

Teaching Through 10,000 Earthquakes: Constructive Practice for Instructors in a Post-Disaster Environment

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The authors describe their experiences of teaching through a series of major earthquakes and the lessons learned regarding sustaining teaching and learning through an ongoing natural disaster. Student feedback data from across the university is analyzed to generate a model of constructive practice for instructors responding to a crisis. The article challenges instructors to reflect on student and instructor needs before, during, and after a crisis in terms of preparedness for immediate disruption, programmatic and pedagogical changes, communication, and response to psychological needs. The authors' experiences with teaching through the earthquakes reinforce the message that even the most well-intentioned and self-aware instructor will, at some stage, falter during an ongoing crisis. Psychological preparedness and classroom emergency management planning are vital to the continuity of teaching and learning in a crisis situation.

First Author's Account of the February 22nd Earthquake

On the 22nd February 2011, I was teaching the first class of the semester for a university course on diversity. We had just finished watching a music video to demonstrate the issues associated with cultural assimilation, when a loud noise grumbled up from the depths of the earth. Within seconds, the building started shaking violently. The suspended projector teetered dangerously overhead as it swung from side to side. I froze instantly. Sixty faces looked at me with a mix of terror, dread, uncertainty, and anticipation. Frightened myself, I yelled out, "Stop, drop, and hold," a drill we had been rehearsing from previous earthquakes. The students quickly got down under the benches, when the violent shaking started to escalate. The walls cracked open and dust and debris coated the students. The power cut out. In the basement lecture theater of a 7-story building we were plunged into darkness. Papers, laptops, pens and cell phones flew around the tiered lecture theatre. After what seemed like an eternity (but in fact was only 30 seconds), the shaking stopped. One by one I saw the students pop their heads up from under the "safety" of the one-inch benches. At that moment, the weight of responsibility hit me like nothing I could have prepared for. An authoritative voice, apparently my own but not one I'd heard before, directed students to evacuate the building to the car park and keep away from buildings. No student in my class was physically hurt, but the psychological wounds were clearly visible. In shock, we exited the building and waited outside for some sort of direction when another big aftershock hit. Glass blew out from the swaying building, and terror rampaged through the crowds. Students, faculty, everyone in close proximity to buildings instinctively fled. The sound of emergency sirens wailed around campus and across the city.

Précis of Events

At 4:35 a.m. on the 4th of September 2010 a massive earthquake measuring 7.1 on the Richter scale rocked the city of Christchurch, New Zealand. (The Richter scale is used to quantify the energy release of an earthquake and can range from less than 2 to over 10 in magnitude.) The earthquake caused widespread damage and business disruption. Miraculously, no lives were lost in this event. Although the University's infrastructure sustained considerable damage, the earthquake struck during the mid-semester break while students were away from campus. As a result, the impact of the event on students' learning was not as negative as one might have expected, and the University quickly set about adapting learning programs and repairing key infrastructure. In all, the University was closed for 16 days with only one week of teaching time lost. The vast majority of students successfully completed the 2010 academic year despite the ongoing aftershocks in the region.

Tragically on 22nd February 2011 at 12:51 p.m., Christchurch was rocked by another major earthquake. Smaller in magnitude than the September event, the February earthquake was centered in close proximity to the central city and University campus, and at a very shallow depth. Although only magnitude 6.3 on the Richter scale, the ground speed of 2.2g was the highest ever recorded in the world in an urban area, and it was four times that experienced in the 2010 Haiti earthquake. Unlike the September earthquake, this event resulted in unprecedented devastation and loss of life in the region. One hundred and eighty four people lost their lives that day. In a small city (population 370,000), the effect of the death toll was wide-reaching. The city's mayor declared a state of local emergency but this was superseded by a declaration of a State of National Emergency by the central Government. This remained in place for several months.

Unlike the September event, the February earthquake occurred during teaching time on the second day of the academic year. The disruption to the academic teaching year and to the operation of the University was considerable. The University was closed to all students and most staff until the end of March. Missed lecture time was partly compensated by reducing a planned three-week mid-semester break. Students, staff and management of the university had to come to grips with the reality of a second academic year disrupted by a natural disaster. Faculty and management did their best to manage the chaos. However, with no prior experience to draw on it was difficult to determine what that “best” should be.

For those who remained on campus, classes were taught in tents in the University car parks (appropriately named “Tent City” with a makeshift café, Intencity 6.3). Instructors had little more than a whiteboard and chairs as learning tools. The University tried desperately to operate a business-as-usual approach to avoid the immediate and long term mass exodus of students and staff from campus life (22,000 student enrollments and 3,000 staff). Online courses quickly became the norm as teaching space, even in tents, was at a premium. Many classes were relocated to venues off campus in motels, churches and suburban corporate offices. A significant burden was placed on faculty to maintain a positive, high-quality teaching and learning experience for the students. On the 13th of June, during exam week, and just as life was beginning to represent a “new kind of normal,” two more significant earthquakes hit the city. The reopened parts of the university were again closed, with further buildings condemned. The scheduled examination period was compressed, and many exams had to be conducted online via the University’s online learning environment. From September 2010 to April 2012 over 10,000 aftershocks had been recorded in the region. Table 1 highlights the significant earthquakes and the corresponding events on campus.

Focus of the Paper

This paper is grounded in our experiences of teaching through an unfolding natural disaster. We focus on how to recover and respond quickly so that learning outcomes can still be achieved. To this end a university-wide student survey was undertaken mid-semester following the February quake. The purpose of the survey was to assess student reaction to programmatic, pedagogical, assessment and infrastructure changes brought to bear by the earthquake. In this paper we analyze the student responses from that survey about what instructors can do to manage students and courses in an ongoing disaster. We imbed pertinent literature and the lessons we have learned as instructors in our analysis and discussion of the findings. The purpose of this analysis is to stimulate discourse which can lead to better preparation of faculty and students to respond effectively in a crisis. We purposefully omit a discussion on university-wide emergency management procedures, as the focus of this paper is principally for instructors.

Literature Review

Research suggests that after a major earthquake most university students will experience a cluster of anxiety symptoms, stress, and cognitive disruptions which abate over time (Cardena & Spiegel, 1991, 1993; Chou et al., 2003; Sahin, Batigün, & Yilmaz, 2007). The changing environment brought about by disasters such as earthquakes result in uncertainty, and loss of routine and structure (Smith, Drefus, & Hirsch, 2011). Furthermore, continual aftershocks differentiate earthquakes from other natural disasters as there is no clearly defined endpoint, and aftershocks occur without any warning. Feelings of psychological safety are therefore much more difficult to achieve in such an environment (Gerrish, 2011). Instructors are often required to provide higher levels of pastoral care and

Table 1
Significant Events Throughout Semester 1 at the University

Date	Description of Event
September, 4 2010	Mid-semester break. 7.1 magnitude earthquake at 4:35 a.m. University closed for 16 days.
February 22, 2011	First week of semester 1. Magnitude 6.3 aftershock at 12:51 p.m. University closed indefinitely. Buildings inaccessible.
March 7, 2011	Teaching for first year courses resumes in tents erected on University car parks.
March 14, 2011	Teaching for second year courses resumes in tents.
March 21, 2011	All undergraduate and graduate courses resume teaching either in tents or online.
April 18, 2011	Lecture theatres begin opening after remediation. Several large buildings on campus condemned for remediation or demolition.
June 13, 2011	Exam week on campus. Magnitude 5.5 and 6.3 aftershock hit. Invigilated scheduled exams cancelled and conducted online. Previously opened buildings were closed.

guidance to students, and they must demonstrate a high degree of competence in adaptability to change (Laye, 2002). In such environments, formal learning can be constrained by the student's experience of anxiety and stress responses during and after the disaster. However, this is very limited research on responding to student needs during a natural disaster to ensure students can continue their program of studies.

Nelson and Ornstein (2002) suggest that while careful planning prior to, and management throughout, a crisis is essential, stakeholder engagement post-crisis is equally important in determining whether crisis management interventions have been effective. Organizational learning that takes place through reflection and critical examination of the lessons learned by experiencing a crisis is an important final phase of crisis management (Pearson & Mitroff, 1993). This paper provides an opportunity to reflect on the effects of the Canterbury earthquakes and the best ways in which instructors can respond to student needs during such a crisis.

Method

Data Collection and Participants

The participants included 1,746 undergraduate and graduate students from across all disciplines in the university, in response to instructor behavior from a variety of Colleges (e.g., arts, commerce, education, engineering, law, science). Both quantitative and qualitative data were collected by way of an online survey designed and administered by the University's Centre for Evaluation and Monitoring. Data collection took place seven weeks after the February earthquake at the end of the first term of teaching, at a time when a sense of normality was returning to campus life and students were in a position to stop and reflect on their learning experiences. Anonymity of respondents was a condition of the ethics approval to access the data for this paper; therefore, students were not required to provide any personal details other than identifying the specific course in relation to which the survey was being completed. As a consequence demographic information for the sample is not reported in this paper.

Measures

The first set of items in the survey required students to rate, on a six-point scale (6 = *very satisfied*), their overall satisfaction with the way in which their course had been reorganized ($M = 4.30$, $SD = 1.52$), as well as the extent to which specific interventions and resources had assisted their learning in the post-earthquake setting. Other than the descriptive statistic above, findings of this part of the study are not reported in this paper.

The remaining questions in the survey were open-ended seeking students' feedback on programmatic and pedagogical changes to courses. Students were asked three broad questions in relation to their learning experiences following the challenges resulting from the February earthquake: (1) to identify which aspects of the course reorganization were working well and enhancing their learning, (2) to identify areas where the course reorganization could be improved to meet their learning needs, and (3) to identify ways in which the course delivery could be improved. The use of open-ended questions allowed students to provide rich and detailed responses regarding their experiences (Denzin & Lincoln, 2005). At the same time the decisions instructors take to communicate with students can have considerable influence on the individual and collective emotional and behavioral reactions of students (Pearson & Clair, 1998).

Data Reduction and Analysis

Data was initially "cleaned" to remove any potential identifying information and delete any comments which were not related to the post-earthquake response environment. In total 1,279 usable responses to the open-ended questions were received. We open-coded the data using key terms or phrases as the basic unit of analysis (Strauss & Corbin, 1998). In all there were 381 items coded in the initial analysis of the data. Through a process of constant comparative analysis (Glaser & Strauss, 1967) this was reduced to 11 categories. We then further reduced these categories into four major themes based on their recurrence and repetition. The categories and four major themes are presented in Figure 1.

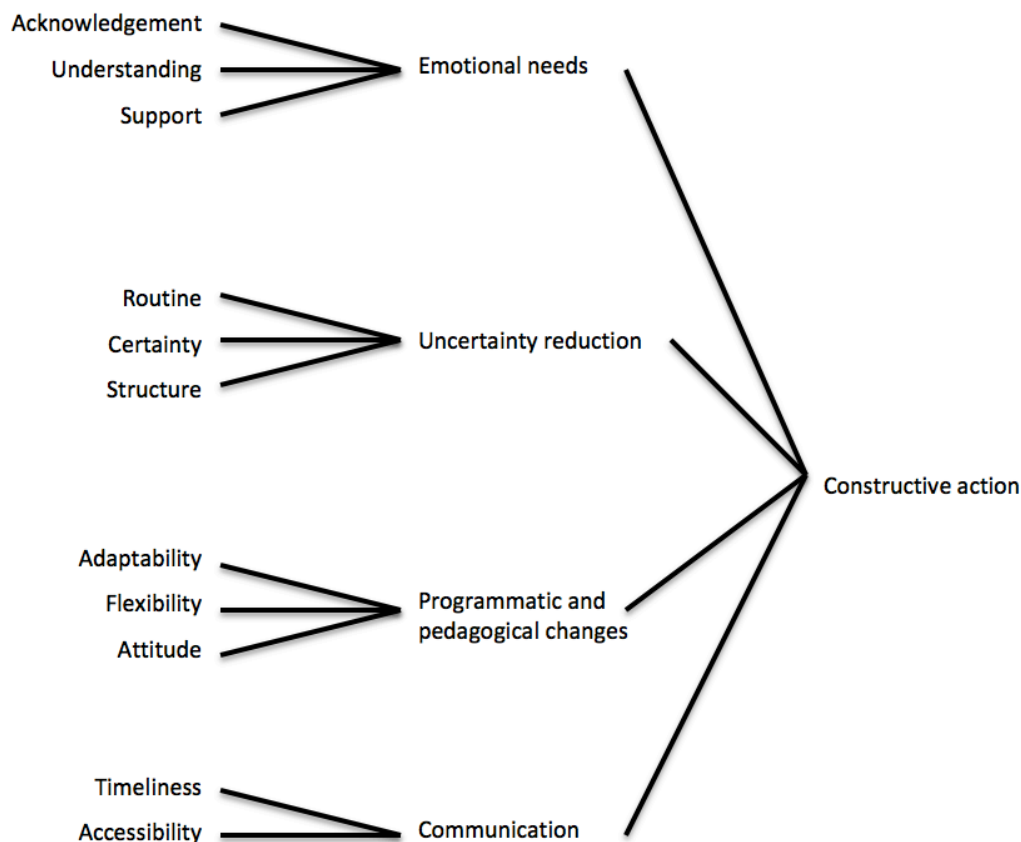
Results and Discussion

Analysis of the data identified four major themes that relate to constructive actions taken by instructors to enhance the learning environment following the earthquake. These were related to (a) behaviors or attitudes relating to addressing the psychological/emotional needs of students, (b) behaviors to reduce uncertainty, (c) programmatic and pedagogical changes to courses, and (d) behaviors relating to communication. Each of these themes is discussed separately below. Illustrative comments from the data for each theme are captured in Table 2.

Theme 1: Addressing Students' Psychological Needs

Student responses to the earthquakes ranged from mild (e.g., "I'm here and ready to learn") to severe (e.g., "I'm leaving town and not coming back"). As identified previously, research suggests that after a

Figure 1
A Model of Constructive Practices for Instructors in a Post-Disaster Environment



major earthquake most students will experience anxiety and cognitive disruption. Our shared observations indicate that the disruption to daily routines altered the ability of some students to concentrate on academic coursework. For others, coursework became a way to cope with the uncertainty of the situation. Even for those students who were affected by only a temporary loss of power and water, they vicariously shared the trauma of those who had lost homes, businesses, family members, and friends. This experience was further exacerbated by the abnormal campus environment dominated by teaching in tents amidst damaged infrastructure.

Responses to the survey indicated that students expressed a need to feel secure and safe in order to return to campus. However, previous research has shown that continual aftershocks prevent students from feeling psychological safety on campus (Gerrish, 2011). Therefore, it was important that instructors acknowledged this uncertainty and the difficulties many students were facing. Students appreciated instructors who acknowledged the difficult nature of the current

environment in which they had to study (Acknowledgement category) and supported the psychological aspects of their learning given the constraints (Support category). Some instructors provided students with opportunities to discuss their experiences of the earthquakes with their peers in class. While acknowledging the impact of the disaster is essential, instructors should plan for how they might do this in a sensitive and supportive manner. Some students did not appreciate instructors creating assessments or teaching content directly related to the earthquake and assuming that students would be able to derive meaning from it. Our data demonstrates that students appreciated when the focus remained on the key topic rather than the earthquake. As can be seen from the student feedback in Table 2, independent assignments on sensitive earthquake topics were not particularly helpful in facilitating learning and were often viewed as insensitive by students. Students appreciated instructors who understood student needs and adapted course work sensitively and appropriately (e.g., quantity of work and flexibility of delivery; Understanding category).

Table 2
*Major Themes Describing Constructive Actions and Helpful Behavior by
 Instructors in a Post-Disaster Crisis Environment*

Major Theme	Category	Sample Responses
Addressing emotional needs	Acknowledgement	“I really appreciate the course coordinator recognising that students’ lives have been significantly disrupted by recent events and providing flexibility in course delivery.”
	Support	“The support of the [instructors] and the openness of discussions regarding all aspects of the course plus the current environment. The face to face lectures are important for my learning style and having the back up of resources on [the online learning environment] helps back that up.”
	Understanding	“I had personal issues after the earthquake and [the instructors] were understanding and flexible with managing the course to suit my needs.”
	Understanding (negative response)	“The choice of assignment topic – after the earthquake, giving us an assignment on the media coverage of the earthquake is massively insensitive to the emotional state of students who might have been badly affected.”
Uncertainty reduction	Routine	“Labs and lectures remained almost exactly the same, this was my one class that was not disrupted very much at all which was very nice because it never let me forget that I was still in [university] especially when all my other classes were online.”
	Certainty	“[The instructor] should provide more detail on a daily basis regarding where students should be with lectures, readings etc. Any uncertainty creates unneeded stress and procrastination.” “Continue to keep same scheduled lecture times and places, consistency is the most important thing right now with the chaos that surrounds us.”
	Structure	“Our lecturer is extremely organised and has rearranged the course topics well so we don’t miss out on anything vital. We have been allocated a room . . . and it has been great to be in the same room every week.
Course changes	Adaptability	“The lecturer has adapted well to online lectures, ensuring the content is still well covered, and we have adequate forums, both in person and online where we can discuss the content with our lecturer and other students.”
	Flexibility	“Ability to complete labs remotely via internet has been of huge benefit. I lost my house in the earthquake and it took several weeks to find alternative accommodation. Not having to worry about getting to school 5 times a week was very helpful.”
	Attitude	“The lecturer has been onto it and in a positive manner. She has maintained up to date on [online learning environment] and has provided us with all information. She has also responded to emails ASAP which is of huge value.” “The [instructor’s] enthusiasm and persistence to try and organise and work through the numerous curveballs the university [management] has thrown him.”
Communication	Accessibility	“Our Lecturer was excellent to deal with before, during and after the earthquake. She rang regularly and was very specific and well-organised. I did not feel like I was behind.”
	Communication	“The constant updates and notes from lecturer, he has provided great updates weekly and has made it clear what is required for each week. He is very well organized which I love about it.” “All three lecturers have been able to keep us up updated with what they are doing and what they want us to do, through both [the online learning environment] and when we are in the lectures, whether it’s a tent or a room. They have been great”
	Communication (negative response)	“The lecturers never reply to our emails and are very unhelpful regarding group assignments. The workload for the course was not reduced at all, so there is a lot of time pressure and I feel our results will be reflective of this.”

Confusion over basic instruction, as well as heightened anxiety, seemed to be more prevalent following the earthquakes. As instructors we received approximately double the email correspondence from students than in normal times, mostly related to routine course information. Simultaneously, we were also experiencing increased confusion, hyper vigilance, and “mind blanks” in class. Students and faculty who experienced the Christchurch earthquakes often thought that their cognitive/memory functions were impaired, and the expression “quake brain” was coined as a way of describing this cognitive disruption. Trauma, associated with major earthquakes, can disturb non-declarative memory (e.g., remembering how to drive a car) and would help explain student and faculty “quake brains” (Bremner & Marmar, 1998). Our data showed that instructors who demonstrated support and understanding through explaining some of these “normal” reactions to students helped mitigate anxiety and stress. Providing such support also fostered an appreciation for the concept of *emotional labor*, where, on the one hand instructors had to “put on a brave face,” while on the other, they were experiencing many of the stress reactions the students faced.

Theme 1 key lessons. Our data showed that where possible, instructors should acknowledge the feelings of uncertainty and anxiety with students, either virtually or in person. While it is impossible to shelter students from actual uncertainty, responding to students in a supportive and understanding manner can help develop tolerance of ambiguity and promote adaptability can help build resilience in students.

In recognizing that cognitive ability may be disrupted, create a central repository of information so students can refer to it and revisit it for information regarding coursework and assessments. Although students appreciate face-to-face contact, an online learning environment proves useful for this.

Theme 2: Uncertainty Reduction

In addition to the key role performed by the university management and administration, instructors play a major part in reducing uncertainty for students throughout the crisis period. As demonstrated in Table 2, the theme which emerged the strongest in this regard was the importance of routine in returning to a sense of normality (Routine and Certainty category). The data indicate that most students accepted the reality of the situation and were tolerant of lectures in cold tents from 8:00 a.m. to 8:00 p.m., as this provided a sense of routine as consistency was established. Students responded that keeping to the same lecture time, even if this was outside normal teaching hours, was helpful. Another common theme to emerge from the feedback was students’ need for structure. Some students were frustrated that instructors moved courses online, uploaded weekly

lecture slides to an online learning environment, and assumed this was all the structure that was required. At times when cognitive disruption is high and students are also dealing with difficult personal circumstances, instructors need to provide structure, certainty, and clear and regular articulation of what they expect of students.

Theme 2 key lessons. Instructors should plan for the fact that normal routines will not always be possible following a natural disaster. Students expect instructors to create routine in whatever environment is available, and communicate expectations. If a consistent routine is not available instructors should seek to create routine in other ways. Sending regular communication, or having regular scheduled online events, can create a sense of normality, routine and structure.

Theme 3: Programmatic, Pedagogical, and Assessment Changes

With a reduced teaching term and minimal physical infrastructure, changes to courses in the post-earthquake environment were inevitable. Although we had broad direction from University senior management, specific programmatic and assessment changes proved to be the greatest challenge for instructors. Our observation at the time was that meaning and purpose had to be created in course work, more so than normal, at a time when many things seemed to lack meaning. Under normal conditions, it is advantageous to consult with students, faculty and other stakeholders regarding course changes. In crisis mode, however, instructors had to make lateral decisions affecting the course in terms of condensing assessment or reducing contact hours. For both instructors and students, being adaptable and comfortable with change was crucial. In fact, research has shown that change readiness is a necessary competency when responding to a crisis (Laye, 2002). Students were appreciative of instructors who adapted courses to fit the circumstances, and they voiced strong discontent when no changes were introduced (Adaptability category). This learning is perhaps best evidenced in the following two comments: The first was made by a student who rated the re-organization of their course very highly and applauded the instructor for their adaptability, the second by a student who rated it very poorly:

I believe [my instructor] has restructured our course perfectly and it seems as if there was no earthquake at all, as we are able to cover all content needed in class. The shortening of the essay has helped as many other classes have not changed their work load so less pressure . . . [allowing me] to then focus on other assessments.

There is a very heavy workload for this course due to there being no change in content after the

earthquake, also the percentage of the weekly tutorials and quizzes have increased, so this course has become extremely stressful and hard to keep up with.

The second category to emerge under this theme is that of Flexibility, particularly as it relates to assessment. People are affected in different ways by a disaster, both psychologically and in terms of their personal circumstances. A degree of flexibility is therefore required; however, we are careful to point out that we are not referring to general leniency and lowering of standards as the data demonstrates that this was strongly detested by many students. The data shows that students were highly critical in instances where flexibility was present in some of their courses and not in others. Another key finding is that students do not always react positively to a reduction in the assessment load. A large number of students commented that reducing the assessment load (something many instructors viewed as helpful) actually increased their anxiety and stress levels, primarily due to the risk associated with having fewer assessment items with greater weights.

Initial communication from the University management indicated that until physical infrastructure was restored, faculty should attempt to deliver learning online through the University's online learning environment. This caused significant issues for some instructors in terms of their competence and willingness to deliver the course material via this method. Student reaction to the new online environment was mixed: "I dislike the way that everything was placed online without any real organisation and the need for a useable computer with a internet connection—which just was not possible for quite some time" compared to "We have lectures posted online and also I can work online if need be, I love this flexibility." This mixed reaction is largely attributable to the fact that faculty responded in a variety of ways ranging from creating video recordings and podcasts to simply "dumping" course readings online and expecting students to determine their purpose or relevance. Furthermore, many disciplines do not lend themselves to an online environment as evidenced in this student's comment: "The entire point of philosophy is to have proper discussion. With no face-to-face lectures at all, this is essentially non-existent and online forums are barely a replacement for what I see as key to a philosophy course."

The last category to emerge with regard to course changes relates to the instructor's attitude and demeanor in conveying course changes to students. This theme also cuts across all other themes and relates specifically to addressing psychological needs and communication. As demonstrated in the data, students

reacted positively to course changes when these were communicated in a positive and constructive manner. Radel, Sarrazin, Legrain, and Wild (2010) refer to this phenomenon as social contagion of motivation between the instructor and student. Student responses indicate that autocratic and authoritarian approaches do not resonate well with students and seem to trigger negativity towards other aspects of the learning experience. The New Zealand culture is comparatively egalitarian, with low power distance (Hofstede, 1984). Many students wanted attention and actively sought out interaction with instructors and decision-makers. This experience is contrary to that explained in Nelson and Ornstein (2002) where student needs were "prioritized" in a crisis situation, with the understanding that "students are less likely to demand attention, information, and explanation given relative power relationships" (p. 268). Student responses indicate that students in low-power distance cultures appreciated consultation and interaction, even when decisions had to be made quickly.

Theme 3 key lessons. Prepare courses so they can operate at two levels; one in peace times and one in an emergency situation to ensure course continuity. Establish an alternative method to deliver the teaching and learning activities without reliance on physical buildings or face-to-face contact. Being adaptable often means abandoning usual teaching methods, environments, apparatus, and assessment methods. Flexibility involves, as far as possible, offering students the opportunity to learn and be assessed via multiple methods. Quickly establish what assessment tasks are critical to ensure learning objectives are being met. Instructors should approach this in a consistent manner and, where possible, apply similar changes across courses in Departments. From our experience, it is best to consider keeping the original assessment scheme in place while introducing flexibility around submission dates and methods of submission. Once a decision has been made regarding course and assessment changes, communicate the rationale for the changes via the most appropriate channels and stick by it. The data demonstrates that students will be far more likely to protest if decisions are re-litigated unnecessarily. Teaching in an online environment is vastly different from face-to-face teaching, and instructors need to be familiar with the fundamental pedagogical and resource issues involved.

Theme 4: Communication

Communication is the final theme to emerge from the data and cuts across most of the preceding discussion. It is simply not possible to address emotional needs, reduce uncertainty and manage a crisis in the absence of effective communication (Coombes, 2010). As

demonstrated in the data, students expressed a need to feel as though their instructors were accessible to help facilitate their learning and assessment (Accessibility category). This is particularly important at a time when things can be very chaotic. Effective communication and being attentive to students' needs aids in the reduction of anxiety and uncertainty. Understanding these needs is critical, yet difficult, when teaching large classes. One instructor found it useful to identify "conduit students." These were students who the instructor was able to identify as having strong links and social networks with significant numbers of students in the class and were respected by their fellow students. Regular communication with these students, in the absence of formal procedures, quickly allowed this instructor to identify and address the underlying mood and emotions within the class, particularly when pedagogical and assessment changes were being proposed at very short notice and with little consultation. Student responses highlight the importance students place on face-to-face interaction with instructors and fellow students. Accessibility of instructors was considerably hindered when physical space was at a premium in the early weeks following the earthquakes. While online and electronic communication served its purpose, the data showed that students were appreciative when instructors found creative ways to communicate with students in a face-to-face environment. This often meant meeting students in the makeshift canteen or in locations off campus at abnormal hours. Student responses further show that students report more positive learning experiences when instructors went to great lengths to communicate support through additional teaching, tutorials, online resources, podcasts, lecture recordings, regular communication and pastoral care. Via the survey, and elsewhere in the social media, students indicated their frustration at the overly general and vague communication from the University's management and administration, often after the issue had resolved itself. Students therefore looked to instructors to provide some clarity in a timely manner (Timeliness category). Protocol and procedure for communicating with students in an emergency did not exist, and at times many instructors were uncertain in terms of what to communicate to students and when. Student responses indicate some degree of frustration when instructors were not accessible and/or did not communicate with students in a timely manner.

While what is communicated to students will differ from crisis to crisis, the student data does, however, highlight five key lessons that proved beneficial with regard to communication. Student responses indicate that communication during a crisis situation is most effective when it is timely, transparent, and honest and when the instructor is accessible. We have decided to use student quotes to best summarize the key themes for this theme.

Theme 4 key lessons. The following quotations suggest key lessons for the fourth theme, Communication:

- "All three lecturers have been able to keep us updated with what they are doing and what they want us to do through both [online learning environment] and when we are in the lectures whether it's a tent or a room."
- "The constant updates and notes from [the instructor], he has provided great updates weekly and has made it clear what is required for each week. He is very well organized, which I love about it."
- "The lecturer has done a good job in keeping us informed of what is going on, and why he has chosen to do certain things over others."
- "The lecturer is constantly telling us what she knows and doesn't know, so we feel informed."
- "[The instructor] was excellent to deal with before, during and after the earthquake. She phoned regularly and was very specific and well-organised."

Professional Responsibility During a Crisis

In the database of student feedback, very little is available on the instructor's initial response to the earthquakes. This section of the paper, therefore, stems from our own personal reflections as instructors. Nothing in our academic or institutional training had prepared us for responding to a crisis of this magnitude in the classroom or for dealing with the aftermath. Naturally, our first thoughts were for the safety of our loved ones, but we also felt professionally responsible to protect our students immediately after the earthquakes. General evacuation procedures were clear and we understood our responsibilities in this regard. However, we were uncertain of our professional, and continuing, responsibility towards our students. Instructors are responsible for being aware of emergency evacuation procedures in their lecture theatre and communicating these procedures to students before an emergency (this includes evacuation procedures for people with disabilities). However, it was not policy at the University that the instructor would stay with the students once evacuated. Best practice would dictate that, if there were a situation of injury/disability, then the instructor would morally step up and make sure that the students were supported before they left the class or the university campus. In a significant mass emergency evacuation the appropriate support groups (e.g., an Incident Management Team, emergency services) are activated and reduce the burden of the instructor for the welfare of students.

However, it is the duty of the instructor to initially respond to the crisis by following process for whatever kind of event it is, inclusive of seeking appropriate resources and assistance as required.

Finally, the words “do not panic” are written into most earthquake management plans to instruct people how to respond after an earthquake. While it is impossible to stop all students panicking during such an event, it helps if the instructor remains calm themselves (even if this is surface acted). As instructors, we did not feel we were adequately prepared for an emergency of this magnitude. However, it follows that in order for students to manage their own responses to crises in a University environment, they first need to see it modeled. From a pedagogical perspective and as seen from the student responses, instructors serve the function of modeling effective coping, leadership, and communication behavior.

Key lessons for professional responsibility. Instructors should become familiar with their institution’s policy on emergency management and understand their degree of responsibility for student welfare during and after an emergency situation. Instructors should further develop a personal emergency action plan. This may moderate against the immediate flight instinct to protect loved ones. Emergency management training plays a major role in this regard coupled with resilience training (e.g., Roger, 2002). Reading a formal policy or procedure does not necessarily constitute training, and instructors should regularly assess their own personal response plans rather than simply relying on institutional procedure and policy.

Conclusion

This paper provides an analysis of student responses and reflections of our response to teaching through an earthquake. We provide instructors with an assortment of information to help inform appropriate response practices during a crisis. From this, we have generated several lessons from the perspective of an instructor. The lessons focus largely on responding to the psychological needs of students in terms of having competence related to empathy, communication, sensitivity, adaptability and comfort with change. A major lesson identified in this paper is the need for instructors to be prepared for an emergency in terms of adapting their courses and having personal, not only institutional, emergency plans in place. Training is necessary to bridge the gap between having a vague idea of what one would do in an emergency situation and being prepared to respond competently and confidently.

We must stress in our conclusion that adhering to best practice in a crisis situation comes with the stress

of emotional labor, fatigue, and impacts on research productivity. Because of the ongoing nature of the crisis, there is significant potential for burnout that comes with offering such levels of additional support to students. We are not suggesting that instructors avoid providing additional support. We do, however, counsel instructors that pace is the key to a sustainable response in an ongoing and omnipresent crisis. Self-care needs to be taken into consideration to avoid serious psychological, physiological and career consequences that come with burnout.

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