (Valverde-Berrocoso et al., 2021). In Hong Kong, many devoted educators are thinking carefully and thoroughly about how to use technology to enable experiential, inquiry-based, and adaptive learning for students, to offer personalized and inclusive support to students through building character and strengthening life skills, and to analyze, track, and assess students' learning progress (Morning Studio editors, 2020).

While there is a debate about whether technology or pedagogy should come first, arguably neither should be prioritized, as both go hand in hand and support each other. Therefore, an appropriate line of thinking is why technology benefits student learning, how it can serve these specific needs, and eventually what is needed to realize the outcomes (Genna, 2020). Technology and innovations should be deemed as dynamic catalysts for setting thoughts and associated practices to become free and diverse (Groff,

2013). Teachers should move along the lines of initiating principle-based pedagogical thoughts and proposing practically-oriented technological means with the central goal of improving both at the same time (Law, 2014). Most crucially, this signifies a strong sense of continuous and mutual improvement which motivate one to work together for attaining breakthroughs and new ventures.

The best way of maximizing the potentials associated with technology and innovations for student learning is to build on the unique strengths, be sensitive to the distinctive contexts, and be aware of the potential limitations when it comes to the planning processes of design and implementation. In Hong Kong, one can observe how many professional teachers remain thoughtful and articulate when introducing technology and innovations into various aspects of education. For instance, eCitizen Education 360 (2021) offers a series of school seminars, workshops, sharing sessions, and symposiums, which allow many devoted schools and teachers to disseminate and share their successful experiences and evidence-based practices with one another, especially in terms of utilizing educational technology to open new possibilities in digital learning. Another example is the 11th annual Learning and Teaching Expo (2021) which has a particular focus on gathering and showcasing a wide spectrum of educational terrains and education reforms driven by new and emerging technologies, which allow students to remain future-ready in the post-COVID-19 pandemic era.

Principle 8: Reconceptualizing Teachers as Designers and Facilitators

In disruptive times like the outbreak of the COVID-19 pandemic, learning can take place without teaching (Weimer, 2015). The democratization of knowledge under technology also allows students to get access to all sorts of knowledge from a wide range of channels and sources quickly and easily (Arocena & Sutz, 2014). It is also possible that some students are at times more knowledgeable about technology as compared to their teachers (Murray, 2011). Therefore, teachers should no longer merely act as an instructor who delivers and transmits knowledge, given the fact that this is merely shaping a teacher-centered rather than student-centered classroom (Keiler, 2018). Instead, they should target creating diverse learning opportunities and conducive learning environments for students grounded on the principles of science of learning, such that all of them can unleash their unique potential and attain individual success (Schleicher, 2011). With the involvement and companionship of teachers, the learning process can become more inspiring and less intimidating through guidance, scaffolding, and encouragement (Zakaria et al, 2016).

Therefore, teachers should make the best and full use of their valuable expertise and unique experience to shape a conducive learning environment that is favorable to novice students, especially when it comes to filtering information, discerning errors, and devising reasonable decisions (Krahenbuhl, 2016). An illustrative example is at Tin Shui Wai Heung To Secondary School, where the Science, Technology, Engineering, and Mathematics teacher guides students to solve tiny daily problems they have met in school, such as long queues at canteen, tissue paper running out fast in washrooms, through design thinking. This involves prototyping and testing various solutions, which strengthen their confidence and empathy. Another interesting instance is at Tang Shiu Kin Victoria Government Secondary School, where the Visual Arts teacher prepares some laser-cut Chinese character components so that students can assemble them to create makeshift characters (Institute of Design Knowledge, 2021).

In Hong Kong, by capitalizing on the potential associated with digital and multimedia technologies, many teachers have become agents of change and innovative designers, who reconceptualize and transform many of the curricular, pedagogical, and assessment initiatives and strategies in terms of their planning, implementation, and evaluation (Moorhouse & Wong, 2021). It should be noted that the intervention of technology is by no means marginalizing or replacing, but advocating and driving teachers to accompany, guide, and inspire students along their learning trajectory. Technology has seemingly become a mutual entry point for rethinking and redesigning their learning and teaching approaches and strategies (Chan, 2020c). Nonetheless, this exploration is extending beyond the technological dimension. For instance, throughout the pandemic, some of the prominent educational issues included the facilitation of self-directed and self-regulated learning, enhancement of student motivation and engagement, maintenance of mental health and well-being, and transformation of outmoded assessment practices (Education University of Hong Kong, 2021; Liang, 2022; Ng, 2020). At the same time, educational changes are enhanced by the rapid emergence of professional learning communities within and across schools. Teachers can subsequently learn from and work with one another in terms of developing school-based curricula, planning collaborative lessons, sharing resources and practices, discussing concerning issues, and conducting action research and evaluation studies (Ng et al., 2020).

Principle 9: Emphasizing Student Equity and Inclusion

The COVID-19 pandemic is further exposing and exacerbating educational inequalities in terms of student engagement and educational attainment, which are at times subtle or silent in every society (Frohn, 2021). The digital divide problem is evident when many students from poor and underprivileged backgrounds have no electronic devices and unstable Internet connections for online classes (Shek, 2021). In Hong Kong, well before the outbreak of the pandemic, the government, business companies, and non-governmental organizations have been mobilizing and allocating more resources to subsidize the purchase of hardware for those in need, to ensure no one is left behind. At the same time, another equally vulnerable group is students with special educational needs who often struggle to catch up with school classes due to issues of self-regulation, anxiety, and communication. Therefore, more support is offered by individual schools or even non-governmental organizations in terms of helping students to remain on task, understand instructions, and complete the work (Kok et al., 2022). Hong Kong has shown substantial efforts in tracking the progress and satisfying the needs of various student groups to close gaps and ensure that all students have access to high-quality learning and teaching.

The attainment of student equity is not simply about allocating more targeted resources, infrastructures, and services to the marginalized and vulnerable students, but recognizing the presence, participation, and achievement of every single student (Blackman, 2021). An inclusive curriculum is recognizing that while students are at different learning points and may require different learning support, they are all capable of excellent progress and ultimately high achievement under the appropriate conditions. Every student is unique and what matters most is how to find ways to facilitate their self-actualization. While there is still a common curriculum and standards in place for consistent and high-quality schooling, Hong Kong's case has shown how teachers can make curriculum and standards less centralized and prescriptive by recognizing and responding to individual learners' interests and aspirations, levels of attainment, rates of progress, and learning needs, as well as allowing students to see the meaning and relevance of their learning. Meanwhile, learning is made less passive and reproductive as well as more relevant and meaningful

to individual learners, which requires granting students more agency and control over their learning (Yin et al., 2020).

Principle 10: Mobilizing and Engaging the Whole Community with Synergy


The resilient spirit of Hong Kong citizens in employing collective effort throughout the COVID-19 pandemic can be attributed to the long-standing Lion Rock Spirit (Wu, 2020). These aligned responsibilities and efforts are important for supporting learning at all levels of the learning system and co-inventing the “new normal” together. While the government and schools are often seemingly playing relatively dominant roles when it comes to student learning, both stakeholders have their inherent limitations which require other equally prominent stakeholders to complement them, especially when the provision of education is a shared endeavor (Pang, 2004). Across all learning systems around the world, there is a need to perceive education from a more holistic and integrative perspective, which involves shifting from less egocentric principles and practices to more collective ones for the sake of cultivating a more sustainable and just system for the common good (Makrakis & Kostoulas-Makrakis, 2021). Thanks to Hong Kong’s long-standing historical and social conditions, there is a very mature learning ecosystem cultivated within the educational community, which shows ambitious, coherent, and aligned aspirations, goals, and priorities regarding student learning (Pang, 2004).

In Hong Kong, there is a self-regulating interplay of public and non-public sectors in the provision of education as both are integrating and drawing on the resources and expertise of one another (Chan et al., 2004). The public sector largely engages and consults the whole community and various stakeholders in conversations about specific needs and expectations, and the design and implementation of relevant means and strategies. Meanwhile, the non-public sector, such as Hong Kong Jockey Club and Microsoft Hong Kong Limited, fills the gaps in policies and services, funds research and development, foresees emerging needs, and serves as think tanks. Both the top-down and bottom-up dimensions are interacting dynamically and resonate strongly to support and strengthen student learning (Education Commission, 2011). The most intriguing part of Hong Kong’s experience is how these parties are taking up their respective roles and responsibilities actively and spontaneously, under the context that there are often no hard measures or policies, or monetary incentives introduced to advocate. Meanwhile, the close and continuous communication and interaction allow them to have a clear division of labor as they have a better sense of each other’s positionings and contributions from time to time, such that all their devoted efforts will not be overlapping or even conflicting, and no dimensions will be left undermined and unattended.

Conclusion

Many of the challenges, whether perceived or real, can be turned into opportunities. The outbreak of the COVID-19 pandemic reminds all individuals that many institutions and practices they get accustomed to having already become largely obsolete (Zhao & Watterston, 2021). The pandemic as a once-in-a-century crisis forces the education sector to confront squarely and seriously the dysfunctional “old normal” and reimagine the “new normal” through shifting paradigms and transforming perspectives (Mbhiza, 2021). Mere modification of the time-honored rhythms and routines, as well as patterns and norms without any critical examination and questioning, can never allow the system to respond to the series of dynamic global and local changes at present and in the future. Instead, there is a need to reimagine and recreate human institutions, especially orienting towards both the dimensions of purpose and meaning driven by students (Zhao, 2020).

Hong Kong's experiences in coping with the pandemic as well as preparing for the future ahead demonstrates the viabilities and possibilities of various stakeholders coming together to initiate changes at all layers, sectors, and domains of the learning system. All learning systems around the world are exploring ways to constantly navigate, evolve, and adapt to the world. Nonetheless, there are admittedly still many structural constraints and deep-seated problems remaining to be resolved or even exacerbated throughout the journey (Bozkurt et al., 2020). The notion of "new normal" should by no means be merely limited to a facile or catchy slogan (Pacheco, 2021). This conceptual article makes an important attempt in unfolding the notion by both identifying and explaining the change patterns that Hong Kong has been and is undergoing since the outbreak of the pandemic. As addressed by the author at the very beginning, while this conceptual discussion does not aim to be an exhaustive one that captures all the instances and examples in Hong Kong, it still hopes to make a tiny yet important contribution to the field of comparative and international education by serving as a springboard in terms of capturing some of the most pertinent observations regarding how such learning system has long been bolstering educational attainment in the time of pandemic as an illustrative example of future unanticipated crises.

Adrian LAM Man-Ho is currently a Course Tutor at the Department of Politics and Public Administration, a Guest Lecturer in the Faculty of Education, and a Research Group Member for the Common Core Curriculum at the University of Hong Kong. Email: u3519028@connect.hku.hk
 <https://orcid.org/0000-0001-9778-3125>

References

- Adamson, B., & Morris, P. (2007). Comparing curricula. In *Comparative Education Research* (pp. 263-282). Springer, Dordrecht.
- Alsuwaida, N. (2022). Online Courses in Art and Design During the Coronavirus (COVID-19) Pandemic: Teaching Reflections From a First-Time Online Instructor. *SAGE Open*, 12(1), 21582440221079827.
- Al-Sholi, H. Y., Shadid, O. R., Alshare, K. A., & Lane, M. (2021). An agile educational framework: A response for the covid-19 pandemic. *Cogent Education*, 8(1), 1980939.
- Amorós, M. O., Sánchez, J. P. E., & Sabuco, A. M. (2020). How super skills for life may help children to cope with the covid-19: psychological impact and coping styles after the program. *Revista de Psicología Clínica con Niños y Adolescentes*, 7(3), 88-93.
- Arnové, R. F. (2013). *Comparative education: The dialectic of the global and the local*. Rowman & Littlefield.
- Arocena, R., & Sutz, J. (2014). Innovation and democratisation of knowledge as a contribution to inclusive development. In *National Innovation Systems, Social Inclusion and Development*. Edward Elgar Publishing.
- Blackman, S. N. (2021). The impact of Covid-19 on education equity: A view from Barbados and Jamaica. *Prospects*, 1-15.
- Bolstad, R., Gilbert, J., McDowall, S., Bull, A., Hipkins, R., & Boyd, S. (2012). Supporting future-oriented learning and teaching: A New Zealand perspective.

- Bozkurt, A., Jung, I., Xiao, J., Vladimirschi, V., Schuwer, R., Egorov, G., ... & Paskevicius, M. (2020). A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis. *Asian Journal of Distance Education, 15*(1), 1-126.
- Bressoux, P., & Bianco, M. (2004). Long-term teacher effects on pupils' learning gains. *Oxford review of education, 30*(3), 327-345.
- Brown, A. L. (1997). Transforming schools into communities of thinking and learning about serious matters. *American psychologist, 52*(4), 399.
- Butler, M. (2022). Interdisciplinary experiential learning during COVID-19: lessons learned and reflections for the future. *Journal of Environmental Studies and Sciences, 1-9*.
- Centre for Advancement of Chinese Language Education and Research. (2022). Knowledge Exchange Forum (4) -- Cross-culture and Cross-border School Starting and Bridging Under the "New Normal".
<https://www.cacler.hku.hk/en/events/events/ke-forum-2020-8-20>
- Chai, J., Xu, H., An, N., Zhang, P., Liu, F., He, S., ... & Li, Y. (2021). The Prevalence of Mental Problems for Chinese Children and Adolescents During COVID-19 in China: A Systematic Review and Meta-Analysis. *Frontiers in pediatrics, 9*.
- Chan, B. (2022, February 11). Hong Kong's repeated school closures will have a lifelong impact on children. South China Morning Post.
<https://www.scmp.com/comment/opinion/article/3166468/hong-kongs-repeated-school-closures-will-have-lifelong-impact>
- Chan, C. K., & van Aalst, J. (2018). Knowledge building: Theory, design, and analysis. In *International handbook of the learning sciences* (pp. 295-307). Routledge.
- Chan, H. H. (2020a, March 16). Coronavirus: Hong Kong students adapt to online learning amid class suspension over pandemic. South China Morning Post.
<https://www.scmp.com/news/hong-kong/education/article/3075280/coronavirus-hong-kong-students-adapt-online-learning-amid>
- Chan, H. H. (2020b, May 6). Coronavirus: Masks, lost progress and summer break among questions facing Hong Kong schools ahead of campus return. South China Morning Post.
<https://www.scmp.com/news/hong-kong/education/article/3083005/coronavirus-masks-lost-progress-and-summer-break-among>
- Chan, H. H. (2020c, October 27). Covid-19 won't last forever, but online learning here to stay, former Hong Kong finance chief says in predicting 'new normal' for education. South China Morning Post.
<https://www.scmp.com/news/hong-kong/education/article/3107108/covid-19-wont-last-forever-online-learning-here-stay>

- Chan, H. H. (2021a, February 15). Stuck at home through coronavirus pandemic, Hong Kong students get help to open up about feelings, needs. South China Morning Post.
<https://www.scmp.com/news/hong-kong/education/article/3121714/stuck-home-through-coronavirus-pandemic-hong-kong-students>
- Chan, H. H. (2021b, February 22). Hong Kong schools welcome back pupils as Covid-19 rules eased to allow a third of student population on site. South China Morning Post.
<https://www.scmp.com/news/hong-kong/education/article/3122582/hong-kong-schools-welcome-back-pupils-covid-19-rules-ease>
- Chan, H. H. (2021c, August 26). Hong Kong primary school urges government to rethink vaccination requirements for resuming full-day classes. South China Morning Post.
<https://www.scmp.com/news/hong-kong/education/article/3146372/hong-kong-primary-school-urges-government-rethink>
- Chan, K. T., Chan, C. S., Hung, S. Y., & Mak, W. Y. (2004). Study on the Third Sector Landscape in Hong Kong. Hong Kong: Policy Unit (CPU), Hong Kong Special Administrative Region Government.
- Cheng, K. M. (2010). Shanghai and Hong Kong: Two distinct examples of education reform in China. *Organisation for economic co-operation and development, strong performers and successful performers in education: Lessons from PISA for the United States*, 83-115.
- Cheng, K. M. (2020). *Hong Kong Schools under COVID-19*. Unpublished PowerPoint presentation, The University of Hong Kong, Hong Kong.
- Cheng, K. M. (2017). Advancing 21st century competencies in East Asian education systems. *Center for Global Education. Asia Society*, 2, 26.
- Clark, B. R. (1986). *The higher education system: Academic organization in cross-national perspective*. University of California Press.
- Curriculum Development Council. (2014). Basic education curriculum guide – To sustain, deepen and focus on learning to learn (Primary 1 – 6).
http://www.edb.gov.hk/attachment/en/curriculum-development/doc-reports/guide-basic-edu-curriculum/BECG_2014_en.pdf
- Curriculum Development Council & Hong Kong Examinations and Assessment Authority. (2021). Citizenship and Social Development Curriculum and Assessment Guide (Secondary 4 – 6).
https://ls.edb.hkedcity.net/file/C_and_A_guide/202106/CS_CAG_S4-6_Eng_2021.pdf
- Demirel, M. (2009). Lifelong learning and schools in the twenty-first century. *Procedia-Social and Behavioral Sciences*, 1(1), 1709-1716.

- Di Pietro, G., Biagi, F., Costa, P., Karpiński, Z., & Mazza, J. (2020). *The likely impact of COVID-19 on education: Reflections based on the existing literature and recent international datasets* (Vol. 30275). Publications Office of the European Union.
- D'Agostino, E. M., Urtel, M., Webster, C. A., McMullen, J., & Culp, B. (2021). Virtual physical education during COVID-19: Exploring future directions for equitable online learning tools. *Frontiers in sports and active living*, 3.
- eCitizen Education 360. (2021, November 1). Past Events.
<https://www.ecitizen.hk/360/events>
- Education Bureau. (2019, June). Task Force on Review of School Curriculum: Consultation Document. https://www.edb.gov.hk/attachment/en/curriculum-development/renewal/taskforce_cur/TF_CurriculumReview_Consultation_e.pdf
- Education Bureau. (2021a, November 1). *School-based Support Services*.
<https://www.edb.gov.hk/en/curriculum-development/resource-support/sbss/index.html>
- Education Bureau. (2021b, November 30). *Ongoing Renewal of the School Curriculum: Background*.
<https://www.edb.gov.hk/en/curriculum-development/renewal/index.html>
- Education Bureau. (2021c, December 6). *Ongoing Renewal of the School Curriculum: The School Curriculum Framework*. <https://www.edb.gov.hk/en/curriculum-development/renewal/framework.html>
- Education Bureau. (2022, January 3). Life-wide Learning. Retrieved from <https://www.edb.gov.hk/en/curriculum-development/curriculum-area/life-wide-learning/index.html>
- Education Commission. (2011). Report on the Development of Education Services in Hong Kong. Education Commission Working Group on the Development of Education Services in Hong Kong. Retrieved from https://www.e-c.edu.hk/doc/en/publications_and_related_documents/education_reports/Report_Dev_Edu_Service_Eng.pdf
- Education University of Hong Kong. (2021). Towards A Paradigm Shift for A New Model of Alternative Assessment.
<https://www.eduhk.hk/lttc/asi/index.html>
- Elmer, T., Mepham, K., & Stadtfeld, C. (2020). Students under lockdown: Comparisons of students' social networks and mental health before and during the COVID-19 crisis in Switzerland. *Plos one*, 15(7), e0236337.
- Engzell, P., Frey, A., & Verhagen, M. D. (2021). Learning loss due to school closures during the COVID-19 pandemic. *Proceedings of the National Academy of Sciences*, 118(17).
- Faculty of Social Sciences. (n.d.). Jockey Club "Peace and Awareness" Mindfulness Culture in Schools Initiative (JC Panda).
<https://www.socsc.hku.hk/jcpanda/?lang=en>

- Frohn, J. (2021). Troubled schools in troubled times: How COVID-19 affects educational inequalities and what measures can be taken. *European Educational Research Journal*, 20(5), 667-683.
- Genna, A.B. (2020, October 6). What comes first – technology or pedagogy?. Education Technology. Retrieved from <https://edtechnology.co.uk/features/what-comes-first-technology-or-pedagogy/>
- Groff, J. (2013). Technology-rich innovative learning environments. *OCED CERI Innovative Learning Environment project, 2013*, 1-30.
- Hughes, C. (2021). *Education and Elitism: Challenges and Opportunities*. Routledge.
- Institute of Design Knowledge. (2021). Design Thinking in Education – Investing in a Generation of Future-Oriented Talents. Retrieved from <https://www.idk-hkdc.org/blog-happenings2019/design-thinking-for-teachers>
- Jackson, L. (2020). *Beyond virtue: The politics of educating emotions*. Cambridge University Press.
- JUST FEEL. (2022). About us. <https://www.justfeel.hk/about-us>
- Keiler, L. S. (2018). Teachers' roles and identities in student-centered classrooms. *International journal of STEM education*, 5(1), 1-20.
- Kok, X., Amrit, D., Raissa, R., & Yshar, D. (2022, February 26). From Hong Kong to Malaysia and India, how online learning failed special needs students during the Covid-19 pandemic. South China Morning Post. <https://www.scmp.com/week-asia/health-environment/article/3168341/hong-kong-malaysia-and-india-how-online-learning>
- Krahenbuhl, K. S. (2016). Student-centered education and constructivism: Challenges, concerns, and clarity for teachers. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 89(3), 97-105.
- Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek, E., & Liu, J. (2020). Projecting the potential impact of COVID-19 school closures on academic achievement. *Educational Researcher*, 49(8), 549-565.
- Kumi-Yeboah, A., Kim, Y., Sallar, A. M., & Kiramba, L. K. (2020). Exploring the Use of Digital Technologies from the Perspective of Diverse Learners in Online Learning Environments. *Online Learning*, 24(4), 42-63.
- Laal, M., & Salamati, P. (2012). Lifelong learning; why do we need it?. *Procedia-Social and Behavioral Sciences*, 31, 399-403.
- Lam, D. (2020). How can learning beyond the classroom nurture children to become more well-rounded?. South China Morning Post. <https://www.scmp.com/presented/news/hong-kong/education/topics/edtalk-kis/article/3099538/kis-learning-beyond-classroom>

- Lam, N., Cheng, L., & Ng, K. C. (2022, February 28). Hong Kong students' summer holiday to start on March 7, but international schools, kindergartens granted exceptions. *South China Morning Post*.
<https://www.scmp.com/news/hong-kong/education/article/3168636/university-entrance-exam-candidates-hong-kong-will-need>
- Law, N. (2014). Knowledge Building Pedagogy and Teachers' Technological Pedagogical Content Knowledge. In *Knowledge Creation in Education* (pp. 227-247). Springer, Singapore.
- Law, N., Tan, C. Y., Lan, M., & Pan, Q. (2021). *eCitizen Education 360 Project - Bulletin 5: Parent-Child Communication and Relationship are Key to Students' Wellbeing at Home and in School*. Hong Kong: Faculty of Education, The University of Hong Kong.
https://360-cms.ecitizen.hk/uploads/bulletin05_en_a1e4363001.pdf
- Learning and Teaching Expo 2021. (2021). Learning and Teaching Expo 2021: Actualising Future Ready Education. <https://www.ltexpo.com.hk/LTE/learning-and-teaching-expo-2021-highlights/>
- Lenhoff, S. W., & Ulmer, J. B. (2016). Reforming for "All" or for "Some": Misalignment in the Discourses of Education Reformers and Implementers. *Education Policy Analysis Archives*, 24(108).
- Li, Y., Zhang, X., Dai, D. Y., & Hu, W. (2021). Curriculum innovation in times of the COVID-19 pandemic: the thinking-based instruction theory and its application. *Frontiers in Psychology*, 12, 1140.
- Liang, T. (2022, January 28). Coronavirus: more than 60 per cent of Hong Kong's young people do not seek help for mental health issues, survey shows. *South China Morning Post*.
<https://www.scmp.com/news/hong-kong/health-environment/article/3165200/coronavirus-more-60-cent-hong-kongs-young-people>
- Low, Z. (2021, February 3). Hong Kong coronavirus fourth wave: up to a third of pupils allowed to resume face-to-face classes after holiday, Education Bureau says. *South China Morning Post*.
<https://www.scmp.com/news/hong-kong/education/article/3120417/hong-kong-coronavirus-fourth-wave-third-students-allowed>
- Lui, W., & Lam, A. (2022). The Critical Engagement of Higher Education with Future Crises. *Dewey Studies*. 5(2).345-362.
- Maguire, M., & Ball, S. J. (1994). Discourses of educational reform in the United Kingdom and the USA and the work of teachers. *Journal of In-Service Education*, 20(1), 5-16.
- Makrakis, V., & Kostoulas-Makrakis, N. (2021). Responsibility and Co-Responsibility in Light of COVID-19 and Education for Sustainability through an Aristotelian Lens. *Sustainability and Climate Change*, 14(3), 158-165.

- Manca, F., & Meluzzi, F. (2020). Strengthening online learning when school are closed: The role of families and teachers in supporting students during the COVID-19 crisis. *OECD Policy Responses to Coronavirus (COVID-19)*.
- Marsh, C., & Lee, J. C. K. (Eds.). (2014). *Asia's high performing education systems: The case of Hong Kong*. Routledge.
- Mazzocchi, F. (2021). Being Interconnected at the Time of COVID-19 Pandemic: A Call to Regain the Sense of Community. *Journal of Futures Studies*, 25(3), 39-48.
- Mbhiza, H. W. (2021). Shifting Paradigms: Rethinking Education During and Post-COVID-19 Pandemic. *Research in Social Sciences and Technology*, 6(2), 279-289.
- Means, B., Bakia, M., & Murphy, R. (2014). *Learning online: What research tells us about whether, when and how*. Routledge.
- Millar, K. (2022). Student growth measures show the way to educational success: Look beyond measures of student achievement to find out what you really need to know. https://www.sas.com/en_hk/insights/articles/analytics/student-growth-measures-show-the-way-to-educational-success.html
- Mok, K. H., Xiong, W., & Bin Aedy Rahman, H. N. (2021). COVID-19 pandemic's disruption on university teaching and learning and competence cultivation: Student evaluation of online learning experiences in Hong Kong. *International Journal of Chinese Education*, 10(1), 1-20.
- Moorhouse, B. L., & Wong, K. M. (2021). The COVID-19 Pandemic as a catalyst for teacher pedagogical and technological innovation and development: Teachers' perspectives. *Asia Pacific Journal of Education*, 1-16.
- Morelli, M., Cattelino, E., Baiocco, R., Trumello, C., Babore, A., Candelori, C., & Chirumbolo, A. (2020). Parents and children during the COVID-19 lockdown: The influence of parenting distress and parenting self-efficacy on children's emotional well-being. *Frontiers in Psychology*, 11, 2584.
- Morning Studio editors. (2020, June 17). Tomorrow's world of education: students learn online in Covid-19 lockdown, but what edtech advances can we expect?. South China Morning Post. <https://www.scmp.com/presented/business/topics/reimagine-education/article/3089288/tomorrows-world-education-students>
- Murray, J. (2011, November 21). Do students know more about technology than their teachers?. The Guardian. <https://www.theguardian.com/education/2011/nov/21/multiple-choice-students-teachers-technology>
- Ng, D., Wong, C. P., & Liu, S. (2020). *Future-ready learners: learning, lifework, living, and habits of practices* (No. 20). NIE Working Paper Series.
- Ng, T. K. (2020). Education After Covid-19 – Let's Start Thinking. The Hong Kong Academy for Gifted Education.

- <https://www.hkage.org.hk/en/publications/geinsights/education-after-covid-19-lets-start-thinking>
- Ng, T. K. (2021). New interpretation of extracurricular activities via social networking sites: A case study of artificial intelligence learning at a secondary school in Hong Kong. *Journal of Education and Training Studies*, 9(1), 49-60.
- Ng, T. K., Reynolds, R., Chan, M. Y. H., Li, X. H., & Chu, S. K. W. (2020). Business (teaching) as usual amid the COVID-19 pandemic: A case study of online teaching practice in Hong Kong. *Journal of Information Technology Education. Research*, 19, 775.
- Organisation for Economic Cooperation and Development. (2018). The future of education and skills: Education 2030. *OECD Education Working Papers*.
- Organisation for Economic Cooperation and Development. (2020). *Education and COVID-19: Focusing on the long-term impact of school closures*. OECD Publishing.
- Pacheco, J. A. (2021). The “new normal” in education. *Prospects*, 51(1), 3-14.
- Pang, I. W. (2004). School–family–community partnership in Hong Kong—perspectives and challenges. *Educational Research for Policy and Practice*, 3(2), 109-125.
- Pokhrel, S., & Chhetri, R. (2021). A literature review on impact of COVID-19 pandemic on teaching and learning. *Higher Education for the Future*, 8(1), 133-141.
- Ponnudurai, P., & Ponniah, L. S. (2020). Future Ready Universities: Embracing the 4th Industrial Revolution. In *Preparing 21st Century Teachers for Teach Less, Learn More (TLLM) Pedagogies* (pp. 54-66). IGI Global.
- Positive Education Hong Kong. (2018). What we are about. <https://www.positiveeducation.org.hk/?lang=en>
- Richter, I., Avillanosa, A., Cheung, V., Goh, H. C., Johari, S., Kay, S., ... & Austen, M. C. (2021). Looking through the COVID-19 window of opportunity: Future scenarios arising from the COVID-19 pandemic across five case study sites. *Frontiers in psychology*, 12, 2707.
- Schleicher, A. (2011). Lessons from the world on effective teaching and learning environments. *Journal of Teacher Education*, 62(2), 202-221.
- Schleicher, A. (2018). Educating learners for their future, not our past. *ECNU Review of Education*, 1(1), 58-75.
- Schwartz, K. D., Exner-Cortens, D., McMorris, C. A., Makarenko, E., Arnold, P., Van Bavel, M., ... & Canfield, R. (2021). COVID-19 and student well-being: Stress and mental health during return-to-school. *Canadian Journal of School Psychology*, 36(2), 166-185.
- Shek, D. T. (2021). COVID-19 and quality of life: Twelve reflections. *Applied Research in Quality of Life*, 16(1), 1-11.

- Sneader, K., & Singhal, S. (2020). Beyond coronavirus: The path to the next normal. *McKinsey & Company*, 5.
- Spelt, E. J., Biemans, H. J., Tobi, H., Luning, P. A., & Mulder, M. (2009). Teaching and learning in interdisciplinary higher education: A systematic review. *Educational Psychology Review*, 21(4), 365-378.
- Tan, C. (2018). *Comparing high-performing education systems: understanding Singapore, Shanghai, and Hong Kong*. Routledge.
- Tucker, M. (2014, June 3). Tucker's Lens: Kai-Ming Cheng on Learning. <https://ncee.org/quick-read/tuckers-lens-kai-ming-cheng-on-learning/>
- United Nations Educational, Scientific, and Cultural Organisation. (2020). Education in a post-COVID world: Nine ideas for public action. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000373717/>
- Uttam, P. (2020, December 10). How edtech innovation could change global learning habits long after Covid-19. South China Morning Post. Retrieved from <https://www.scmp.com/native/news/hong-kong/education/topics/esperanza-reimagine-education/article/3112894/how-edtech>
- Valverde-Berrocoso, J., Fernández-Sánchez, M. R., Revuelta Dominguez, F. I., & Sosa-Díaz, M. J. (2021). The educational integration of digital technologies preCovid-19: Lessons for teacher education. *PloS one*, 16(8), e0256283.
- Vegas, E. & Winthrop, R. (2020, September 8). Beyond reopening schools: How education can emerge stronger than before COVID-19. Brookings Institution. Retrieved from <https://www.brookings.edu/research/beyond-reopening-schools-how-education-can-emerge-stronger-than-before-covid-19/>
- Wah Yan College Kowloon. (2019). Examen. <https://wyk.edu.hk/examen/>
- Wang, T. (2020). The COVID-19 crisis and cross-cultural experience of China's international students: A possible generation of glocalized citizens?. *ECNU Review of Education*, 2096531120931519.
- Weimer, M. (2015, June 17). What Is Teaching without Learning?. Faculty Focus. Retrieved from <https://www.facultyfocus.com/articles/teaching-and-learning/what-is-teaching-without-learning/>
- Whitehead, K. (2021, May 9). Why Hong Kong's leading education reformer is thinking of turning to TikTok. South China Morning Post. https://www.scmp.com/magazines/post-magazine/article/3132695/why-hong-kongs-leading-education-reformer-thinking-turning?module=perpetual_scroll_0&pgtype=article&campaign=3132695
- Wu, A. (2020, February 17). As the coronavirus spreads, Hong Kong must fight the epidemic of fear and awaken the Lion Rock spirit. South China Morning Post. <https://www.scmp.com/comment/opinion/article/3050640/coronavirus-spreads-hong-kong-must-fight-epidemic-fear-and-awaken>

- Yin, H., Lee, J. C. K., & Zhang, Z. (2020). Catering for learner diversity in Hong Kong secondary schools: Insights from the relationships between students' learning styles and approaches. *ECNU Review of Education*, 3(4), 610-631.
- Young, M., & Muller, J. (2013). On the powers of powerful knowledge. *Review of education*, 1(3), 229-250.
- Yuen, S., Boulton, H., & Byrom, T. (2018). School-based curriculum development as reflective practice: a case study in Hong Kong. *Curriculum Perspectives*, 38(1), 15-25.
- Zakaria, Z., Care, E., & Griffin, P. (2016). Scaffolding Instruction Where It Matters: Teachers' Shift from Deficit Approach to Developmental Model of Learning. *Journal of Education and Practice*, 7(23), 144-152.
- Zhao, Y. (2020). COVID-19 as a catalyst for educational change. *Prospects*, 49(1), 29-33.
- Zhao, Y. (2021). Build back better: Avoid the learning loss trap. *Prospects*, 1-5.
- Zhao, Y., & Watterston, J. (2021). The changes we need: Education post COVID-19. *Journal of Educational Change*, 22(1), 3-12.