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EMA

Part 1: Does mapping enable collective learning in organisations?

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“Remember, all models are wrong
but some are useful.
(Wardley, 2016)

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Introduction

My project seeks to understand if maps enable collective learning, specifically developing process changes and ways of working inside organisations. It looks at mapping practices, as well as the social processes from which learning – and organisational culture – derives. The project is aimed at Learning & Development staff, line managers, and senior management, and uses maps to interrogate the topic.

This document presents a non-linear journey through the learning, allowing the reader to follow what interests them; as Caig (2021) notes, theatre director Anne Bogart defines interest as a threshold, liminal, an in-between space. He suggests that what interests us opens up this liminal territory, a place where connection awaits.

The document can be read from start to finish; however, some ‘maps’ may lose their usefulness. Therefore, I offer a structure: signposts dotted across the terrain of this document. As Ramage and Shipp (2020, p.317) note:

“...to offer no map at all - no structure - is to deny the explorer a vital aid to their journey. Without some sort of map, the learner cannot even start to lay down the interconnections in memory.”

▶▶ [Seek knowledge](#)

▶▶ [Do maps enable collective learning?](#)

Knowledge as currency

In a Volatile, Uncertain, Complex and Ambiguous (VUCA) world, organisations are, as Nonaka (1994) asserts, increasingly seeking to trade on their knowledge – and their ability to generate more. The OECD (2010) defines knowledge as ‘a critical resource [and] the source of the entrepreneurial rent’. While knowledge management is associated with leadership roles, more than ever, those within organisations seek to be more innovative, generating ideas that provide a competitive advantage and are focused on customer needs (Ghasbeh, 2021). Knowledge creators can no longer be just the leadership team.

Therefore, the transference of knowledge requires inclusive learning experiences to be developed so that it benefits the organisation as much as the individuals within it. My own experience in strategic consultancy reinforces this view.

I have often used maps as thinking tools, which Le Cunff (2020) describes as “visual devices to capture our mental explorations and expand our minds.” They let me see change over time; or, when orientation shifts, a new perspective previously hidden.

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However, the nature of work is changing, too. No longer does it take place solely in a single office or manufacturing site. As Shortt (2015, p.634) notes:

“The growth of shared workplaces, the open-plan office and advances in technology mean that work today is collaborative and conducted all over the office; touch down spaces in foyers, ‘innovation corridors’ and conversation ‘pods’.”

This creates a need, I argue, to get comfortable with uncertainty, to explore it. Rather than remain where it feels safe, go searching for answers.

- ▶▶ [Finding, generating and retaining knowledge](#)
- ▶▶ [Becoming a learning organisation](#)

Connections and relationships

Research (Cross and Baird, 2000; Hodge, 2019) suggests that relationships determine how well information flows into, across and through an organisation. Facilitating the transfer of knowledge is strategically important to organisations that want to encourage learning, a “behaviour to incentivise” (Tempest and Starkey, 2004).

Networks are necessary for collaborative work – not only “the key to delivering both operational excellence and innovation,” (Cross, et al., 2010) but also for learning.

The process of learning is, as Bartsch, Ebers and Maurer define it, “a social [one] in which individuals and groups augment their knowledge.” Yet, it does not need to be formal, taking place in a designated ‘learning’ or ‘meeting’ space. Collectively experienced, learning is about conversation, the sharing of multiple viewpoints and the discussions these provoke.

In 1991, Lave and Wegner introduced the concept of a Community of Practice (CoP), a ‘group’ that meets through a shared domain of interest and wishes to exchange ‘tacit’ knowledge – defined as knowledge gained through experience, often a result of developing a practice (Webber, 2016).

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Members do not always need to be affiliated with a single organisation, and may be central or peripheral. The cornerstone of the CoP is a wish to learn collectively so as to benefit both individuals and the organisations for which they work.

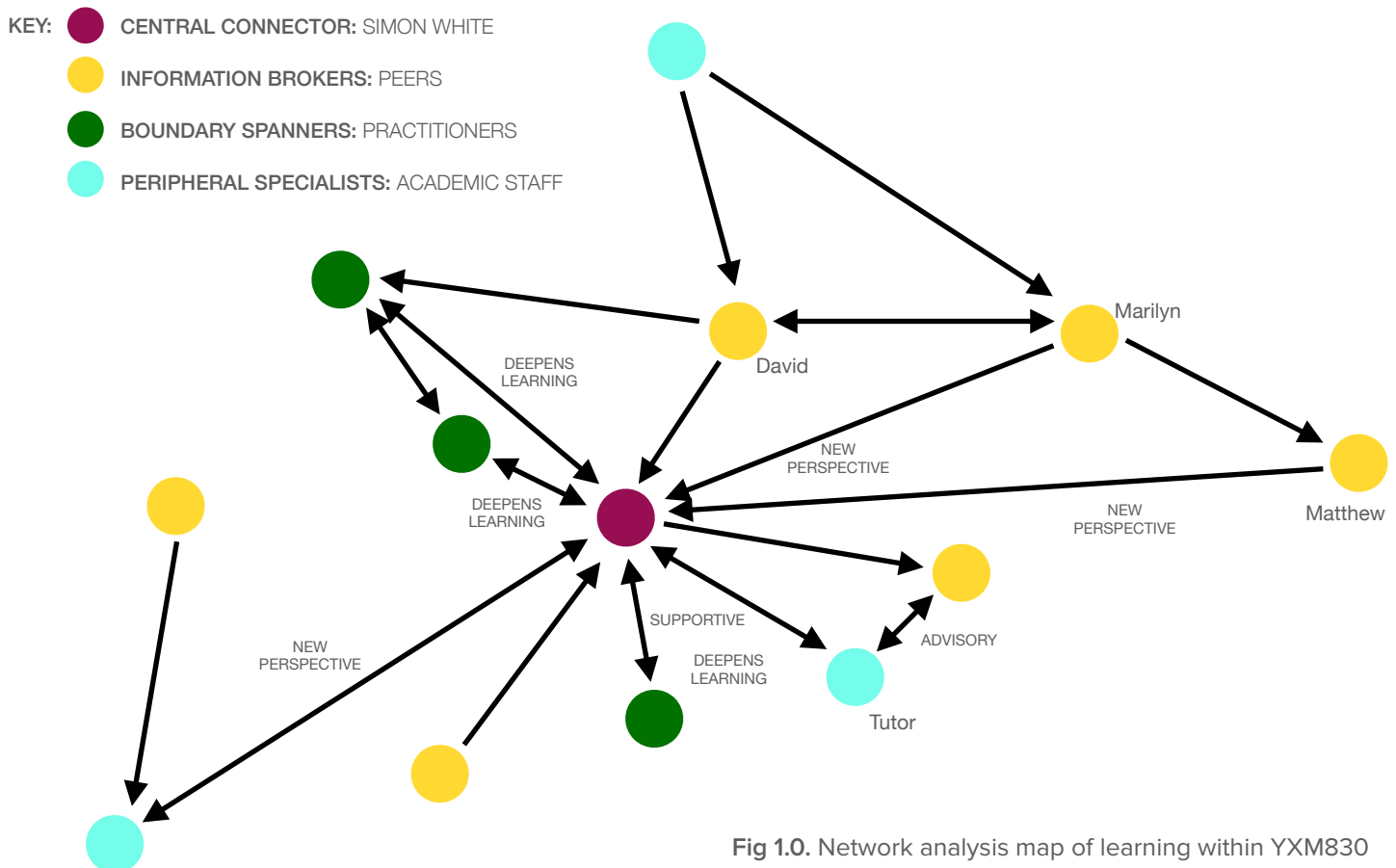
These communities build trust among members; Argyris (1999) considers these 'deep connections' as recognition of a "mutual incomprehension and lack of knowledge". The not knowing, and the admittance of that, can compel people to seek answers, to explore. This may be others within their organisation, it may be Google or an internal database; extending into external networks may aid in the collection of knowledge. It's not always about learning new things but often about learning what your employees / colleagues know and to whom they turn for information.

Understanding these networks could be as critical - or more critical - than new or novel information. This is acknowledged by Parise, Cross and Davenport (2006) who advise understanding the networks of relationships critical to doing work in an organisation to build retention policies.

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Understanding these networks could be as critical - or more critical - than new or novel information. This is acknowledged by Parise, Cross and Davenport (2006) who advise understanding the networks of relationships critical to doing work in an organisation to build retention policies.

To do this, they suggest network maps (Fig.1.0), a relational view of not only how information flows but the “learned characteristics of these relationships which supports the seeking and sharing of information” (Borgatti and Cross, 2003).



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These maps can support all aspects of organisational learning by creating an emancipatory experience – that is, an informal learning practice. Management can develop deeper insights into how knowledge is developed and retained, and where to push, or withhold, resources, budgets and hiring activities.

However, it is worth noting here that maps of all types can occasionally surface knowledge that is uncomfortable and, in some extreme cases, detrimental to the organisation (Huisling, 2019).

- ▶▶ [Becoming a learning organisation](#)
- ▶▶ [When mapping is not always positive](#)

“Learning is the capacity to doubt [those] things that seem unquestionably true; a process of calling existing knowledge into question; a process of becoming.”
(Vince, R., 2011, p.335)

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Creating space to learn

What Vince (2011) describes innovation and how it happens. A tearing up of rules imposed on how things are done within an organisation. They require ‘learning spaces’, which Land, Rattray and Vivian (2014) define as places “where alternatives are considered, ‘common sense’ is questioned and business as usual stops for a moment.” It is unlearning and then relearning. To begin this process of unlearning, we must limn the space through representing the knowledge we already have access to.

Mapping offers a method of understanding how things are done – individually at first, and then collectively. However, maps are usually considered immutable, providing “an objective, standardized set of practices that purport to convey accurate and correct models for ways of knowing” (Prosen, 2009, p.113) due in part to their technical and scientific origins.

Thinking in this way imposes rules upon how we learn, whereas, as Turchi (2004) argues, “effective strategies and techniques are often discovered

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through an ongoing practice of questioning these rules, more so if we find those rules useful shortcuts.” Assumptions can lead to routine that does not nourish ourselves, or the organisation.

If we are to question these rules and assumptions, we need to know where we stand, literally and metaphorically, either through understanding the journey we took, or the emotions our processes created.

- ▶▶ [Understand how you got here](#)
- ▶▶ [Understand how the process felt](#)

Learning trajectories

The sharing of individual journeys and the knowledge they contain can demonstrate what is useful and what is not - at a specific moment in time. If we know this we can establish what an alteration would look like and what processes are needed to initiate change. For that we need maps, as they do not display what we can already see but are there to “point us toward a world we might know” (Wood, 1992, p.12, original emphasis).

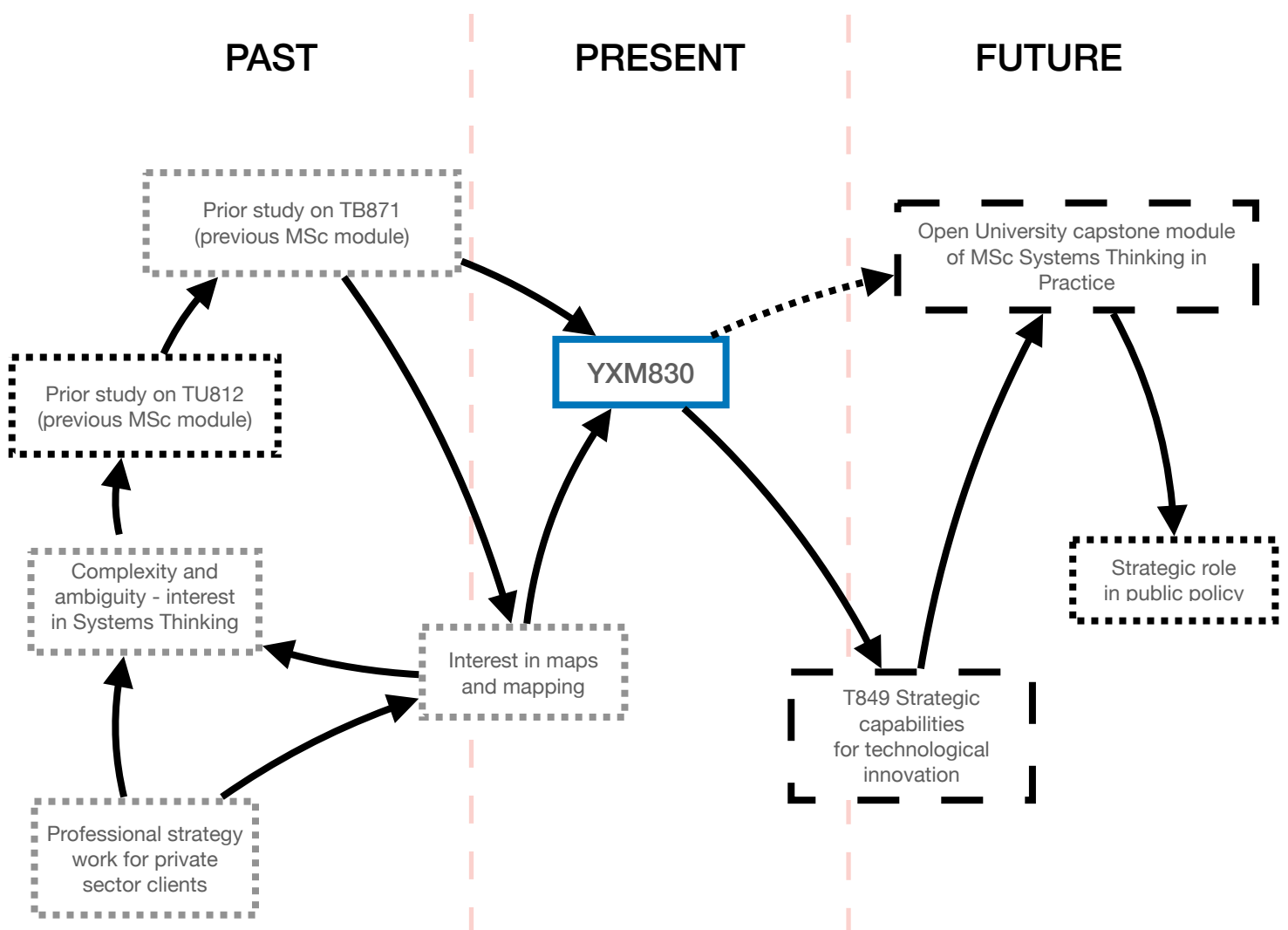


Fig 2.0. Trajectory map of learning within YXM830

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This is a useful tool for quickly capturing where a learning journey has originated and where the learner wishes it to go (Fig. 2.0). Combining others' trajectories within a reflective practice can enable an organisation to see where it might want to move – 'collectively' – not only in terms of learning but also its strategic development. These maps do not explain what steps to take, but are useful to understand if everyone is headed in the same general direction and if not, what that might mean in a specific situation.

To better understand possible organisational direction, a more nuanced view is required. This can be a long-term view – various destinations with multiple paths – or shorter term – taking things slower step-by-step and ensuring each step is more likely to be the right one.

- ▶▶ [The longer term](#)
- ▶▶ [The next best step](#)

Mapping emotions

Past experience is useful for organisations seeking to enable change, if used as a learning tool and not a vehicle for blame. A culture of learning sees past experience as a valuable stimulus for adaptation and experimentation (Osagie, Wesselink, Blok and Mulder, 2020). Mapping it creates new boundaries (Fig.3.0).

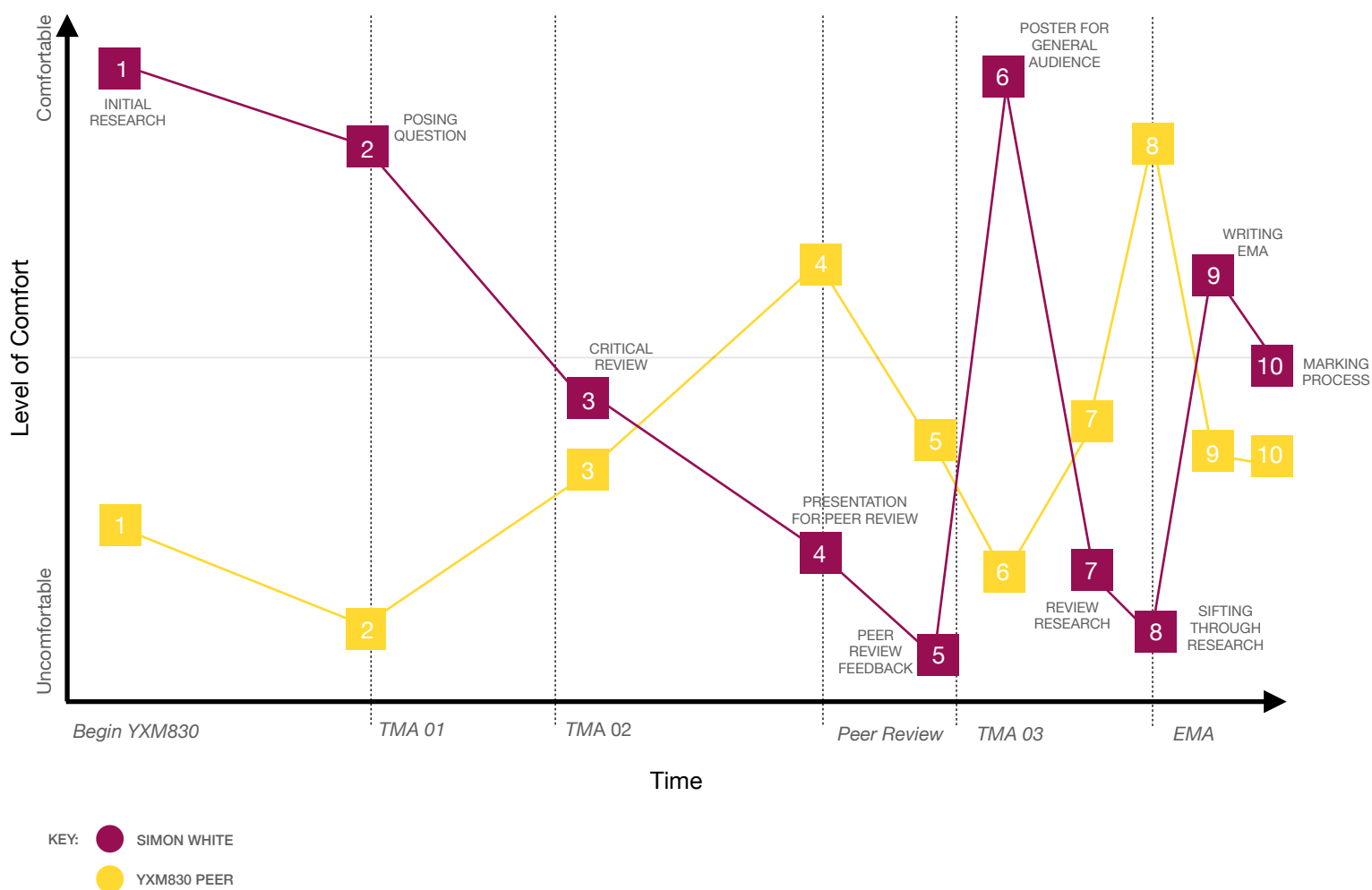


Fig 3.0. Emotional Map of learning for YXM830

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Boundaries, in an organisation, are part of what Vince (2011) refers to as an “architecture of the invisible – a complex interplay of ... underlying emotions and power relations.” These mental maps help us navigate our roles and responsibilities, understanding what others expect of us. The implications for what happens in the real world are connected to our individual mental geographies (Fotiadis, 2009). Understanding how we feel about these personal, mental maps – and sharing these emotional responses – can facilitate learning and catalyse change. Transforming mental maps into physical artefacts, enables us to clearly see if boundaries are porous, allowing knowledge to flow freely, or restrictive and limiting.

- ▶▶ [Exchanging value](#)
- ▶▶ [Dealing with tension](#)

Value exchange

Research suggests working in groups benefits employees, leading to creative and inventive outcomes (Osagie, Wesselink, Blok and Mulder, 2020). Sharing information not only allows for critically reviewing the work of peers, but also someone's own work in light of new information or modes of thought presented to them within the group dynamic.

Any map we make embeds our values and judgements and are “undeniably a reflection of the culture in which [we] live” (Kitchin and Dodge, 2007).

Focusing on emotional aspects shifts the perspective from facts towards values. This is prized in situations where multiple viewpoints are coming together – although it feels counter-intuitive to how organisations normally work.

Brown and Lambert (2013) argue that values are more important than facts in the earlier stages of a collective learning experience, as it imbues each of the multiple constructions of knowledge with legitimacy whereas facts present a single objective view – often that of the most senior person present.

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Changing the frameworks of understanding that individuals hold enables process change within the organisation – and it is from the “interpretation of these processes that organisational meaning is created” (Weber and Manning, 2001), shifting them towards becoming an environment for learning.

- ▶▶ [Becoming a learning organisation](#)
- ▶▶ [Understand how you got here](#)

Creating and relieving tension

Paez (2019) characterises maps as a system for organising multiple viewpoints; a meditative device that has the “ability to socialise visions, knowledge and desires.” Maps, therefore, contribute to conversation through depictions of realities and the differences they surface, developing a necessary tension, drawing out opposing interests.

Swart and Harcup (2012) argue that behaviour change alone is not enough for learning, that adopting a coaching approach embeds it within organisational culture and processes. Systemic coaching constellations offer an opportunity to use tension as a way of understanding others’ perspectives, and in some cases to (almost) literally stand in someone else’s shoes. The use of constellations – a form of mapping that puts people into specific places within a situation and ‘coaches’ them using empathetic questions about what they see, hear, feel and so on, removes the personal bias that Rowland (2016) argues is inherent in any intervention.

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By revealing the dynamics of a situation to participants, and have them reflect as a group, constellations allow patterns of behaviour and relationships within an organisation to be challenged, bringing about “fresh and clear perspectives” (Wade, 2004). If the ‘terrain’ is known, then a compass can help to provide bearings. The skills of the Bricoleur – someone who uses a playful exploration of what is possible – act as that compass, allowing individual learning to be distributed to a wider audience; learning is cyclical, as new ideas and thoughts are added, discussed, disregarded and so on, through conversations (Fig. 4.0).

This integrative behaviour is integral to a learning organisation, actively creating tension to encourage constructive criticism. When supported by effective leadership it “provides opportunities for experimentation, resolves conflicts and responds to employee concerns” (Van de Ven, Rogers, Bechara, and Sun, 2008).

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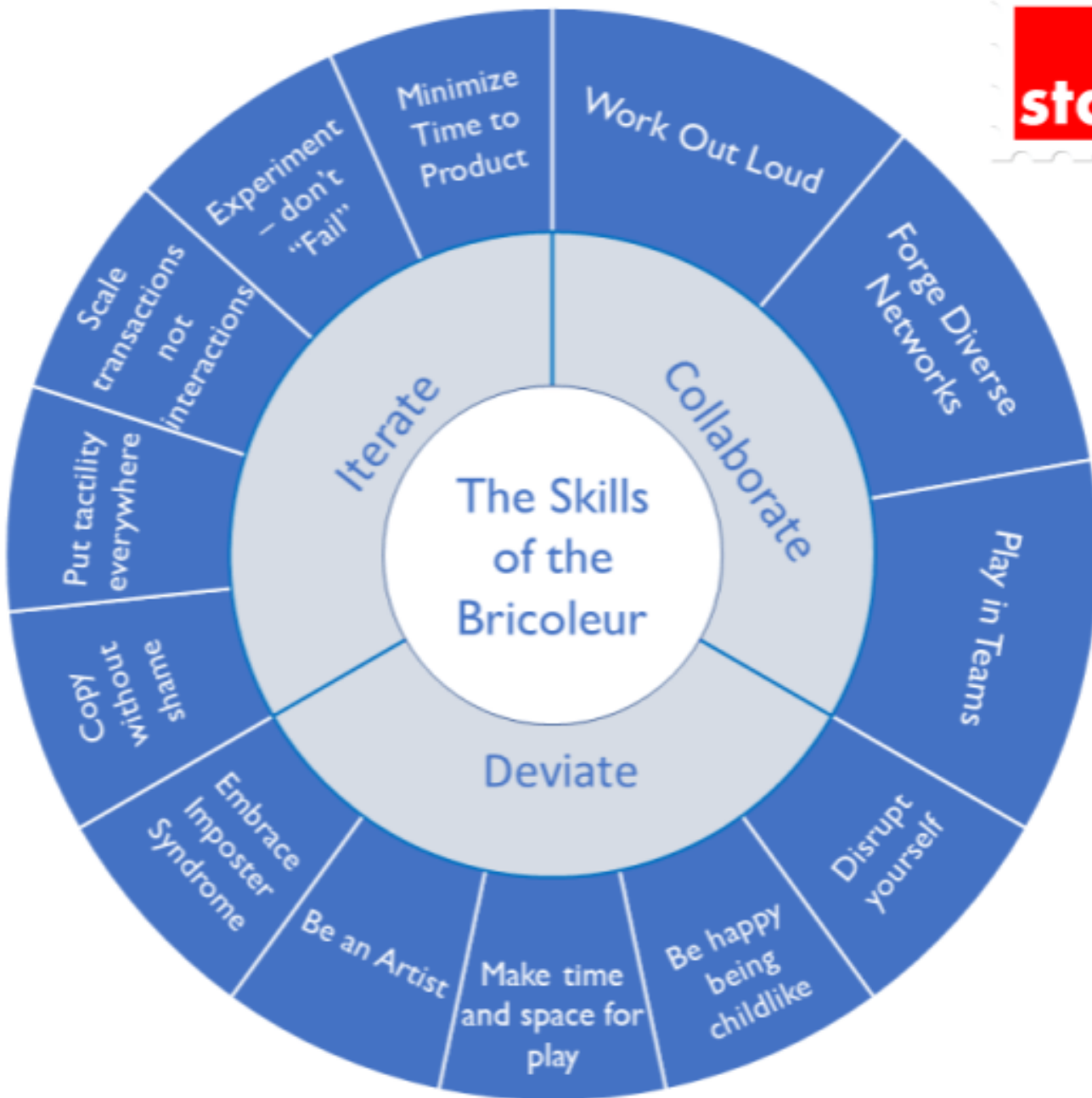


Fig 4.0. The skills of a Bricoleur in a modern, organisational context, (Ballantine, 2019 licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.)

- When mapping is not always positive
- Do maps enable collective learning?

The uncomfortable truths of mapping

It is important to note that mapping alone does not necessarily provide an answer; in fact, it may pose further questions. Some of those questions can cut to the heart of an individual's purpose within an organisation, causing them to question their role, or the function of their entire department (Huisling, 2019).

A person's work can be 'their purpose'; mapping can disrupt this. As Wood (1992, original emphasis) states, “a map is not *apart* from its culture but instead is *a part* of its culture.” Some maps will be the organisational culture writ large, full of the emotional and political power dynamics of the organisation in which they are made.

While providing opportunities, it can, unchecked, play havoc with individual and organisational health. Therefore, understanding what emotions are felt during a process, and when, is important. As Leander, et al., show, people are “both shaped by these [organisational] spaces and [use] them to shape [themselves].”

- ▶ [Understand how the process felt](#)
- ▶ [Do maps enable collective learning?](#)

Strategic maps

Thinking for the longer term involves strategy – that is, deciding how to take purposeful action. Wardley Maps can help determine what that purpose is.

Ben Mosior (2021) argues that Wardley Maps are useful to locate knowledge debt - that is, the level of ignorance around a subject or process within an organisation. They are a learning tool with multiple uses.

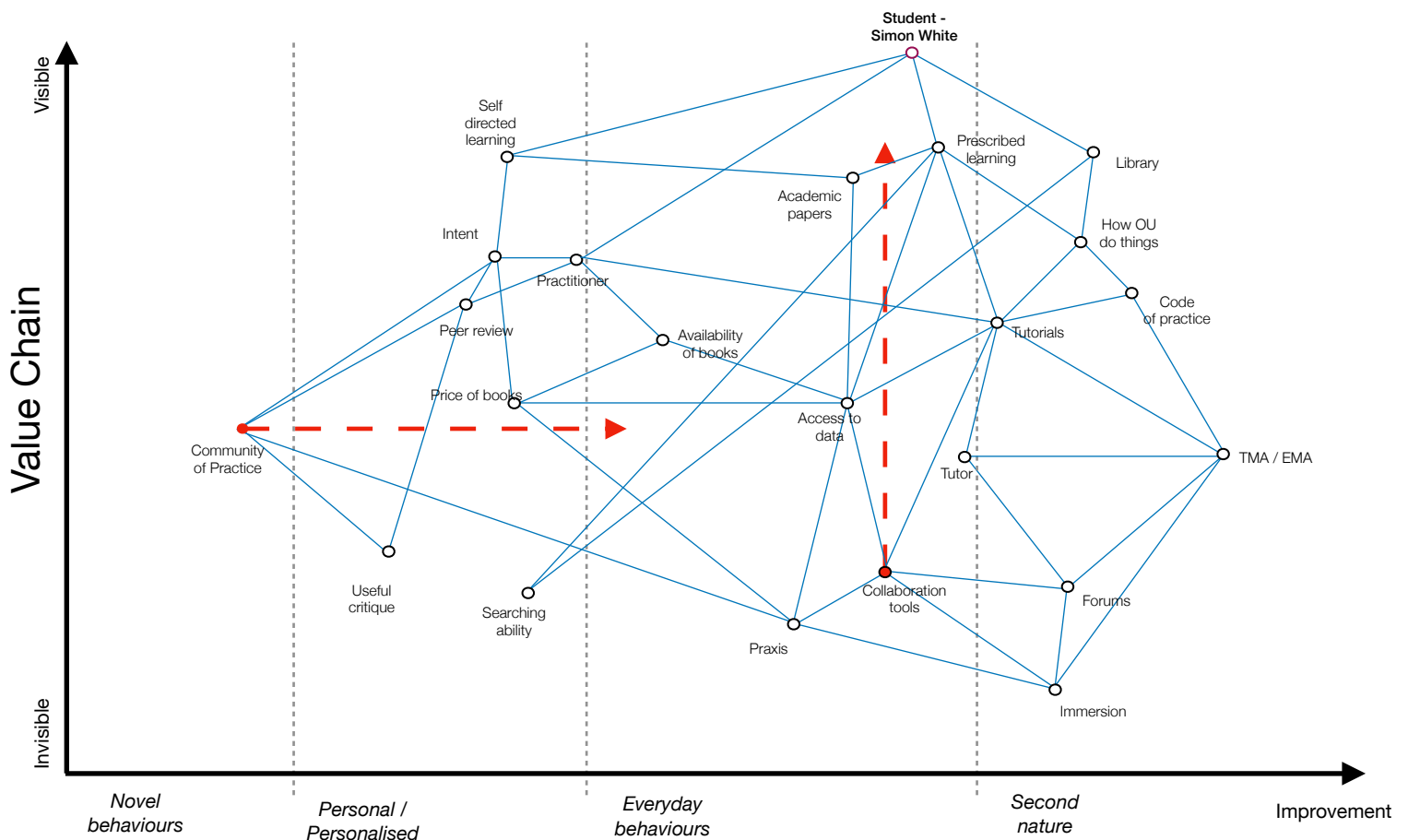


Fig 5.0. Wardley Map of learning for YXM830

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Fig. 5.0. demonstrates which levers to pull to improve the learning experience from a single viewpoint (i.e. my student perspective). Here, the shifting of a CoP from a novel activity to one that is embedded within the experience. There is also a case for making collaborative tools more visible, to increase the visibility of activities related to it. This could have the benefit of making peer review a constant, pushing it towards utility.

All of these would improve individual learning, and increase the number of relationships within the learning cohort, or strengthen existing ones. Exchange of information will then have more 'organisational' value.

- ▶▶ [Exchanging value](#)
- ▶▶ [Do maps enable collective learning?](#)

Design mapping

Mapping opens up further exploration and experimentation, making knowledge gain a more speculative exercise. Yet, a Zenko map (Willshire, 2020) can show the best intervention to make next. Here, my learning journey picks out where (sharing) peer reviews, critical feedback, etc proved useful, and where I needed to return to my question to ensure my research was on track (Fig. 6.0. and Fig. 6.1).

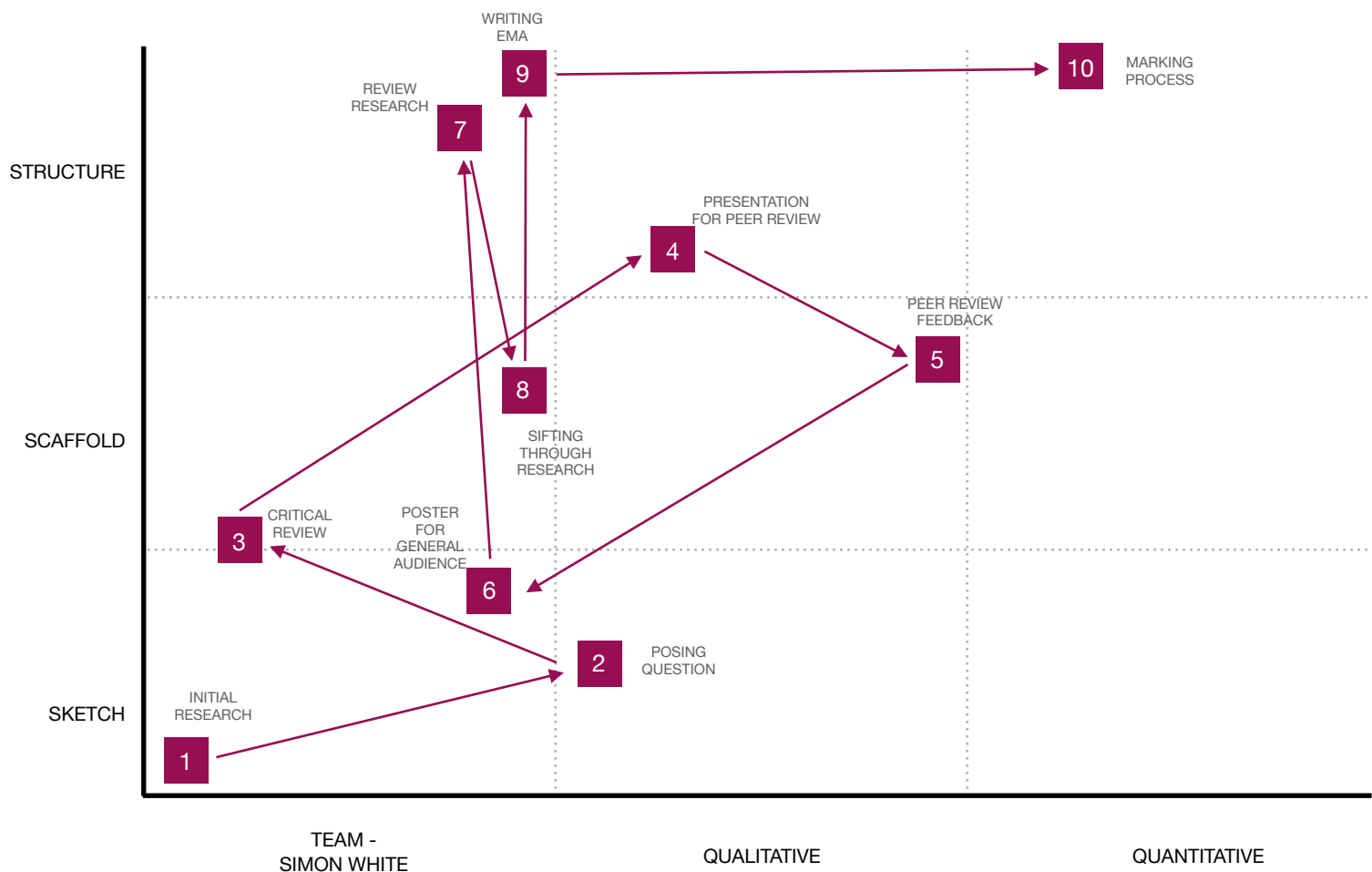


Fig 6.0. Zenko Map of learning journey for YXM830

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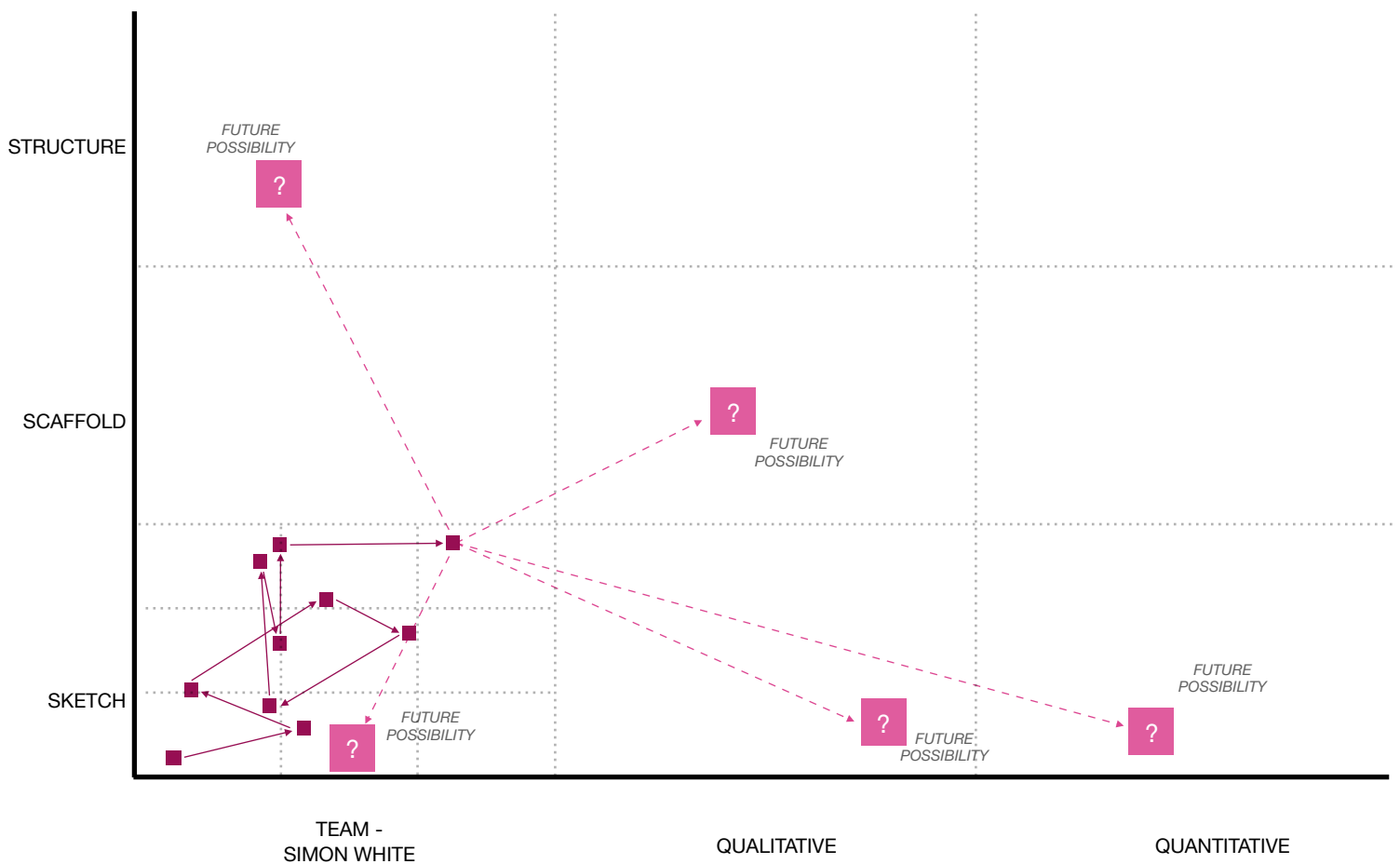


Fig 6.1. Recursive Zenko Map of learning journey for YXM830

Due to its recursive, fractal nature, this is one of few instances in my project where the ‘map-as-artefact’ can help bring prior knowledge to the fore in the present and allow people to act for the future. This is using maps as an explicit design tool rather than a diagnostic one.

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Maps can act as a scaffold for experimentation.

As Tyler (2011) argues, “learning occurs through social processes that run through that scaffolding, that provide intentional navigational signals and signposts” for those creating maps.

The discussions created by differences may create tension but they also establish new perspectives, which in turn develop into hypotheses to test and ultimately to action.

▶▶ [Dealing with tension](#)

▶▶ [Do maps enable collective learning?](#)

Conclusion

The practice of mapping has been shown to offer numerous benefits for learning; it provides agency through its surfacing of what Corner (1999) calls “realities previously unseen or unimagined, even across seemingly exhausted grounds.” As it does so, these maps develop potential alternatives.

Learning is about exploration, as you move from what you know towards what you could know.

Furthermore, it is possible that a map created in one circumstance offers new pathways or perspectives when introduced into a new situation. I am reminded of the poem, ‘Brief Reflection on Maps’ (Holub, 1977), in which a group of soldiers stranded in a snowstorm discover their bearings in the Alps thanks to a map of the Pyrenees they have in their possession.

Maps help define direction, yet that bearing remains elusive unless you know how to read a map, to orientate it, or correctly decipher their semiotics. This process invites further exploration, discussion, and experimentation. Paez (2019) likens this to a treasure map, which does not need to have accurate representations only the “correct identification of the elements that indicate where the treasure chest can be found”.

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I conclude that maps themselves, however, are not necessarily the key to unlocking learning. They can be conceived as artefacts, immutable and fixed, and therefore people may feel they are unable to question them. However, it's clear from my research that the discussion taking place during the mapping process is where learning occurs for individuals; subsequent reflections on that process shifts this knowledge into a collective experience. As Dodge, Perkins and Kitchin (2009) speculate:

“Investigating the processes of getting lost may well be more productive than researching successful navigation.”

Mapping is not a one-time activity, either. As liminal products, maps offer opportunities to find new perspectives through repeated mapping practice. Bertin (1981) asserts, a map is “not ‘drawn’ once and for all; it is ‘constructed’ and reconstructed (manipulated) until all the relationships which lie within it have been perceived” (see Fig. 7.0.)

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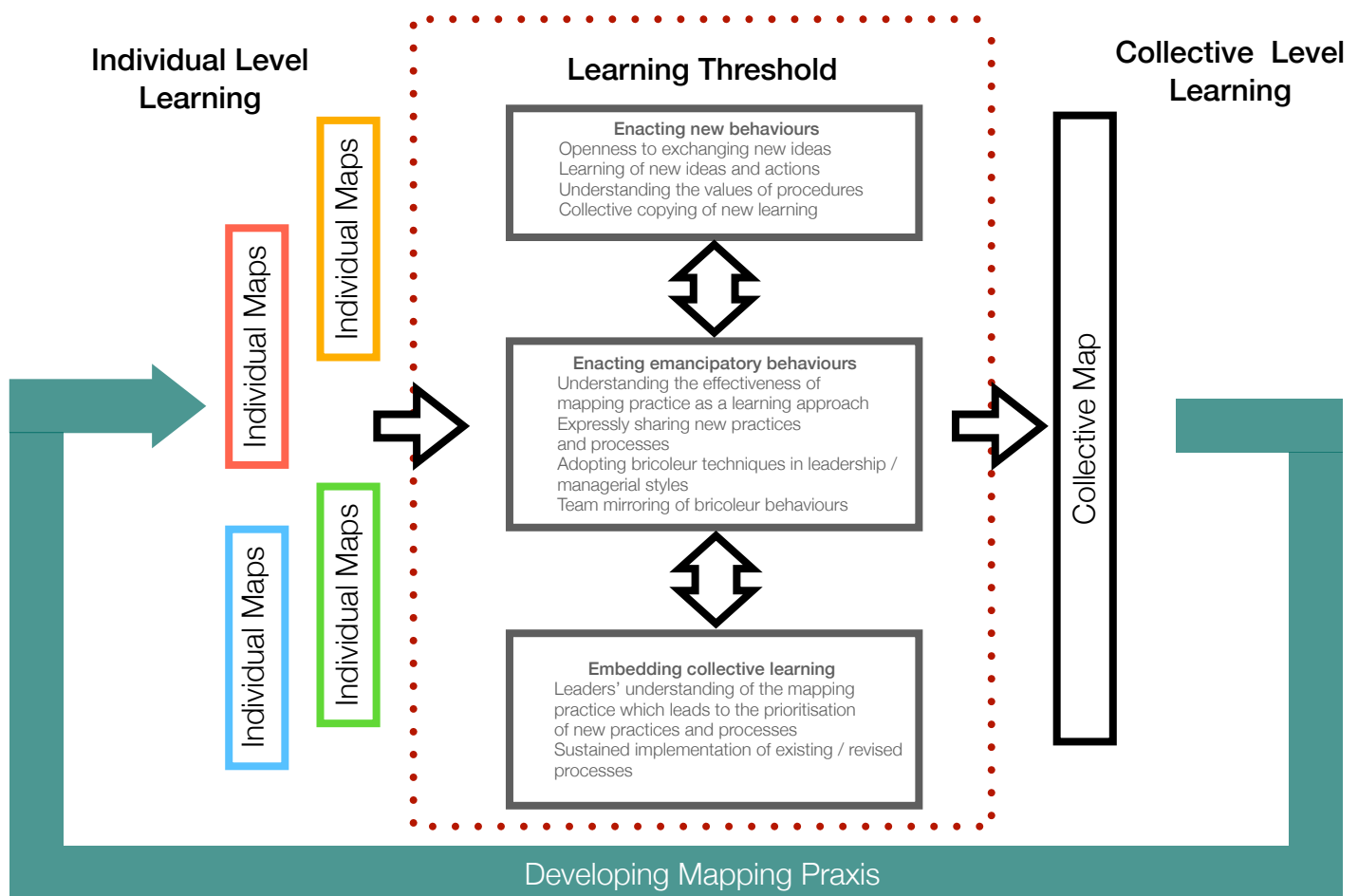


Fig 7.0. Mechanisms that translate individual into collective learning, adapted from Swart and Harcup (2012).

Thresholds are an accepted aspect of learning (Land, 2011), and, in relation to spaces within workplaces, are well researched (Swan, Scarbrough, Ziebro, 2016; Allan, et al., 2015; Czarniawski and Mazza, 2003). They can also help to support or develop the liminal spaces within an organisation that are necessary for creative and constructive discussions to take place, thus for learning to be central to how an organisation operates (Shortt, 2015).

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As liminality develops “opportunities where existing organisational structures, and their taken-for-grantedness, can be disrupted” (Tempest and Starkey, 2004), it seems fitting to create maps to explore these liminal spaces.

However, I have not seen in-depth discussion of how maps themselves are transitional. The liminality of maps, therefore, deserves further investigation.

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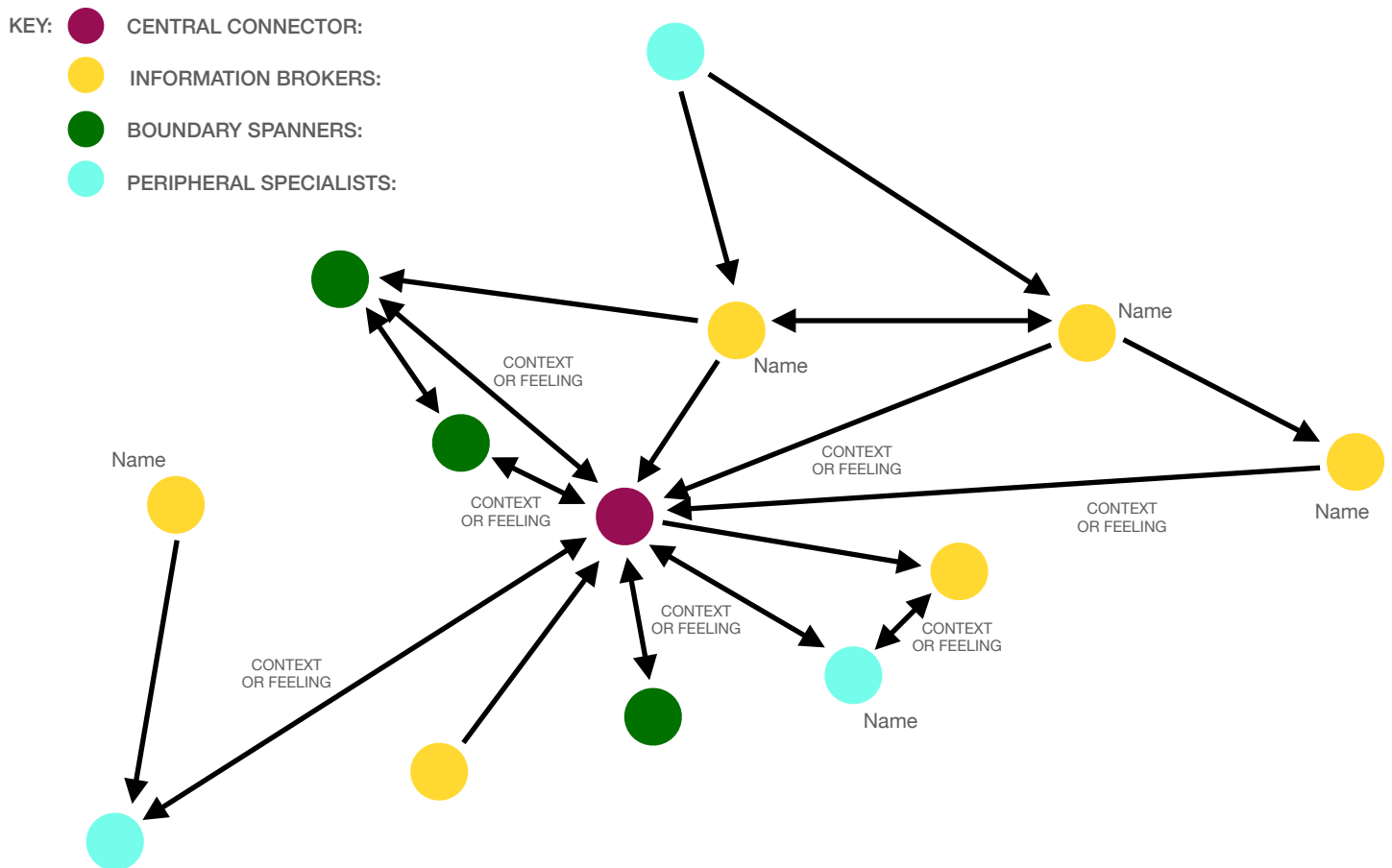
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 [Appendix](#)

Appendix: Templates

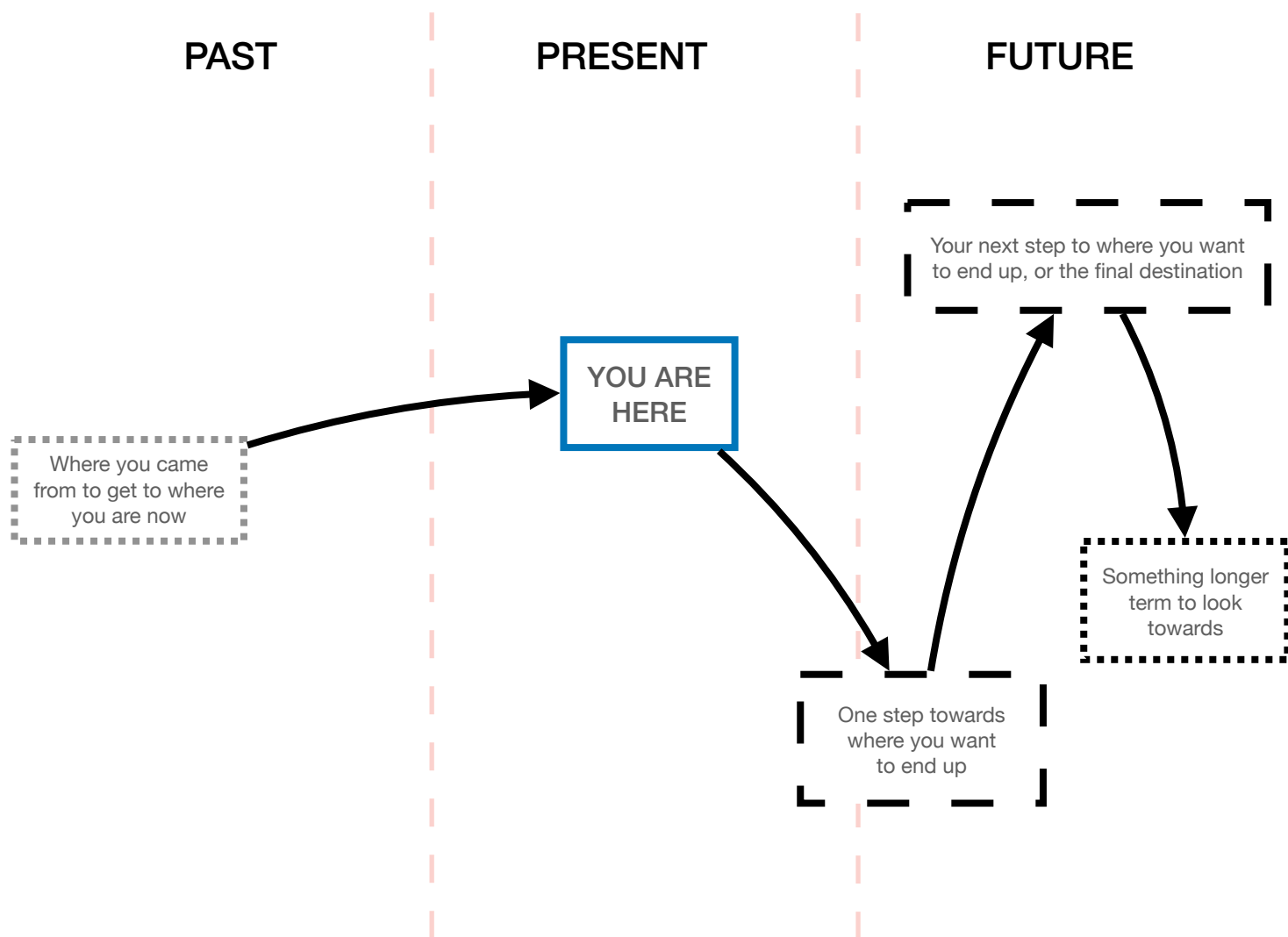
Network analysis map



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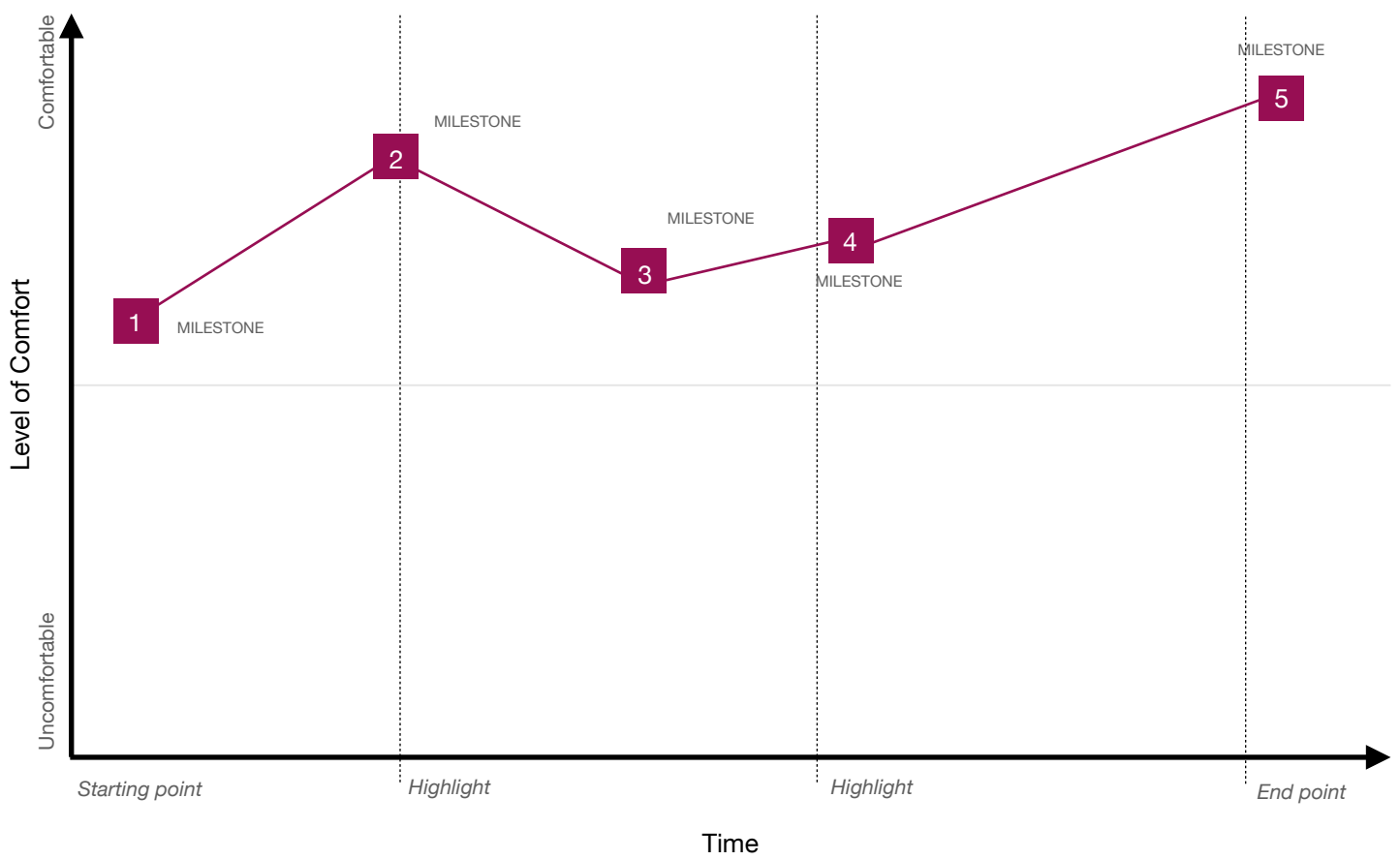
Trajectory Map



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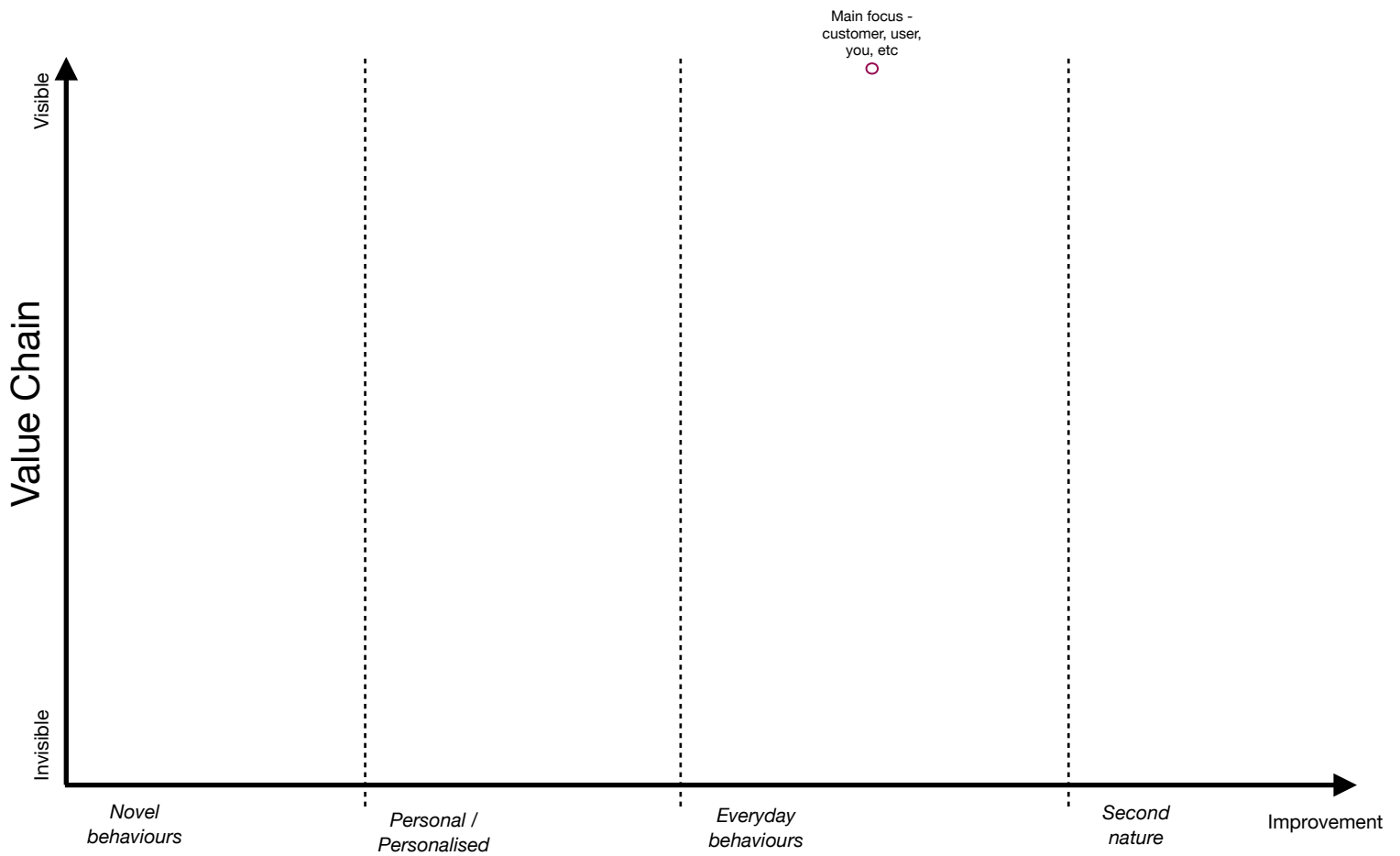
Emotions Map



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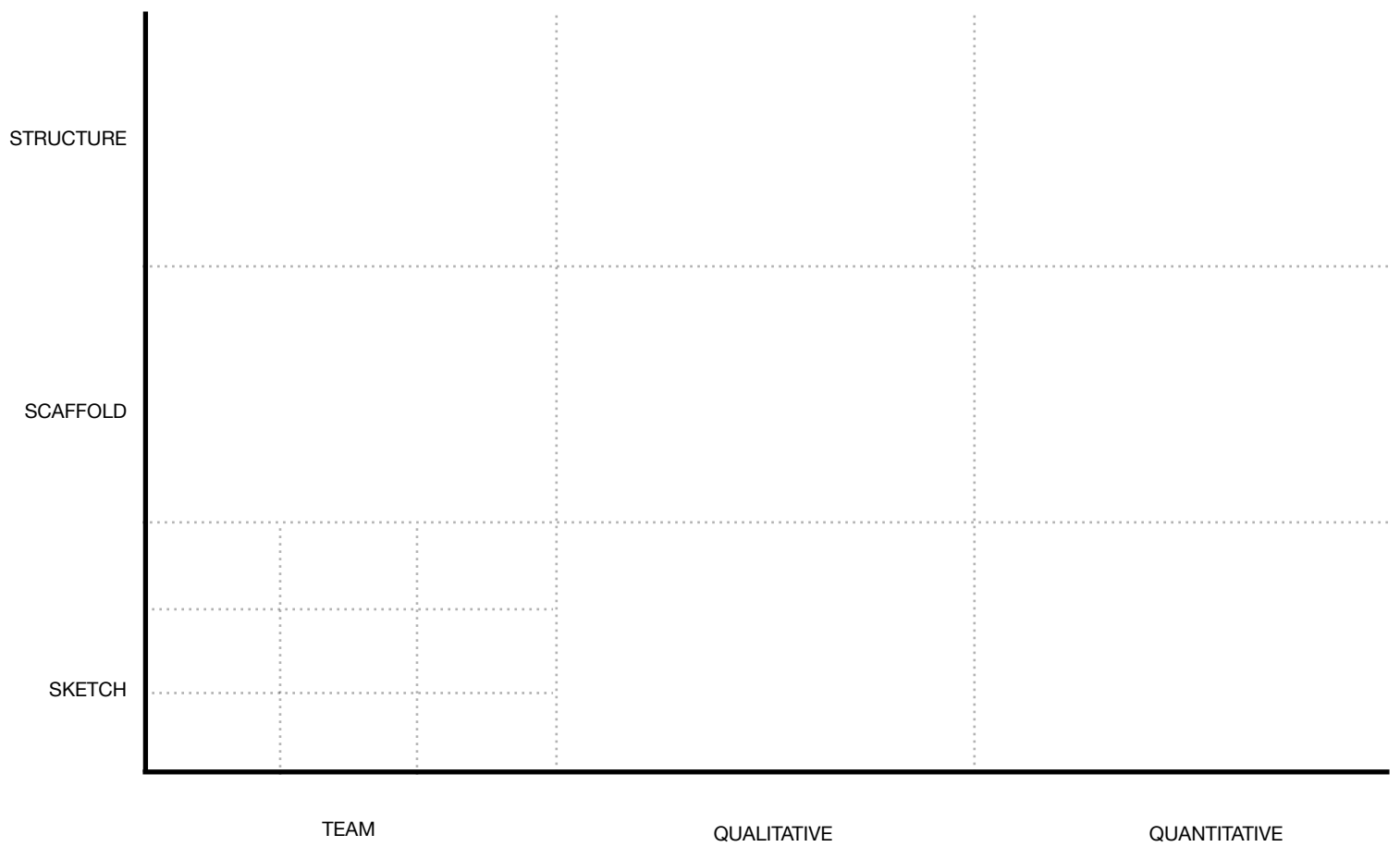
Wardley Map



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Zenko Map



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