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Author(s)	Gillian Kidman and Chew-Hung Chang
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What does “crisis” education look like?

Gillian Kidman and Chew-Hung Chang

In the recent issues of IRGEE, we have been asking a few questions, trying to look into the crystal ball of our shared futures. We have been asking questions about how well we are preparing children as tomorrow’s citizens and leaders, and if they will have the dispositions, skills and knowledge to take the planet forward for future generations. To try to answer these questions we considered current events happening in both the editors’ local contexts as well as in global events. For instance, the concerns of drought and bush fires in Australia accompanied politicians arguing over swimming pools and women’s sporting facility funding, and there was another attempted political party leadership takeover. In Singapore, people took different stands on the ban on personal mobility devices on pedestrian pavement. At the global level, news about Brexit and the coming United States elections were prominently featured on headlines. More recently, we were alerted to the 2019 Novel Coronavirus (COVID-19) crisis affecting many countries around the world.

While there have been discussions of 21st century competencies that our children will need to flourish in a future economy, one in which some of their jobs have not been even invented yet, there is another aspect of future-ready education that we need to address – education in times of crisis. During these times of crises, how information is produced and consumed has immense impact on society and economy, and education has an important part to play in ensuring that people are able to interpret accurately the information they come into contact with. Broadly defined, “crisis education” should examine how education is able to address the knowledge, skills and dispositions required for people in precarious times. Given that the COVID-19 event is recent and its potential impact on longer term global movement of people and resources have yet to be seen, we explore the social aspects of this crisis and highlight the impact of misinformation circulating on social media. A review of past IRGEE papers exploring ‘crisis education’ is used to explore the role of geographical and environmental education in combatting the impact of this misinformation.

This year we become aware of the COVID-19 outbreak on 31 December 2019. At least tens of thousands of people have been infected and the death toll in China alone has exceeded that of the Severe Acute Respiratory Syndrome (SARs) outbreak (figures are taken from the World Health Organization website as of 10 February 2020). The media reminds us of other past deadly virus outbreaks like SARs and the Middle East respiratory syndrome (MERS) virus. Unfortunately, unlike

SARS and MERS, the current crisis coincided with the period just prior to and during the Lunar New Year, when traditionally millions of people in China and around the world travel back to their hometowns to celebrate the Lunar New Year. This greatly facilitated the spread of the virus during the initial incubation period. The news media are keeping the world updated on processes and procedures, explaining the need for quarantine periods and the need to keep calm and to be cognizant of the heightened general hygiene requirements. Speculation is beginning on the possibilities of what the worldwide economic and social impact of the COVID-19 will be. Unfortunately, what we are also seeing and hearing is the spread of *misinformation* - information that is false, but not created with the intention of causing harm (e.g. someone posting an idea containing erroneous information, but not realizing it is erroneous). We are seeing misinformation circulated largely on social media, but also in the conventional and digital news outlets.

Misinformation is a sign of an individual's failure to inspect and verify the information they are sharing. Ideally, people need to explore the evidence and use empathy before jumping to conclusions, especially where other people and cultures are concerned. For instance, we read about unfounded attacks about all people of Asian appearance, who are assumed to be carrying the virus only because of their ethnic appearance. Take, for example, the death of a 60-year old man in Sydney on January 28, 2020, who passed away from a cardiac arrest outside a Chinatown restaurant. A contributing factor in his death was that people observed, instead of assisting. CPR was not performed as the observers were concerned that they might catch the COVID-19. This man's death occurred after videos showing people collapsing on the street in China were circulating on social media.

This is not a new phenomenon. It is not difficult to find examples of misinformation about foreigners as the source of disease in times of panic. As educators, we need to consider what sort of hidden messages are reaching the mass populace. Yes, we need to have a public health strategy that keeps people informed and pandemics under control, but more is required. We need to educate people about the **full** story, and not just hear tales of invasion and spread, of invasive microbes, the 'foreign germ' and of 'dispersal' and 'contagious periods'. Distortion on social media assists with the fear, by simply focusing on the two points of invasion and spread communicated in news media, and then erroneously extrapolating it to be of ethnicity and diaspora. Where is the discussion and social education relating to the nexus between: a) the pathogen itself; b) the immune system of humans and other animals; c) the role the physical environment; or d) the role of the social environment and social media? We need to explore the inter-relationship of these four elements of bio-pandemics to

mitigate the fear and avoidance. We need to teach children how to identify risk and manage crisis within the social contexts of their society. Our education for times of crisis is lacking. We do not have the same social functionality during times of pandemics that our immune systems seem to have for eliminating novel microbes.

What follows is a short review of a selection of past IRGEE papers relating to the teaching of risk, disasters, and/or crisis management. The selection of papers was a three step process: initially we selected papers that considered either hazards, risk, disaster, or crisis (which we identify as ‘extreme natural events’); we then considered papers that highlighted the associated social elements, and finally we considered IRGEE papers cited within this selection of papers. We conclude with a brief summary of what we know about the nature of education around extreme natural events.

Our short review considers nine IRGEE publications from 2004 through to 2017. There seems to be a shift in the focus of research mid-way around 2012. Prior to 2012, we have six papers that loosely align with curriculum foci around content and resources. Blanchard-Boehm and Cook (2004) explored the communication campaign relating to a tornado. This paper highlights that educational programs, be they for students or the general public would need to involve a sequential process of general behaviours: “hearing, understanding, believing, personalising, confirming, and then responding” (p. 45). Blanchard-Boehm and Cook also raised the social issues of looting, and community cooperation, involvement and concern as being of importance. Although the paper by Reinfried (2004) is primarily concerned with curriculum reform in Switzerland, she does inform us that in terms of geographical interests, Swiss students are most interested in natural disasters, social, ethical and environmental topics and in pedagogies that have an action-orientation to learning. “These issues are the basis for an education oriented towards the future” (Reinfried, 2004, p. 249). Battersby, Mitchell, and Cutter (2011) later reinforced this view by recognising that hazards can be useful in capturing student attention. This is important when educating about how to reduce the impact of disasters. Blanchard-Boehm and Cook (2004) have indicated that in order to motivate hazard preparedness and mitigation, we need resources that can communicate clearly to individuals with little to no personal experience with specific hazards. Battersby, Mitchell, and Cutter (2011) also contributed to the notion that educational materials designed to improve public awareness are needed so that the public make more intelligent decisions about preparation, survival and recovery. Mitchell, Borden, and Schmidlein (2008) and Mitchell (2009) reminded us, that in terms of hazards, “student’s understanding would be best fostered by using an approach equally [considering] natural and human processes” (Mitchell et al., 2008, p. 183-184), and that “why we should teach about them is ... fairly straightforward. How we should teach about hazards is an altogether different question ...

It should be clear, however, that questions other than “why” and “how” require answers too” (Mitchell, 2009, p. 144). Sharpe and Kelman (2011) provided us with pedagogical theories for improving teacher education in relation to disaster risk reduction (DRR). The paper showed us how we can adapt non-school curricula for the school context. As such, DRR can provide active engagement via a critical thinking, practical application for students to assist their communities.

Following 2012, IRGEE had three papers that loosely align with a cognitive development and function approach to extreme natural events research. Taylor and Moeed (2013) used the analogy of seismic P-waves to describe curriculum responses to the Canterbury earthquake. They found that some teachers, especially those of lengthening distance from the earthquake, used the earthquake as a ‘teachable moment’, yet for many other teachers, especially those much closer to the earthquake epicenter, the curriculum response was to teach about the earthquake for a sustained period of time. This P-wave was determined to be influenced by the attitudes and values of the teachers, and Taylor and Moeed described this as a distance-decay effect. They discuss the implications in terms of teaching about the human cost of extreme natural events. Bosschaart, Kuiper, and van der Schee (2015) researched flood likelihood in the Netherlands. They show that it is important to generate an awareness around the potential effects, what citizens can expect of the authorities, and how they should act themselves, before and during an extreme natural event. If geography education has the ambition to contribute to flood risk awareness, the contents of courses and the pedagogy should be reconsidered. Bosschaart, Kuiper, and van der Schee (2015) outline that “because students’ mental models turn out to be fragmentary and hardly consist of structural and procedural knowledge, it is important to adapt the contents of geography education” (p. 145). We need to be cognizant of the misconceptions that students and the general public bring into an extreme natural event. It is the misconceptions, that when unchecked, get communicated using social media and become misinformation, and for many, they reveal underlying racist beliefs. The final paper in this set builds on the research relating to cognition around extreme natural events. Bardsley (2017) claims that globalisation has accelerated and expanded the need to learn about risk. The teachers in his study tell us that with globalization, we see “that all lives and impacts are interlinked and interwoven ... and that students need to know we are all part of this - interconnectedness” (p. 47). As such, we need to assist students and the general public to understand that there are consequences and projections involved in everyday life, as well as with extreme natural events. Thus, there is a need for social learning. We contest that this social learning needs to include the use of social media and especially how, during times of extreme natural events, people can inadvertently become racist.

In summary, this short review of papers indicates that students would be interested in studying topics around extreme natural events when taught via pedagogies involving inquiry-based practices (critical, practical and action oriented). Both the natural and human processes need to be considered equally, with listening, community cooperation, and involvement being critical in the social education component of the human side of an extreme natural event. The COVID-19 issue is not a purely epidemiological phenomenon. It is also a social phenomenon and education for crises such as this should include teaching about the need for empathy. The example of the person who suffered a heart attack where none of the bystanders offered any help is testament to the need for more empathy.

Attitudes and values show a distance-decay effect, which will impact teaching efforts. However, with an event like the COVID-19 crossing borders in an increasingly mobile world, the efforts in education may be challenged in other ways. Misconceptions can be linked to misinformation at times of extreme natural events, and reveal suppressed xenophobic beliefs. Globalisation is accelerating the need for both school and general public education around extreme natural events, and education needs to include aspects of social learning. We need to teach students and the general public that, in times of crisis, people's abilities are compromised, and we say and do things we would not normally say or do. We need to be aware of this and be equipped to perform under these times of uncertainty and pressure.

Further study is needed to develop a new approach and to determine the effects of new pedagogical methods with respect to social learning around extreme natural events. IRGEE looks forward to more research that will help us better understand the issues in curriculum and instruction for hazard and crisis education. It is a great challenge for geography and environmental education to develop and contribute to enhancing social media use awareness by taking into account the aforementioned aspects.

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