

Risk perception and Disaster Education

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- Why risk perception is important in disaster education
- How we have tried to codify risk
- How the UK tries to develop risk perception amongst key stakeholders
- What inferences may be drawn from risk perception research
- Improving in the future?

Why is risk perception important in disaster education?

- Only a reliable appreciation of the target audience's risk perception will allow the education to be accurately and effectively tailored to need
- An unreliable sense of the target audience's perception of risk may – at best – compromise the message and – at worst – be counter-productive
- The target audience may be 'lost' if they feel that the message is inappropriate and be less receptive to future efforts

Potential consequences of 'under playing it'?

- The target audience may become indifferent, uninterested and hard to motivate
- The need to create a political will to deal with the issues may not be realised
- Funding may not be forthcoming

Potential consequences of 'over playing it'?

- Needless and damaging anxiety with the potential to create community paralysis
- Misdirected political energies
- Inappropriate use of scarce funding/resources

Key characteristics

- The target audience may have a higher or lower sensitivity to the risk(s) than the educator
- They may have little or no perception of the risk(s) and in-effect be neutral
- Risk perception is an integral part of the 'world view' of the target audience

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- Risk perception is an integral part of the 'world view' of the target audience
- ***Education must reflect the reality and meet whatever challenges that brings***

How we try to codify risk

- Bradford Disaster Scale
- Stafford Act (USA)
- UN
- Richter Scale
- QRA
- UK LRF's Community Risk Registers

But does it work.....?

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- consider a UK model

LRF's Risk Assessment

- Guidance issued to LRFs by Civil Contingencies Secretariat/Cabinet Office
- Intended to allow LRFs to discharge one of their key obligations under the CCA by compiling Community Risk Registers
- Anticipated that 'apples-for-apples' comparisons could be made
- Predominantly carried out by practitioners

LRF's Risk Assessment

- Essentially a QRA process
- Central government provided 'likelihood' scores for a range of hazards and LRF assessed 'impacts'
- 4 impact headings;
 - Health, Social, Economic & Environmental

Final product was the risk matrix.

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- To consider the issue of consistency amongst practitioners creating CRRs
- To consider what might influence risk perception (Psychometric/Cultural/etc,..)
- To consider the implications of any observed variance
- To examine potential mechanisms or processes that might improve consistency

How was the research carried out?

- Background
- Preparation
- Sample size/type
- Survey process
- Survey analysis

Survey sample

- 28 LRFs involved – geographically spread across the UK
- Approximately 300-350 questionnaires distributed (hard & soft-copy)
- 112 returned
- 110 returns entered into SPSS software
- Estimated up-take of circa 30%

Survey format

- Section 1: details about the respondent including professional background
- Section 2: details about their organisation
- Section 3: details about their LRF
- Section 4: their personal views on the CRR process and their grading of a range of 'impacts'

Survey style for risk questions

- Original Cabinet Office 'impacts'
- Created 'numeric' impacts
- Created 'capacity-related' impacts

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- Created 'numeric' impacts
- Created 'capacity-related' impacts
- Asked to grade on Cabinet Office scale:
Insignificant-Minor-Moderate-Significant-Catastrophic

Example of three types of impact descriptors

Cabinet Office 'Economic' impact descriptor

Limited impact on local economy with some short-term loss of production, with possible additional clean-up costs.

Example of three types of impact descriptors

Created 'numeric' Economic impact descriptor

11-20 businesses affected. Interruption to trade between 6 days – 6 months. Some affected businesses will not resume trading. Consequential job losses between 10 and 50. Consequential indirect costs between £1m and £50m.

Example of three types of impact descriptors

Created 'capacity' Economic impact descriptor

Although the use of business continuity arrangements and the insurance system mean that most individual businesses can generally absorb interruption to trade, some will be unable to resume trading. There are some direct and indirect impacts but these can be absorbed by the local economy using normal coping mechanisms and some additional support from local government. The regional economy is unaffected.

Supporting business infrastructures' capacity only marginally affected.

Response example

- *Very large number of people in effected area(s) impacted with significant numbers of fatalities, large number of people requiring hospitalisation with serious injures with longer-term effects.*

Response example

- *Very large number of people in effected area(s) impacted with significant numbers of fatalities, large number of people requiring hospitalisation with serious injures with longer-term effects.*

- 5.5% - Moderate
- 36.4% - Significant
- 53.6% - Catastrophic

Response example

- *31-100 casualties with critical injuries, 51-150 casualties with serious injuries, 101-300 casualties with minor injuries. 151-500 people with other health impacts but not requiring hospital treatment. 21-200 immediate fatalities.*

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- 1.8% - Minor
- 5.5% - Moderate
- 31.8% - Significant
- 57.3% - Catastrophic

Response example

- *Ambulance Service, A&E Departments, hospitals and public health agencies cannot meet health needs within existing local capacity and activate major emergency plans. They require both regional and national NHS support. Most normal services temporarily reduced or suspended.*

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- 1.8% - Minor
- 9.1% - Moderate
- 67.3% - Significant
- 18.3% - Catastrophic

Response example

- *The required response to mitigate the social impacts of the event cannot be fully delivered even using all available pre-existing local capacities, and pre-planned additional local and regional coping mechanisms. Some national resources will be required. Normal legal powers will be adequate for dealing with the event.*

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- 11.8% - Moderate
- 67.3% - Significant
- 10.9% - Catastrophic

Results analysis

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- Capacity-related descriptors narrow range of responses
- Practitioners sought descriptors that combined capacity info + numeric data

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- It is likely that the 'collegiate' approach of Risk Assessment Working Groups ameliorates against the extremes of personal, subjective assessment
- The Cabinet Office should review/revise the guidance to provide more user-friendly impact descriptors

Implications for Disaster Education

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- The target audience's risk perception should not be presumed to (even loosely) mirror that of the educator
- Misalignment can weaken the education process
- An investment in establishing a better understanding of the audience's risk perception will be repaid in significant improvements in educational effectiveness

Some big questions..

- Should we matter-of-factly accept that the 'first world' perspective on risk is usually at considerable variance with that of the 'third world'?
- Do we have an honest debate about what we can realistically achieve?
- Can we show humility and acknowledge that others may know more than us in many areas?

Final final conclusion!

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It's always better to ask than to presume!

Thank you