Knowledge Art
or... “Participatory Improvisational DVN”

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With acknowledgements to Al Selvin
Creator of Knowledge Art

Al Selvin (1959-2015)
Compendium inventor and Knowledge Art researcher

Memories & Tributes

“Every art communicates because it expresses. It enables us to share vividly and deeply in meanings... For communication is not announcing things... Communication is the process of creating participation, of making common what had been isolated and singular... the conveyance of meaning gives body and definiteness to the experience of the one who utters as well as to that of those who listen.”

— John Dewey, *Art as Experience*
Think about a time that you (or someone else) introduced a visual, which completely failed.

What was the context?  
What went wrong?
Meetings: an ancient, pervasive human activity

They’re fundamentally about crafting narratives

Visualisations are tools to help us tell better stories about how the world was, is, might be…
DVN with a twist:
“Participatory Improvisational DVN”

A pervasive, critical, and surprisingly neglected piece of the DVN jigsaw puzzle:

What’s YOUR role in helping visualisations add value in a meeting?

What decisions do you make, that can make a difference?

A difference to what?

Whether a ‘narrative’ emerges that is collectively owned
Expanding how we think about DVN

Expand our DVN focus beyond DIGITAL viz. of DATA

Expand our DVN focus beyond

- EXPLORATORY viz: your expert tools to understand the data
- EXPLANATORY viz: the product of your analysis with a specific message (see “data storytelling”)

What about viz. to support ideation and the FRAMING of an analytics problem?

We’re only interested in the data to the degree it offers new insights
What’s an “insight”?

A new fact  
A new claim  
So what?

• Informs a bigger story  
• Might back an argument  
• Data only matters if it informs a plausible narrative
What makes a viz. “participatory”?
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Figure 1: SourceVis. Users interacting with visualizations: A. Metrics Explorer, B. Class Blueprint, C. System Hotspots View, D. Wordle Vocabulary.
What makes a viz. “participatory”?

A session where participants are more engaged in talking with each or working on something else, while someone works on the ostensibly shared visualisation
What makes a viz. “participatory”?

When the visualisation plays an integral role in shaping the discussion
What makes a viz. “participatory”?
What makes a viz. “participatory”?
NASA Field Trials: Earth/Mars science mission simulation

Mapping for a political hostage recovery scenario

Visual background image structures the display for planning: key goals, constraints, options, actors

Capturing the collective intelligence available in the room and online: Dialogue Map summarising the team’s deliberations, decisions and rationale

http://www.aiai.ed.ac.uk/project/co-opr
To go deeper on dialogue/argument mapping…

All books in the UTS Library. Plus these blogs, papers, demos…

Jeff Conklin: http://cognexus.org
Paul Culmsee: http://www.cleverworkarounds.com/category/dialogue-mapping
Simon Buckingham Shum: http://simon.buckinghamshum.net/tag/compendium
Kailash Awati: https://eight2late.wordpress.com/category/issue-based-information-system
Tim van Gelder: https://www.rationaleonline.com
Back to when it goes well, or badly…

• Can you recall an occasion when you (or someone else) used a visual that got people really engaged, and helped clarify things in a new way?

• What about a case where people co-produced the visual? Did it go well, or badly?
A new kind of DVN skillset

• There is an important set of skills and dispositions that you can develop to use visualisations in ways that invite the construction of a shared narrative with stakeholders in the room.

• This is a participatory design practice that when done really well, we’re calling “Knowledge Art”
“Knowledge Art”
conceptual framework
"Knowledge Art" conceptual framework
“Knowledge Art”
conceptual framework
“Knowledge Art”

**narrative** — the context for a session, the spoken and unspoken expectations of what it’s for, how it should proceed, and what kinds of meanings will be made

**aesthetics** — the choices you make for how to shape a visualisation – how it should look, what it should say, etc.

**ethics** — the ways in which your DVN actions affect the other people involved in a session

**sensemaking** — the ways in which you handle unexpected events or anomalies

**improvisation** — your ability to make spontaneous, unplanned moves with the visualisation when breakdowns occur
“Knowledge Art”: Narrative

Narrative refers to how we connect diverse moments, ideas, and statements over time, as well as the human sense of causality and consequences – the narratives that we *live within*. A visualisation ‘connects dots’ and shapes the emerging narrative in the room. Since a visualisation may be referred to subsequently, it also shapes the future.

In a world of unprecedented complexity, surprise is becoming the ‘new normal’. Narrative is our central mechanism for confronting surprise and the confounding of expectations.

People like to leave the meeting with a better story than they arrived with. This might be a more nuanced story about the state of the world, or possibly a fresh awareness of the ‘twists in the tale’ that make the old story too simplistic.

They will often be resistant to stories that challenge them.
“Knowledge Art”: Sensemaking

Sensemaking research examines what happens when we encounter the unexpected, often in situations characterized by instability, uncertainty, or information overload. What do we do when conditions disrupt the ‘story’ we were expecting to see unfold? What is the role of visualisation in this?

Russell et al. (1993) point out that “visualisation design is central to the sensemaking enterprise”.

SENSE… MAKING… giving form to ideas (Weick 1995)

“How do I know what I think until I hear myself say it?”

Sketching is an important activity in “ideation” — the generation of ideas for open-ended, ill-formed problems.
“Knowledge Art”: Improvisation

Cf. Jazz — When we examine what skilled practitioners do when their tools, methods, or pre-planned processes fail them – they *improvise*.

While some aspects of participatory visualisation will follow predetermined patterns and draw on techniques and methods planned in advance, skilled practitioners often find themselves switching to alternative sensemaking strategies.

Would you consider yourself so sufficiently expert with one or more viz. tools that you can improvise on the spot?

What does it feel like to be ‘in the zone’, such that you are able to sense and adjust in real time to the unexpected?
“Knowledge Art”: Ethics

The ethical dimension of participatory practice is concerned with the analyst’s responsibilities to the people’s various individual and collective needs, interests, goals, and sensibilities.

In a DVN context, our interest is in how our actions affect the engagement of participants with each other, the problem at hand, and the visualisations. Your use of the viz. could change the course of the meeting.

For instance:
• Should I do action x or action y in the visualisation?
• What effect will it have on these participants if I do x?
• Am I capturing all the different viewpoints?
• Should I intervene in their conversational flow to draw their attention to the visualisation?
“Knowledge Art”: Aesthetics

Rules about what constitutes a clear and expressive form. People fluent with an approach can quickly tell whether a particular example is “good”. This is the province of aesthetics.

The aesthetic dimension of participatory visualisation is also concerned with the process of crafting visualisations, not just the beauty of the final product. It’s concerned with the extent to which visualisation-building engages participants, and the ways in which participants are affected by this.
“Knowledge Art” in the kitchen with my 6 yr old!

https://vimeo.com/69912504
“Knowledge Art”: how to get better at it?

Here are some snippets of feedback that I’ve given in mentoring sessions, which you may find helpful.
It was good that you tried to be responsive to the clients, but you didn’t give them the chance to shape the conversation at the start.

You had a lot of your own pre-prepared work to present and did not pick up quickly enough that they were not very engaged.

Try to adopt a more open disposition so that it is more client-led, prepare for but don't dominate the direction of the conversation, and be ready to start sketching in response.
“Knowledge Art”: example feedback

You gave really clear encouragement to the clients to get stuck in and use their pens. You did this in a fun but also serious way.

This seemed to pay off when one client started to annotate your sketch, and continued to throughout the meeting.

The other one is less ready to, and might have been encouraged to?
“Knowledge Art”: example feedback

You dominated the airtime with your show and tell, since you seemed to have framed your role to be “the expert advisor”, rather than the advocate who will help the client tell their story (they are the domain experts, not you) using data.
“Knowledge Art”: example feedback

Clients could literally reach out and gesture around the visuals. If you had encouraged them to get their pens out, you could have had them co-designing with you. It was only at this point that we really got into thinking through visualisation.
“Knowledge Art”: example feedback

You recognise the influence that your decisions had on the clients’ access to the representation (table vs whiteboard), and ability to edit it (the need to give them ‘permission’ to get their pens out and help shape the design). There are ways to overcome the natural sense of social reserve that can hold people back from pitching in, otherwise you can dominate the airtime, and they don’t want to invade your ‘personal space’ around the whiteboard/flipchart.
You recognise that you struggled to improvise around your map when they started to get creative with new ideas. As you note, perhaps at those moments you can also invite the client to sketch their thoughts. Alternatively, you can ask for clarification of what the specific problem is that they believe the visualisation should solve.
I appreciate your observations about which tools made you feel safe and vulnerable, and their different ‘affordances’ for sensemaking. You not only experienced but recognised the challenge of simultaneous listening and capturing in real time.

It’s good to see that you realise the importance of empowering the client to shape the outcomes not only verbally but visually.
“Knowledge Art”: example feedback

You brought a laptop to show a spreadsheet — but you only opened this when one of the clients requested, after about 10mins of monologue.

You did not seem to consider using the wall-monitor instead of leaving clients trying to see your small laptop screen, and you did not even zoom into Excel to ease collaboration with a bigger font.

So you must take control of your visual environment and use it to your advantage.
To go deeper...

bit.ly/MDSIkart

distilled from...

Open access DVN resource

Free eBook for UTS students