Exploring novice facilitated modelling supported by scripts

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The challenge

- To investigate behavioural human aspects related to modelling in problem solving (Hämäläinen et al 2013), particularly qualitative modelling within workshop settings (Franco & Rouwette 2011)

- A response to the call to explore ‘non-expert use of OR methods’ (Hämäläinen et al 2013)

- Empirical attempt to assess the claim that ‘scripts’ (Ackermann et al 2011) can support novice facilitators in managing Facilitated Modelling (FM) (Franco and Montibeller, 2010) workshops and achieving outcomes
FM, novices and scripts

• Skills and competencies are required for managing FM workshops (Huxham and Cropper 1994; Franco and Montibeller 2010)

• Acquiring and exercising skills and competencies is challenging for novices (Ackermann 2011), affecting their ability to successfully manage FM workshops

• Use scripts to transfer facilitation expertise to novices and help them successfully manage FM workshops (Ackermann et al 2011)

• Little empirical evidence of how scripts can be used by novices to manage FM workshops
Aim of research

• Assess how scripts are used by novices to manage FM workshops through the acquisition and exercise of skills and competencies, and how the use of scripts relates to workshop outcomes:

• Micro-level analysis of transcript of 1-day Viable Systems Model (VSM) workshop within a food cooperative in DK
Theoretical framework


• **P**: managing the social process of group interaction and debate

• **C**: managing the complexity of the content of the problem by modelling

• **S**: providing input of expertise, knowledge and/or opinion into decision making
Operationalising P, C and S

- Facilitation skills and competencies in FM literature

Examples:

- **P**: asking questions; active listening-acknowledging
- **C**: using the model to enhance participants’ contribution
- **S**: explaining technology (VSM)
Analytical approach

• Coding scheme developed

• Unit of analysis: segments in which VSM tasks are carried out and/or topics discussed, and novice uses scripts (15 segments)

• Turns in which novice replicates, carries out, and/or refers to the content (statements, questions and guidelines) of the scripts coded

• Behavioural patterns spotted
<table>
<thead>
<tr>
<th>Turn and participant</th>
<th>Transcript</th>
<th>Reference to scripts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 P1</td>
<td>Well, coordinate...people should sign up for guards <em>(in the shops)</em>, but this is kind of something else than...this is more the administrative part [...]</td>
<td>1 Possible examples of metasystemic functions are: time tabling in schools; regular meetings; administration; coordinators group, etc.</td>
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<tr>
<td>2 N</td>
<td>This administration thing is like in the background <em>(of the VSM)</em> <em>(1)</em>, you are not here to provide administration <em>(code: AL-R (P))</em>. For example like a manufacturing company, your primary activities do the manufacturing like the units, where the machinery is placed and where they produce the products <em>(code: UT-ETSL (S))</em> <em>(2)</em></td>
<td><em>(2)</em> Example of a primary activity: in a manufacturing business the primary activities are the units that do the manufacturing</td>
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<td>3 P</td>
<td>So it is packing and selling? <em>(‘selling’ is added to the VSM as a primary activity)</em></td>
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<td>1 P5</td>
<td>We have even a part there [...] <em>(in S3 of the VSM)</em>, which coordinates the guard plan, well a part under the shops group</td>
<td>((1)) Building System 3 of the VSM and ask participants: “Are there mechanisms to provide synergy (mechanisms that ensure regulation and optimisation) to the primary activities?”</td>
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<td>2 P3</td>
<td>Yes, in Amager <em>(a local shop)</em></td>
<td>((2)) Building System 3 of the VSM - guideline: fill in System 3 of the VSM with info coming from participants; use a green pen to high-light what is missing or needs to be developed further in System 3</td>
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<td>3 P5</td>
<td>Yes, it is called team-link [...]</td>
<td></td>
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<td>4 N</td>
<td>O.K., team-link and <strong>is it something that other shops could also have, or?</strong> <em>(code: AL- C (P))</em>) <em>(1)</em> Because for example <strong>we could then write it in green <em>(in the VSM)</em>, that it is something that could be developed further</strong> <em>(code: HGN-E (C))</em>) <em>(2)</em></td>
<td></td>
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<td>5 P1</td>
<td>Well, both teams and team-link are something we could indeed develop further, anyway in the big departments, I think, because it creates actually synergy between the different people <em>(N updating the meta-systemic diagram)</em></td>
<td></td>
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<td>1 P3</td>
<td>I think today has been incredibly exciting and inspiring, but I am worried that this becomes a knowledge, which remains among us, or what are we doing with what we have experienced today and what we have been talking about?</td>
<td></td>
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<tr>
<td>2 P1</td>
<td>But should we not talk about this?</td>
<td></td>
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<td>3 P4</td>
<td>But maybe we could open for discussion here and talk about how to take this further</td>
<td></td>
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<tr>
<td>4 N</td>
<td>Yes ((code: AL-ACK (P))), because the next step would be like to try to implement some of these things and how KBHFF can do that. Yes ((code: AL-ACK (P))), we can discuss now like how to implement an action plan ((code: DM-RN (P))) ((1)) ((in the following the participants formulate and agree on an action plan))</td>
<td>((1)) Wrapping up and ask participants: “How can we use and implement the VSM?” Discuss and agree on next steps</td>
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Workshop outcomes
Implications – FM practice

• Expands theory on scripts for managing workshops and achieving outcomes to ‘novices’ (Ackermann et al 2011; Hovmand et al 2012)

• To become an expert:
  • From a superficial and literal understanding of FM to an articulated, conceptual, and principled understanding of FM.
  • Training -codified knowledge from the scripts is put into practice
Limitations and future research

• Data is drawn from a single workshop
• Scripts’ use depends on
  • FM approach used
  • the problem situation and organisation of concern.
• Scripts during workshop; not on pre-workshop stage
• Future research:
  • different FM approaches, facilitators, contexts
  • scripts in the pre-, post- workshop stages
  • learning trajectory of a novice over time
  • levels of skill, competencies, and expertise required
Thank you!

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