Chapter 1
Digital Natives and H1N1: How Adversity Can Drive Change

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ABSTRACT
This paper examines what happens when young learners in a primary school in Hong Kong start from learning about information and communication technologies (ICTs) to learning with and through ICTs. The authors focus on how students used learning technologies when an H1N1 outbreak closed the school for three weeks and teachers were required to use ICTs to initiate at-home learning. This gave the researchers an opportunity to assess the capacity of young students using Web 2.0 technologies to support learning and the impact that these tools have on teacher views and practice. Data includes interviews with teachers and examples of students’ work. Findings demonstrate how confident and comfortable young learners are with new technologies, raising questions about prevailing assumptions that young students have the capacity to easily use the existing school-based learning management system and Web 2.0 applications. The authors provide evidence that students can effectively engage with ICTs and demonstrate very high levels of skills. However, students did not do so automatically, and required assessment tasks were often key drivers for initiating student engagement and learning.

INTRODUCTION
This study examines the assumptions behind the notion of the ‘digital native’ (Prensky, 2001a, 2001b) and the claims that the learning needs of digital natives can only be met through radical reforms in educational design (pedagogy) and classroom practice. The opportunity for the study arose in a Hong Kong primary school when Web 2.0 technologies and a school-based learning management system (termed Learning Platform) became central to the learning environment due to an outbreak of H1N1 infection that led to closure.
of the school. The paper focuses on two questions that arose from the response by the school, students and staff to this event. They are:

**Q1:** What is the impact on student learning behaviours when they move from learning about information and communication technologies (ICTs) to learning with and through ICTs?

**Q2:** What is the impact on teacher behaviour and attitudes when circumstances force changes in the way students’ learning is facilitated and managed?

This is not a study that sets out to proclaim the technical agility of digital natives or the promises of 21st century learning; rather it is a story about a typical school with good internet connectivity and access, and committed teachers concerned about doing the best for their children, who begin a ‘forced march to the digital frontier’ because of circumstances. The study also attempts to offer some insights into the impact on professional responsibility and values when circumstances result in the adoption a new paradigm which leads to significant changes in the way learning technologies are perceived and valued by the school community (teachers, students and parents).

**BACKGROUND AND CONTEXT**

The study was situated in an established international primary school based in Hong Kong that has consistently enjoyed a strong reputation among the international and local communities for the quality of its education and excellent examination results. With the prior experience of Severe Acute Respiratory Syndrome (SARS) in 2003, the school developed a contingency plan to support online learning in the event of a school closure. This involved the use of material published on the school’s website. All parents had access to these materials through a portal and a trial was conducted in 2007 to familiarize students and parents with the platform. In September 2008 a full Learning Platform was deployed in the primary school section. While not an overarching or immediate priority, the senior management was keen to see greater integration between technology and learning based upon the availability of the Learning Platform in case of any future SARS-like event. The work reported in this study began initially as long-term research using design-based research methodology (Reeves, 2006) to generate data on students’ learning behaviours, staff perceptions of technology and leadership expectations, with the aim of creating a 360-degree perspective on what actually happens when new technologies and new ways of teaching and learning are proposed and introduced. However, the arrival of H1N1 in June 2009 gave the researchers a unique opportunity to study learning behaviours of students and responses by staff when learning online became a necessity. Only the data from the period associated with the advent of H1N1 is reported here. During this time, the students were required to work at home and the teachers had to manage learning from school: both groups had to find creative ways to use the digital tools and resources available to them to create an engaging and meaningful learning environment.

**LITERATURE REVIEW**

Web 2.0 applications played an important role in this study. The affordances of Web 2.0 applications for student learning are usefully described in recent British Education Communication and Technology Association (BECTA) reports. For example, Luckin et al. (2008) cited Green and Hannon (2007) and Grunwald Associates (2007) in listing potential educational outcomes associated with the use of selected Web 2.0 applications. The outcomes claimed include “creativity, ideas generation, presentation, leadership, team-building, confidence, communication, innovation, initiative,
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