

Co-creating a New Normal of Empowered Learning through Digital Citizenship Research

Team leader: Nancy Law

Team members: Catherine K.K. Chan, Jimmy de la Torre, Elizabeth K.Y. Loh, Nirmala Rao, Frank Reichert, C.Y. Tan, Gary K.W. Wong, Patrick Lam, Landon M. Lan, Qianru Liang, Qianqian Pan, Yuxiao Zhang

Faculty of Education

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Summary of the Impact

- The Learning and Assessment for Digital Citizenship (eCitizen) Project wave 1 study findings released in April 2020 revealed huge intra- and inter- school divides in digital literacy (DL) achievement among primary and secondary students within and across schools. School e-learning experience had minimal contribution to students' DL achievement. The media and the public immediately realized the serious implications for online learning during COVID-19 induced school suspension.
- eCitizen Education 360 (e360) was launched in May 2020 with wide support from the education sector, NGOs and charities as an action-focused comprehensive 360-degree survey study to guide evidence-based community-wide action to support the learning of students, families, schools and teachers under the New Normal.

Underpinning Research (outline to explain quality)

- eCitizen project goal: to study the impact of digital media on the learning lives of children and youth, and on their development as citizens in an increasingly technology-intensive and globally connected world
- Nature of project: multi-pronged interdisciplinary research
- Grand challenges addressed by eCitizen:
 - Developed valid and reliable assessments of digital citizenship (with digital literacy (DL) at the core.
 - Develop innovative methodologies, including connected surveys to understand how various contextual factors influences DL development
- eCitizen Education 360 research goal: using an ecological framework to identify online learning and teaching preparedness factors for students, teachers, school leaders, parents, and school level e-learning strategy.
- eCitizen Education 360 research findings: discovered the key pre-existing conditions at multiple levels of the school ecology and their interactions that contribute to the online preparedness factors for different stakeholders, based on which action-oriented recommendations can be derived.

Underpinning Research (when, who, & researcher roles)

• When conducted?

- eCitizen: Nov 2016 to March 2021, Wave 1 results released Apr 2020
- e360: preparation May-June 2021,, data collection Jun-July 2020, first set of findings released on 20 Jul 2020, and targeted completion Aug 2021.
- The research reported here are all conducted by the eCitizen research team, and the core members who contributed to this research are listed on p.1, with roles as follows:
- Who are involved and their roles:
 - PI: Nancy Law (PI for both eCitizen and e360)
 - Co-PI for eCitizen (Jimmy de la Torre, Nirmala Rao), co-I for eCitizen (Elizabeth K.Y. Loh, Frank Reichert, Gary K.W. Wong), Postdocs for eCitizen (Landon M. Lan, Qianqian Pan), research staff for eCitizen (Patrick Lam, Yuxiao Zhang), PhD in eCitizen (Qianru Liang)
 - Co-PI for e360: C.Y. Tan,
 - KE advisor for eCitizen and e360: Catherine K.K. Chan

Underpinning Research (contextual information about this research)

We have broken new grounds in measurements of DL & context.

Computers & Education 157 (2020) 103968





Measuring digital literacy across three age cohorts: Exploring test dimensionality and performance differences

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Computers in Human Behavior 122 (2021) 106850

Do background characteristics matter in Children's mastery of digital literacy? A cognitive diagnosis model analysis



Qianru Liang, Jimmy de la Torre^{*}, Nancy Law

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Underpinning Research

(Innovativeness of the knowledge arising from your research)

Instruments revealed huge diversities in digital literacy achievement among primary and secondary students within and across schools.



Learning and Assessment for DIGITAL CITIZENSHIP



This project is funded by the Research Grants Council of the Hong Kong SAR, China, under its Theme-based Research Scheme [Project No. T44-707/16-N]. Project Coordinator: Professor Nancy Law, The University of Hong Kong. https://ecitizen.hk/

	What students can do	What students cannot do
Information and data literacy	Simple search, evaluation & organization of information	 Formulate complex search for highly relevant results, evaluate information
Communication and collaboration	Simple, routine communications & sharing digital information	Adapt communication strategy to context, protect digital identity
Digital content creation	Can use common productivity tools to create, edit, change media	Identify media uses that violate intellectual property rights
Digital Safety	Can use simple ways to address risks, protect devices/privacy/content	Sophisticated safety measures, e.g. identify safe ways to use USB drives
Problem solving using ICT	Can solve simple device/ application problems, e.g. smartphone/bookmark	Solve complex device + application problems, e.g. no sound in video

Key challenges

- Huge divide in digital competence performance across & within schools
- Digital divide in home digital access for extensive use in online learning
- Cyberbullying experience & digital safety issues for all 3 age groups
- Students lack advanced digital competence: evaluating relevance & credibility of information, need help with digital safety & cyberwellness
- Only ~40% students receive parental support on digital tech use and safety
- Lack exposure to extensive e-learning
- Lack system level digital citizenship curriculum, support for professional & leadership development in schools

Underpinning Research (Significance of the key insights or findings from the research)

The research reveal multiple interacting factors (school and family) influencing students' and teachers' online learning & teaching effectiveness



Engagement (Engagement process)

- eCitizen Wave 1 findings were disseminated through a widely publicized online press release on 20 Apr 2020, with support from the Faculty ER team and the HKU CPAO.
- Realizing the gravity of the implications ensuing from the digital divides identified, different stakeholder groups and charities reached out to eCitizen team to encourage us to undertake further research to provide evidence-based recommendations to guide learning and teaching under the New Normal.
- Advisory Committee for e360, set up in May 2020 and involving stakeholders from diverse sectors, played a key role in the pathway to impact for this phase of the research, contributing to the formulation of the research questions and instruments.
- The analysis and dissemination of findings was done in planned phases to provide evidencebased recommendations for action in order of urgency.
- Based on an ecological model that conceptualizes the experiences and outcomes for different stakeholders as dependent on pre-school-suspension conditions and their interactions, the team developed constructs to identify critical *online learning preparedness* factors, and the coping strategies of students, parents, teachers, and schools during the school suspension period.
- e360 findings disseminated through press conferences, research bulletins and seminars provide holistic actionable recommendations for different stakeholders, including school leaders, teachers, parents NGOs and charities.
- Recommendations address issues such as effective school e-learning team structures and strategies, teacher professional development priorities, and working with parents, and elaborated by project partners in community-based dissemination events.

Engagement

(External partners)

Advisory Committee was set up with the support from organizations. The e360 was launched within a month of the release of the eCitizen Wave 1 research findings is remarkable, indicating the recognition of the urgency of the problem and the need for the community to make concerted efforts to address the problems

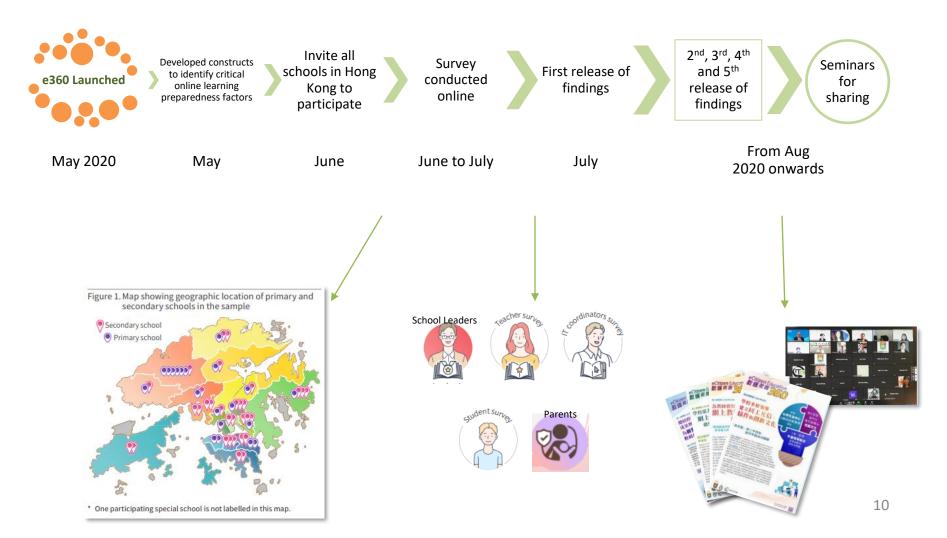
Supporting organizations:

- The HK Jockey Club Charities Trust
- Association of I.T. Leaders in Education (AiTLE)
- The Boys' & Girls' Clubs Association of Hong Kong (BGCA)
- Cyberport
- The HK Association for Computer Education (HKACE)
- HK Association of Careers Masters and Guidance Masters
- HK Association of the Heads of Secondary Schools
- HK EdCity
- HK Playground Association
- HK Subsidized Secondary Schools Council
- Union of Government Primary School Headmasters & Headmistress



Engagement (Innovativeness of the engagement approach)

The pathway to impact during the e360 phase did not follow the conventional route of dissemination after the project ends. We engage stakeholders in the formulation of the research questions and instruments. The analysis and dissemination of findings was done in planned phases to provide evidence-based recommendations for action in order of urgency



Impacts Achieved (Beneficiaries: non-academic sector(s))

The online press releases and seminars were widely publicized through print and social media as well as radio interviews. The recommendations were taken up by charities and NGOs.



Impacts Achieved (Beneficiaries: underprivileged families)

Underprivileged families benefitted from actions of Charities. For example, Zonta Club of Hong Kong took fast, multi-pronged action to provide laptops and simcards to needy students, as well as launched a *Mothers Helping Mothers* e-channel to help mothers learn digital literacy skills to support their children's online learning.



Impacts Achieved (Beneficiaries: child provided by NGOs)

(Beneficiaries: children and families via services provided by NGOs)

NGOs involved with youth and family services took action to structure their services to target different stakeholder groups .



The Boys' & Girls' Club Association of Hong Kong (BGCA) launched a Community Digital Competence Hub to provide teachers and parents with learning resources, talks and activities to help them develop the necessary digital competence and to recognize and reduce the probability of falling victim to cyber-risks. (link)



The cyberbullying issues uncovered in the Wave 1 findings helped the Hong Kong Playgrounds Association (HKPA) them to reach out to schools and promote their program on Youth at Cyber Risk Support Service. HKPA indicated that many schools and teachers are not aware of the extent to which HK students are impacted by various forms of cyberbullying. (link)

Impacts Achieved (Beneficiaries: teachers and school leaders)

Principals and senior teachers from primary and secondary schools interpret and translate the recommendations from the e360 findings based on the experience from their schools.



我用甚麼笑略讓學生捷到學習目

我用基度等略照顾學生的個別學

四,100 四,1

修訂下一個學習設計的目標及策

老師就網上教材的反思

自我評

○ 學生的表現如何?

□ 學生能掌握的地方?

◎ 進一步提升的方法?

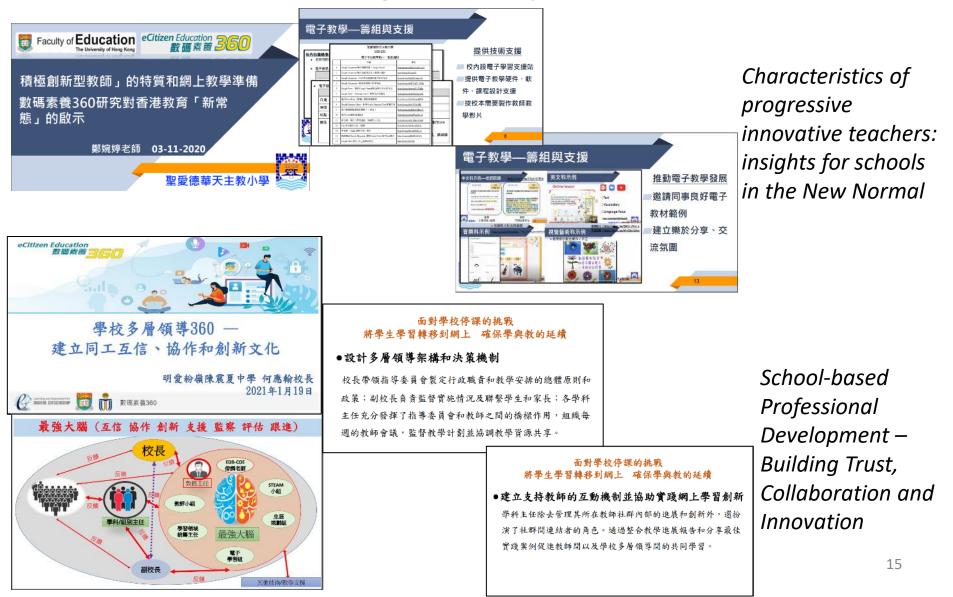
◎ 學生未能掌握的地方?改善策

The journey of schools in closing the digital divide in transition to the "New Normal"

How to form the school team to spearhead innovations and e-learning for teammates to move along?

Impacts Achieved (Beneficiaries: teachers and school leaders)

Principals and senior teachers from primary and secondary schools interpret and translate the recommendations from the e360 findings based on the experience from their schools.



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Principals and senior teachers from primary and secondary schools interpret and translate the recommendations from the e360 findings based on the experience from their schools.



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• Law, N. (10 Nov 2020). *Divide, Social Divide and online learning: insight from research before and during the pandemic*. Invited luncheon talk for Zonta Club's Project ABC, China Club. (<u>link</u>)

Learning and Assessment for DIGITAL CITIZENSHIP

eCitizen Education 360 數碼素養 360

eCitizen Education 360: a research-led community effort to advance learning under the New Normal

Nancy Law University of Hong Kong

Yew Chung and Yew Wah e-Learning Professional Development Day

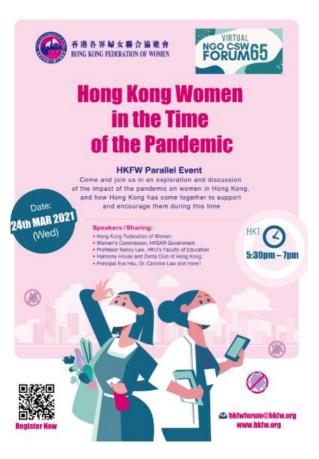
27 November 2020



Impacts Achieved (Nature and extent of the impact) Invited talks –International conventions



Law, N. (21 Nov 2020). 透過行動為本的疫下研究激發多層次『傳染式學習』. Invited talk at the 3rd World Education Frontiers Forum. (<u>link</u>)



Law, N. (24 Mar 2021). An Action-focused Communitybased Study during COVID-19 for Equitable Quality Education for All. Invited presentation at UNCSW 65th session parallel event, HKFW.

Impacts Achieved (Nature and extent of the impact) Invited talks – international academic community

eCitiz parking a multilevel learning epidemic... eCitizen Education And Designed ATTLE BGCA ¢-----E.m. Conserved to the second B'the 32 An action-oriented study to engage community partners in interpreting and making aligned efforts to support learning at all levels to. A study of how students, families, teachers and schools coped with online learning during pandemic Co-INVENT the New Normal (2020-2021) D (coll 0)n: 221561/446.55d July 2020 YouTube CC

Law, N. (30 Nov 2020). Sparking a multilevel learning epidemic through action-oriented research during COVID19. Invited talk at the New Education Normal Webinar Series, NIE, Nanyang Technological University. (<u>link</u>)



Law, N. (26 Jan 2021). Expanding Science of Learning Research to Multilevel Aligned Learning: Studying online learning preparedness of students, teachers, school leaders and the community in HK during COVID19. Invited talk at the Forum for World Education. (link)

Impacts Achieved (Nature and extent of the impact)

Research featured on international media



Home News - State News - Scholarship Exam Notification Compe	Home	State News ~	lome News	Scholarship	Exam	Notification	Competitio
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UNIVERSITY NEWS

HKU Study Confirms Pre-Suspension E-Learning Preparedness And Family Support Critical For Students' Online Learning Success, Calls For Comprehensive Measures To Enhance Online Learning Preparedness

By India Education Diary ... – On Jul 21, 2020

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A research team led by Professor Nancy Law, Deputy Director of the Centre of Information Technology in Education, and Dr Tan Cheng Yong, Academic Unit of Social Contexts and Policies of Education (SCAPE) of the Faculty of Education, the University of Hong Kong (HKU), released the first of a series of six bulletins today (July 20) based on the data collected during school resumption from June to July 2020. The study is entitled "eClitzen Education 360", which aims to collate the experience and needs of schools, teachers, students and parents in the transition to a full-fledged online learning experience during school suspension and their needs thereafter, with a view to taking joint school and community actions to shape quality learning and teaching to prepare for the new normal of many uncertainties. The survey was met with the enthusiastic support from over 1,200 teachers, 1,300 parents and 6,000 students from primary, secondary and special schools.

Key findings

Effort of schools and parents to sustain learning paid off:

· With the effort jointly made by schools and parents, learning was sustained throughout the school



HKU study calls for more measures to enhance e-learning preparedness

Alita Sharon July 21, 2020







Save our oceans to protect our health - scientists call for slobal action plan

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Key research findings

MIRAGE National | World | Local | Business | Technology | Science | Life | Covid-19 Live

School leaders, including 120 senior school leaders, 302 academic middle managers and 114 nonacademic middle managers, were surveyed on their perception about the state of their schools' situation regarding general leadership, e-learning leadership, school culture and climate, and forward planning for the 2020-21 school year. The survey was conducted from mid-june to mid-july 2020, and over 500 valid returns were collected.

1. Campus-wide culture of collaboration, mutual trust, and openness to innovation are key conditions for online teaching and learning preparedness during the New Normal

In their 3rd builetin released in November 2020, the research team reported three key factors influencing teachers' online teaching preparedness: peer sharing and collaboration on online pedagogy, on general online teaching and learning arrangements and their own self-efficacy regarding online teaching. Using a statistical method called Structural Equation Modeling (SEM), they