FINDINGS

bushfire&natural HAZARDSCRC

Emergency managers sometimes need to **think outside the box**. We created a technique called **Stretch-Thinking Loops** to solve this problem. Using this technique, groups improved their options analysis by 86%.

Divergent Thinking and Brain Plasticity

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The research aim has been to determine the value of developing alternate human skills to support people to think differently – particularly when there is no standard approach available for the incident. The types of incidents where this occurs are typically of a large scale, cross jurisdictional boundaries, are sometimes multi-hazard, and create complex social, economic, natural and built environment effects.

Introduction

In recent times one of the most significant changes in capability has been for emergency services to embrace human factors. Contributing to this, our previous research agenda has explored cognition in the context of decision making, developing training and aide memoires to support personnel in areas such as the management of cognitive biases and maintenance of situational awareness. The research supporting this work identified other problems around developing options analysis and predicting consequences for out-of-scale events. This has led our end users to ask how we can prepare our future leaders for the new norm? For human factors to adapt and remain relevant in this changing environment, the simple answer is we need to build new human capabilities.

Methods

Before commencing the discussion exercises all 86 participants completed a standardised testing regime called the Abbreviated Torrance Test for Adults (ATTA). We then conducted a training intervention to evaluate if the Stretch-Thinking Loops improved the results of an options analysis.

Results

Average creativity levels for the cohort were lower than the average for the reference sample use for the Abbreviated Torrance Test for Adults. 63% of participants in private organisations were assessed at average or above average levels of creativity. 57% of participants from public organisations were assessed as having below average levels of creativity. Between the first and second discussion exercise the creativity of the options analysis improved 86%.

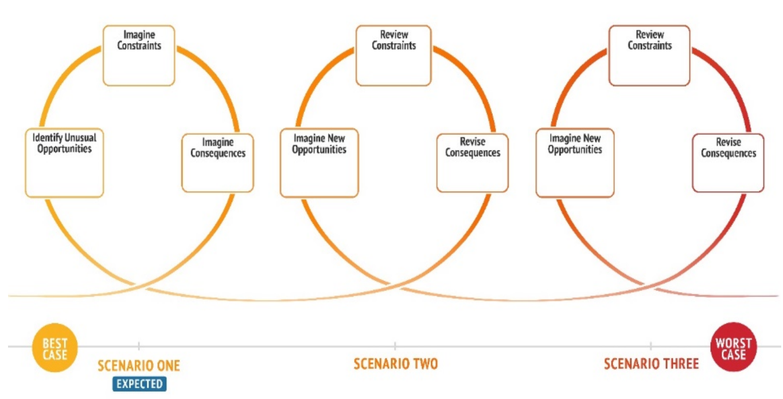
Discussion

We need to consider creativity as a valuable non-technical skill of similar importance to other non-technical skills like situational awareness, leadership and communication. A prudent approach would be to develop or enhance a creative capability earlier in a person's emergency management career. This has two benefits. Firstly, it may arrest a decline in natural levels of creativity. Subsequently, it provides more time to develop creativity before the individual finds themselves in a senior role that requires this skill at a high level.

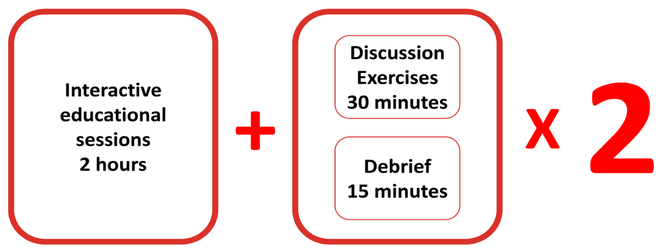
This requires a small shift in the paradigm we use to train and understand non-technical skills, and potentially some additional training resources at different levels of progression through public and private training packages.

Importantly, creativity is just one aspect of brain plasticity explored in this project and more research is needed to assess other functional plasticities for their potential value in enhancing EM capability.

Tables and figures



Stretch-Thinking Loops



Design of the Training Intervention

	DISCEX 1	DISCEX 2	Difference
Group 1	5	11	+6
Group 2	6	9	+3
Group 3	5	9	+4
Group 4	5	12	+7
Group 5	6	13	+7
Group 6	6	10	+4
Group 7	14	27	+13

Summary Divergent Thinking Scores

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