Co-production in the development of a prototype e-learning tool to promote small business adaptation to flood risk

Researchers

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Background and aims

This factsheet shares research into the processes and outcomes of the co-production of a prototype e-learning tool whose aim was to promote flood risk adaptation amongst small businesses. This co-production involved owners of small businesses and representatives of organisations that support businesses in flood risk management.   If it is to be effective, distributed flood risk management needs to integrate different knowledges (Whatmore, 2009; Lane *et al.* 2011; Donaldson *et al.*, 2013). We used a process known as *co-production*, which aims to engage a range of partners, and to integrate the contributions of representatives of all those with an interest in the project aims and outcomes. Haughton *et al.* (2015, p375) argue that 'experiments in the co-production of flood risk knowledge need to be seen as part of a spectrum of ways for producing shared knowledge'. Our co-productive processes have involved small businesses, and organisations that support such businesses with their resilience planning. The Stakeholder Competency Group model (adopted below; Landström *et al.*, 2011), involves the development of collective expertise on an issue through collective research, with the stakeholder as research partner. Our research's aim has been two-fold: to explore the processes of co-production, and to research and develop a prototype e-learning tool.

Research methods: partnership-working in SESAME

In our analysis of interviews conducted before development of the e-learning tool (see Factsheet 3), we found that small businesses draw on different knowledge systems and integrate lay/local knowledge, expert science shared by agencies and business related knowledges in their decision making. Against this backdrop, in our co-production processes, we worked with two groups of end-users throughout the research and development:

- A Business Research Partnership Group (BRPG) comprising small businesses from Tewkesbury town on the River Severn, UK (ten people; with representation from retail, transport, catering, leisure, health and manufacturing). We had previously interviewed several of these businesses. Tewkesbury experienced severe flooding during the UK 2007 Summer floods; it also has routine floods.

- A Stakeholder Competency Group (SCG) comprising national and regional organisations (15 people) that work with small businesses to increase resilience – both in relation to flood risk and for wider risk planning. The organisations included: Business in the Community; the Federation of Small Businesses; local government (flood planners); the National Flood Forum; local resilience fora, and rural community councils (business advisers).

This co-production process involved several different activities over 18 months. The SCG and BRPG each met twice with the researchers, and there was a combined meeting of both groups and the researchers near the end of the tool development process. Data on the co-production processes were captured through: independent observation, audio/visual recording, transcription of discussions, and the participatory production of graphic outputs. Both groups communicated virtually in follow-on discussions. The academic team also co-worked with individual BRPG members to develop resources for the e-learning tool. End-of-process interviews to capture perceptions of the research co-production processes will take place in March/April 2016.

Approach: the co-production processes

As part of the research process, we first engaged both sets of partners in developing the framework for the e-learning tool: its concept, structure, design, content, media and messages. These meetings formed an important stage in the development of the research process by providing early information that informed the tool's specification. Meeting 1 involved an exploratory mind-mapping of: how the tool could be used; how it could map onto to the flood cycle (flood - respond to the flood - recover from the flood - adapt ahead of the next flood); and how it could engage small businesses (see Figure 1). Meeting 2 involved an exploration of different thematic 'ways in' that could be used to structure the learning resources meaningfully, and a critical examination of possible

media/messages that would engage small businesses on the topic of adaptation. The value of the following learning resource options was discussed: written narratives, digital storytelling, podcasts, flow charting based on SESAME's Agent-Based Modelling (see Fact sheet 1), virtual poster boards and social media. Subsequently, the process involved the co-production of learning resources with local business people – drawing on their experiential knowledge of how to adapt to flooding. Meeting 3 (a combined meeting of BRPG, SCG and researchers) had three aims: to review progress with the e-learning tool and gain feedback for its final development stages; to celebrate local contributions to the tool; and to collect research data on co-production processes by reflecting on the experiences of involvement in the tool development.

Figure 1: a mind map generated from SCG Meeting 1
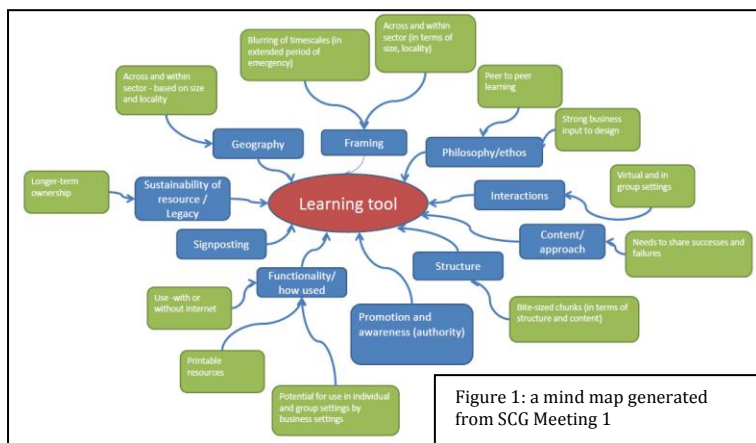
Draft findings: research processes and outcomes

Both groups had rich exchanges about business resilience.

Facilitating co-production: Our experience confirms that effective co-production requires long-term relationships and trust-building with all stakeholders through the co-production processes. This includes being responsive to formal and informal opportunities/requests to share knowledge in whatever form. We found that there is also a need to make space early in co-production processes to work through any barriers to co-production that might arise. The BRPG underwent a process of transformation as the co-production progressed. Initially, participants focused their contributions to the group on the questions of who was to blame for the floods they had experienced and what government agencies should be doing to prevent a recurrence. In this way, they revealed their need to work through the emotional side of their collective flood experiences. As a result, in the first meeting some found it hard to focus on the issue of longer-term adaptation (cf. the common tendency to focus on responses *to* a flood rather than long-term preparations *ahead of* the next flood).

Business knowledge/learning: The businesses argued that they preferred to learn from other businesses rather than from other sources. They liked narrative and visual approaches to communication – particularly the notion of self-authored digital narratives – and asserted that learning resources were most powerful when they were strongly linked to the local. Terminology used in communication with businesses was considered particularly important; for example, use of terms such as 'resilience' and 'emotion' was contested by participants.

Co-production of resources

A strong element of co-production occurred in the development of these narrative resources that dominate the e-learning tool. Some of these consisted of short reflections recorded in the author's voice and accompanied by images selected by the author (a form of 'digital story'). The six short digital stories (as personal testimonies) were co-produced with members of the BRPG, combining short audio of the authors' voices with images they had selected. Within these, business people shared their learning about how to run a business in a flood risk area, and on different aspects of their adaptive strategies. The storytelling process was found to encourage critical reflections on business adaptation, decision making and experiential learning that could be usefully shared with other small businesses. All three films in the e-learning tool had co-selected topics and co-produced scripts and settings, and involved academic specialists and local business people sharing their knowledges about local flood risk or property-level resilience. These films represented a deliberate movement away from traditional science communication podcasts in which only the 'academic' has a voice.

Future work and benefits to users

The prototype e-learning tool is currently nearing completion and will be made available online (March 2016). We will trial the tool with Tewkesbury and Gloucestershire business communities (Spring 2016), in collaboration with Tewkesbury Borough Council. Accompanying research will explore the effectiveness of narrative approaches undertaken in the tool. Other key objectives include ensuring our partnership processes are sustained beyond the project lifespan through joint working with other business resilience initiatives and business groups.

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