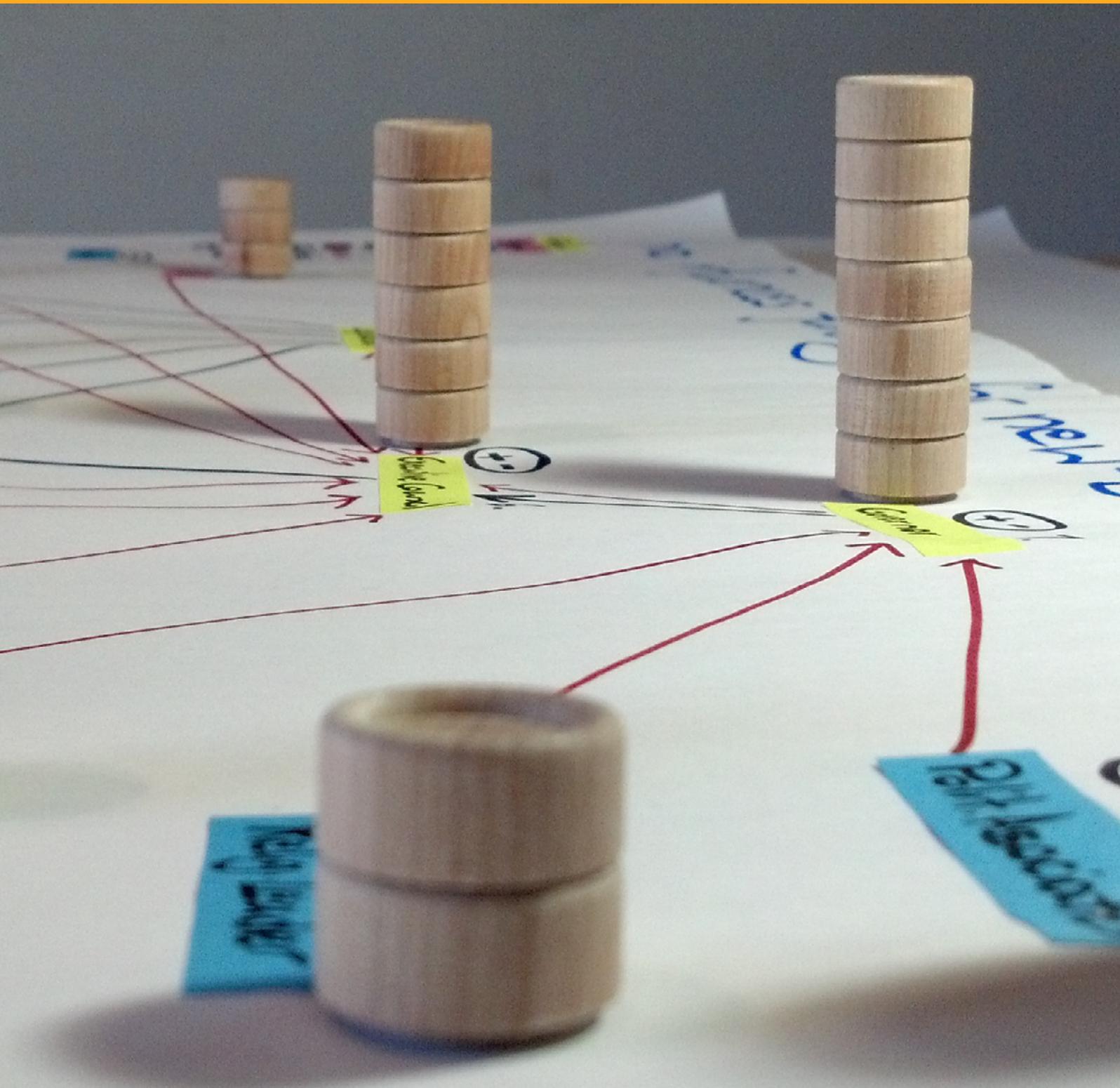


# NET-MAP - A FRONTLINE TOOL FOR SUPPORTING PLACE-BASED LEARNING IN SPACES OF UNCERTAINTY



CST TOOLKIT 2019 | LUKE METELERKAMP, OONSIE BIGGS

Net-Map is an easy to use social network mapping tool that can be used to assist grass-roots educators develop place-based, action learning in spaces where traditional structures of support are weak or absent.

This toolkit provides an introduction to the use of Net-Map as a learning support tool.

## WHO IS THIS FOR?

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This toolkit may be of help to you if you...

- have an interest in supporting vocational learning within your local community but are unsure of who the most valuable teachers and resources are for your specific context.
- want to teach something, but don't have access to the tools, training materials or teachers you feel you need.
- worry about people who are excluded from colleges and universities and are interested in how to support them to craft their own learning journeys outside of a formal qualification.
- work within an existing college, university or school, and are interested in broadening your insights into what informal learning ecosystems exist in your field, as well as which knowledge resources leading practitioners value most.

## THE NEED FOR EXPANDING INFORMAL LEARNING

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It has been widely stated that sustainability transitions are dependent on improving learning about sustainable practices across all spheres of human endeavour. However, the formal, post-school training system is currently managing to reach only 10% of African youth as they enter their working lives. To say nothing of the type and quality of skills that this 10% acquire during formal training, the far bigger question is, of course, "What happens to the other 90%?"

Supporting a knowledge revolution within this great sea of under-utilised potential requires new approaches that support community-led vocational learning. Such approaches need to be socially inclusive, contextually flexible, and responsive to skills required for meaningful careers within a greener informal economy.

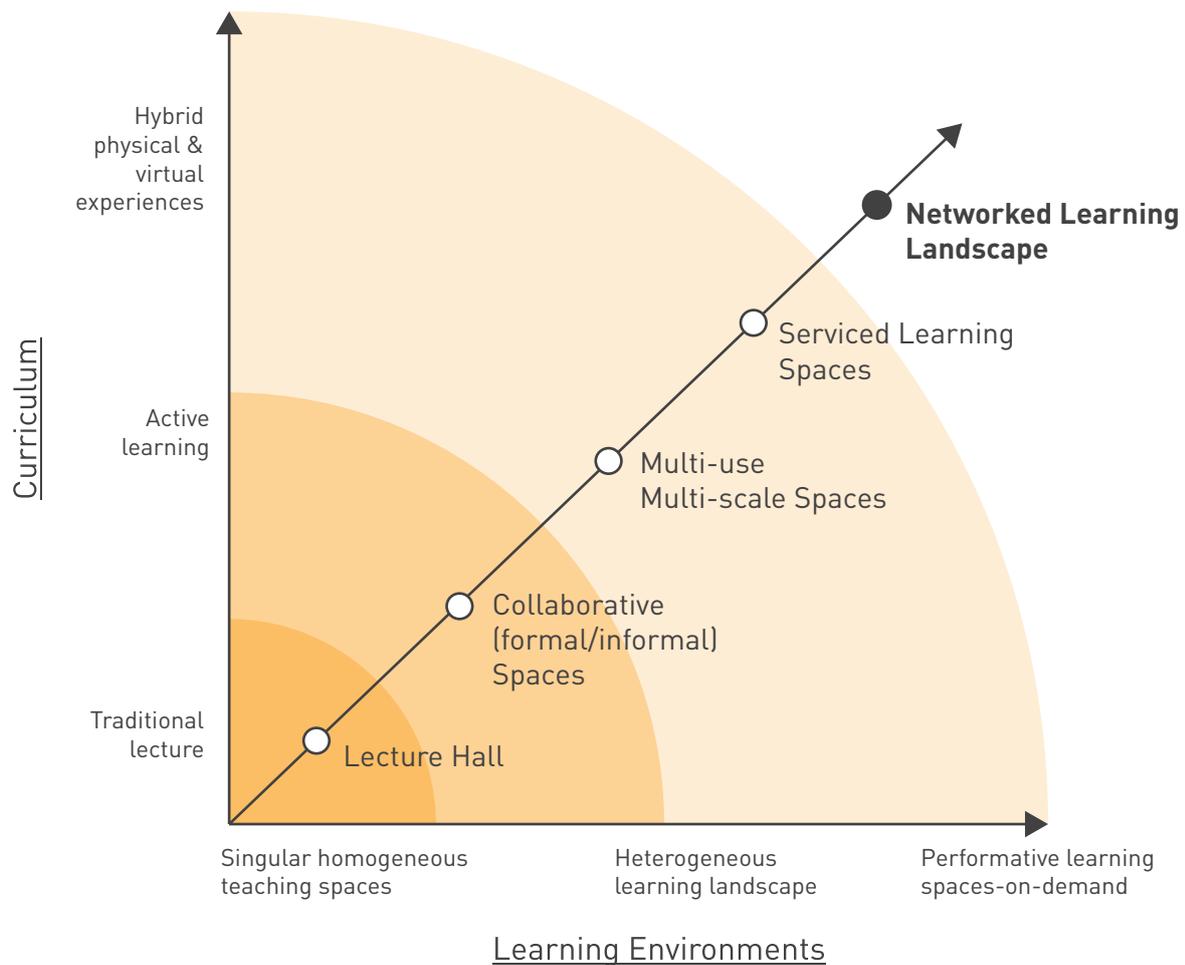
This task demands low-tech, low-cost approaches to life-long learning in which learning takes place incrementally, as needed on-the-job. In order to transcend the reliance on a very limited number of formal educators in places where skills are needed most, new approaches need to work in the absence of strong institutions and catalyse in-kind contributions from existing expert-practitioners, leveraging localised pockets of best practice within resource poor areas. At the same time, new approaches also need to be able to help local actors to tap into the vast, but daunting, pool of online resources which exist across the globe.

Net-Map can assist with this.

## THINKING ABOUT LEARNING NETWORKS: BECOMING A POLLINATOR

In much the same way that flowers need bees, knowledge needs to be purposefully sought out and exchanged in order to ensure it reaches its full potential. In agriculture, for example, a farmer will, from time to time, develop a new solution on their farm, but it is often not the farmer, but an extension worker, trainer or input salesperson who will help spread this new solution to farmers in other regions. The richer these networks of exchange and learning are, the more innovative and dynamic actors within the network become.

In fact, in today's environment of rapid change and uncertainty having a rich network of knowledgeable connections to turn to for information when needed, can be more valuable than a once-off qualification obtained from a formal institution.



The networked learning landscape model. From Jonas & Andrew 2015.

## OVERVIEW OF NET-MAP PROCESS

Net-Map is a very simple participatory tool for mapping networks of relationships and the value that exists within them. It has been used by many people all over the world for different purposes (see [netmap.wordpress.com](http://netmap.wordpress.com) for more information).

The version presented here adapts Net-Map to support the specific needs of community-based educators, learning activists and researchers of all kinds. The information that it generates can be simple or complex, depending on your needs. But, whichever route you choose, the process remains simple and customizable.

Net-Map provides a means to map out valuable networks of relationships and learning that operate below the surface. It also offers an entry point for early phase curriculum planning and design. It is particularly effective in assisting grass-roots course conveners and facilitators with insights into:

1. What kinds of things should be taught?
2. Who/what are the most suitable actors and recourses for teaching this?
3. What kinds of networks of relationships matter most for the local working context students are entering?
4. Possible pathways for supporting students to cultivate these relational networks.

The following case study provides an example of the application of Net-Map by an NGO that wants to run training in organic farming in South Africa.

### CASE STUDY: DESIGNING AN AGRO-ECOLOGICAL TRAINING PROGRAMME

**Location:** Western Cape, South Africa

**Learning challenge:** An NGO wanting to run a training programme in agroecological farming was struggling to know what it should and should not focus on within its new curriculum in order to give its students the best chance of success. It was also battling to find the right learning resources and appropriately experienced teachers.

**Participants:** A total of 14 farmers, NGO staff, activists, retailers, cooperative coordinators and government employees

**Question:** Who influences the success of organic farmers in your area?

**Method:** A variety of different stakeholders involved in the organic farming sector in the Western Cape of South Africa were interviewed and asked about the most important actors and knowledge sources influencing the success of organic farmers in the region. Figure 1 provides an example of these actors and the influence weighting attributed to them.

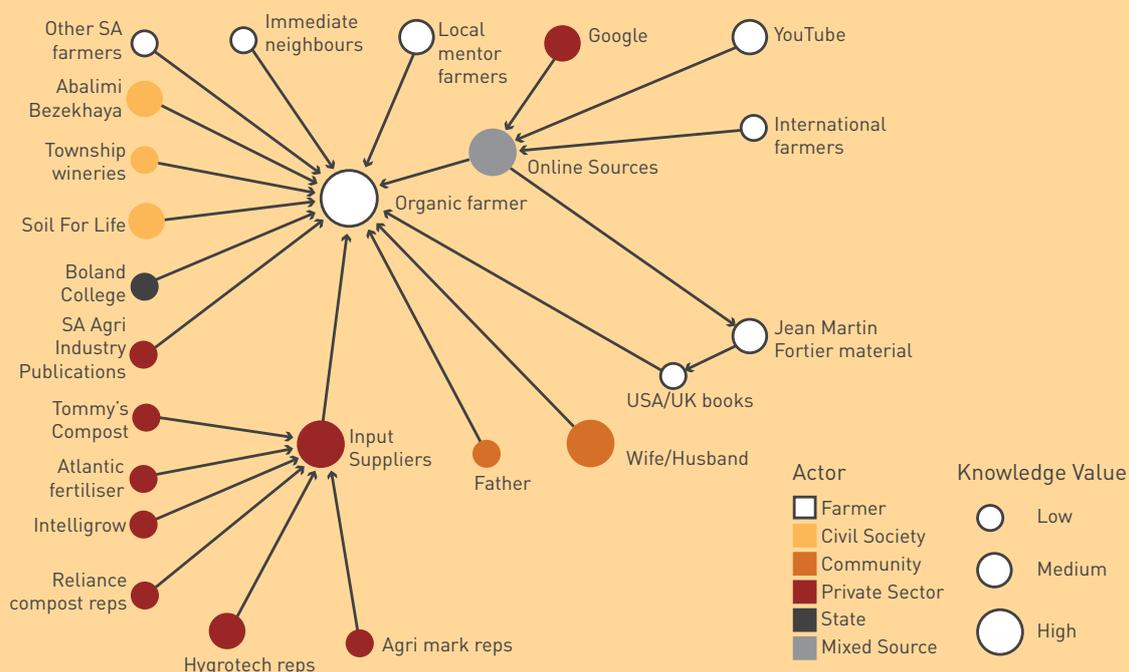


Figure 1. Sources of information for organic farmers

**Insights on course design:** A number of key insights emerged from the application of Net-Map. Table 1 provides an overview of some of the key insights with respect to designing an agro-ecological training program, including key sources of information, who should be targeted by the training program, key actors providing support, and supporting role models.

Table 1: Overview of insights that emerged for the course design

KEY STAKEHOLDER GROUPINGS	INSIGHTS FOR COURSE DESIGN
ONLINE KNOWLEDGE COMMUNITIES AND RESOURCES	A wide range of free and high value learning materials exist online. However, for those without extensive practical knowledge in the field, sifting through the plethora of international sources can be a very difficult. Probing successful farmers for the online resources they trust and use most frequently provides a reliable screening and validation approach.
ALTERNATIVE RETAIL OUTLETS AND CONSUMER COOPERATIVES	These are key actors in the system that tend to be very well networked, making them good allies and connectors.
HOME RELATIONSHIPS	Most farmers appeared to have succeeded as a close-knit husband/wife team. This suggests that farmers should not be trained in isolation. Thought should be given to jointly capacitating husbands/wives/families in the various aspects of farm business.
PRIVATE SECTOR INPUT SUPPLIERS	Relationships with good compost and seedling suppliers came out as particularly important to success because they unlock access to important specialist knowledge and skills.
OTHER SUCCESSFUL FARMERS IN LOCAL CONTEXT	In the organic context, given how few farmers exist, care needs to be taken not to overwhelm those that offer help. Working to document and digitize this pioneer knowledge may be one way of greatly expanding access to valuable knowledge resources without over-burdening practitioners with teaching requests. Involving farmers' spouses in training processes may also assist in extending teaching capacity.

**Identifying subject specialists:** The Net-Map process also helped to identify content specialists for some of the core elements of the course. These provide a quick and easy reference point for facilitators and course coordinators seeking to bring in specialist guest presenters, plan field trips or organise internships. An example of the competency catalogue developed from the process is given in Table 2.

Table 2: Abbreviated example of a local competency catalogue

KEY COMPETENCIES	LOCAL CONTENT SPECIALISTS
ORGANIC VEGETABLE PRODUCTION	Francois Malan, Jacques Olivier, Skye Felman, Jean Martin-Fortier
SEED AND SEEDLING PRODUCTION	Hygrotech and Klein Karoo Seed
COMPOST PRODUCTION	Tommy's Compost, Reliance Compost
RECORD KEEPING AND ACCOUNTING	Henriette Malan
ALTERNATIVE RETAIL SYSTEMS	Ethical Co-op/Anique van de Vlugt, Wild Organics, Audrey Wainwright, Market Gardeners Success Group
PHILOSOPHY OF AGROECOLOGY	Alan Rosenberg, Raymond Auerbach
COMMUNAL FARMING AND URBAN FOOD GARDENS	Soil for Life, Rob Small



## STEP BY STEP PROCESS

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The Net-Mapping process is divided into two parts: A primary network overview and a secondary educational layer.

**PART 1.** Develop a holistic understanding of the structure of the overall network influencing the success of leading actors within a given career field.

Note: This exercise extends beyond the way that people in the network learn, to include other relevant exchanges such as funding and material resources. This is important because knowledge is just one of a number of factors that influences success. Learning within a relational system often happens as a by-product of other relationships. For example, when a farmer visits a retailer to sell produce, money and goods are exchanged, but during the visit the farmer might also learn about new trends in consumer preferences and in so doing, learn how to keep their farming in line with market demands.

**PART 2.** Understand more specifically how the network of actors operates in a learning capacity.

### WHAT YOU WILL NEED:

1. A0 sheet of paper
2. Coloured pens
3. Sticky notes
4. 10-15 counters (washers, bolts, checkers pieces, etc.)
5. Gold stars (or other bright markers such as bottle caps, highlighters, etc.)

### PREPARATION - DEFINE PARAMETERS

#### A. Define the framing question.

For example: "Who influences the success of an organic farmer in Gauteng?"

#### B. Define the forms of exchange or connection that are relevant to your context.

For example, 'information/advice', 'resources', 'funding', etc.

Colour code each of these using a different colour marker pen and list them down the side of the A0 sheet of paper (see Figure 2). This helps you and the respondent to refer back to them as you work through the process together.

TIP: try to keep these to three or less as using more quickly complicates the mapping process. You can have an 'Other' category for everything that doesn't fit into the three you select.

#### C. Develop a plan for who should be interviewed. Make sure that you have obtained the necessary ethical clearances to do interviews from the university or institution where you are based.

TIP: including people who will be able to relate to your intended learners helps enrich the process.



## 1.2. Identifying actors

Ask: “Who is involved in this process?”

Write names on the sticky notes and distribute on the page (see Image 2)

Take the time to allow the respondent to add as many actors as they see fit. Try to help them think through the question by asking probing or reflective questions.

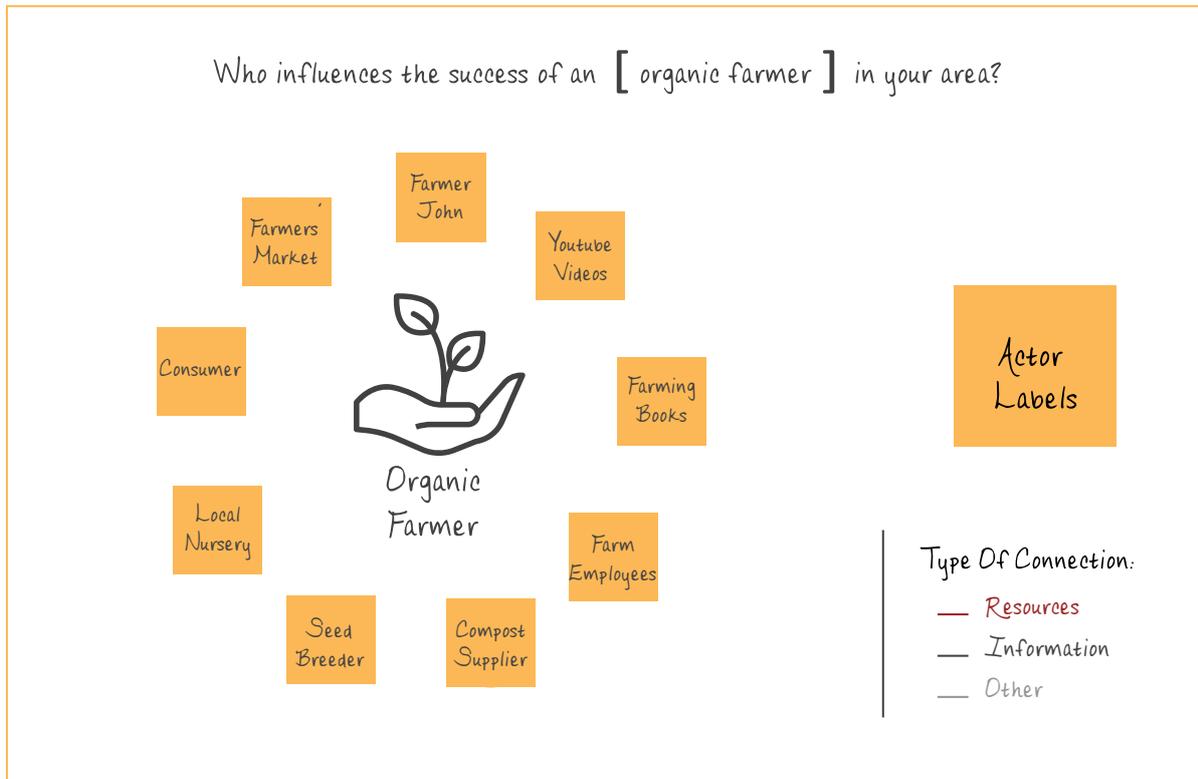


Image 2. Listing actors

## 1.3. Drawing links

Next, ask: “Who is linked to whom and how?” For example, “Who gives money to whom? Who gives information to whom?”, etc. Go through the links one by one using the colour-coded categories you decided on in the preparation phase. Use arrows between actor cards to denote the direction of exchange/flow.

If the exchange between two actors is mutual, draw an arrow in both directions.

If actors exchange more than one thing, add different coloured arrow heads to existing links (see Image 3).

This is a valuable stage to gain a deeper understanding into the nature of relationships that are particularly interesting or seem important. Depending on how much time you have, it is often helpful to prompt the respondent to elaborate. So, if there is an exchange of information between A and B, consider asking about things like the frequency of the exchange or the kind of information being shared.

TIP: As the facilitator it can be helpful to make notes of these points of interest on the page using a finer pen alongside the particular line or actor.

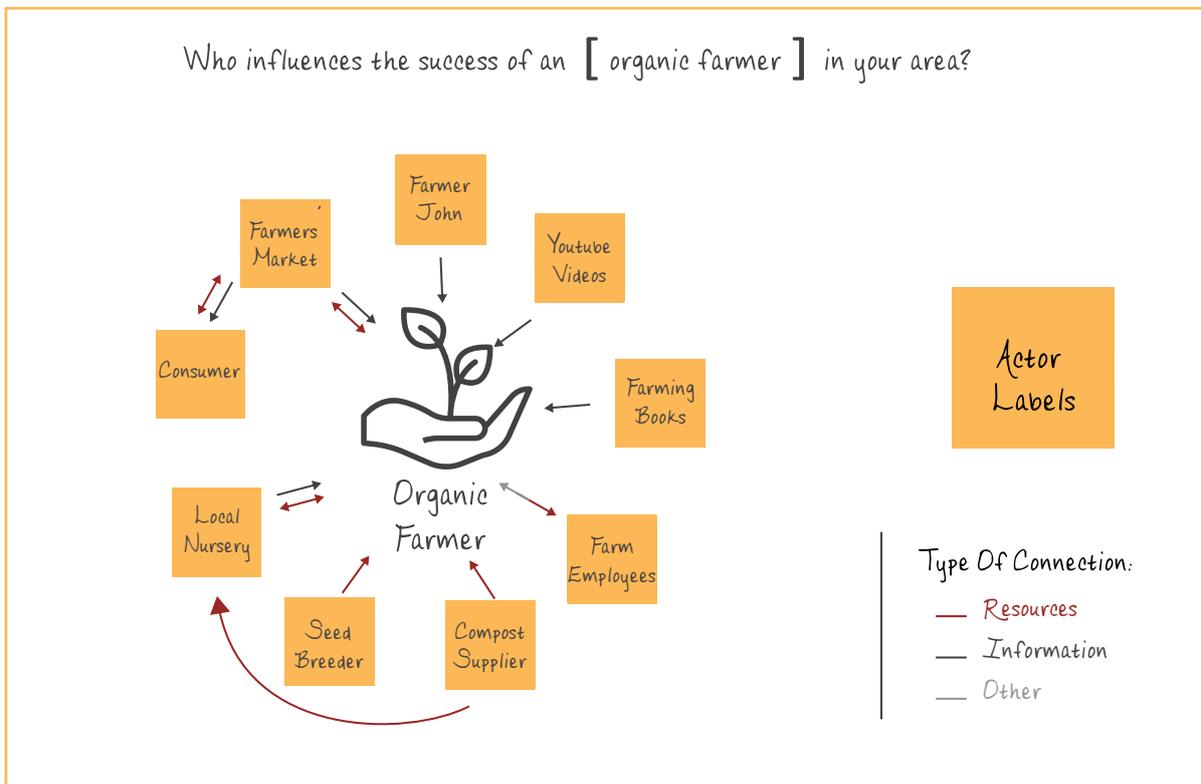


Image 3. Listing connections between actors

### 1.4. Influence towers

Ask: “How strongly do actors influence the success of an organic farmer in your region?”

Clarify that this is about influence on, for example, the success of an organic farmer in your region, and not influence in the world at large.

Using a limited number of checkers pieces or other stackable items attribute influence. The higher an actor’s influence, the higher the tower (see Image 4). It is important to limit the total number of counters to around 15. Actors with no influence can be put on ground level.

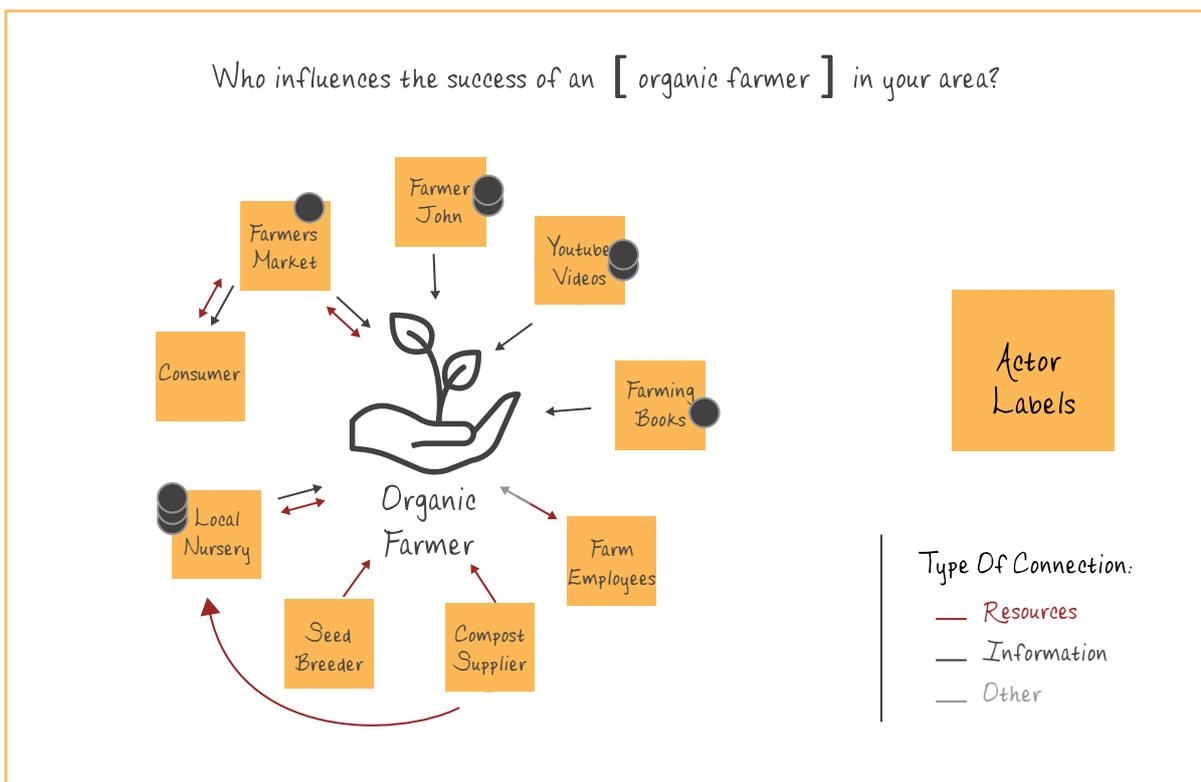


Image 4. Adding influence towers to the Net-Map

## PART 2. Understanding the learning landscape

This part also consists of four steps: attributing areas of expertise, identifying star teachers, rating resource availability and finally, reflection and discussion.

### 2.1. Attribute areas of expertise

Start by asking: 'What knowledge or skills does this actor have that are particularly valuable to the career field in question?' Or, put another way, 'What is this actor really good at that others can or do learn from?'

These insights can be listed as notes alongside each actor. Not all actors will necessarily have knowledge they share, so those can be left blank.

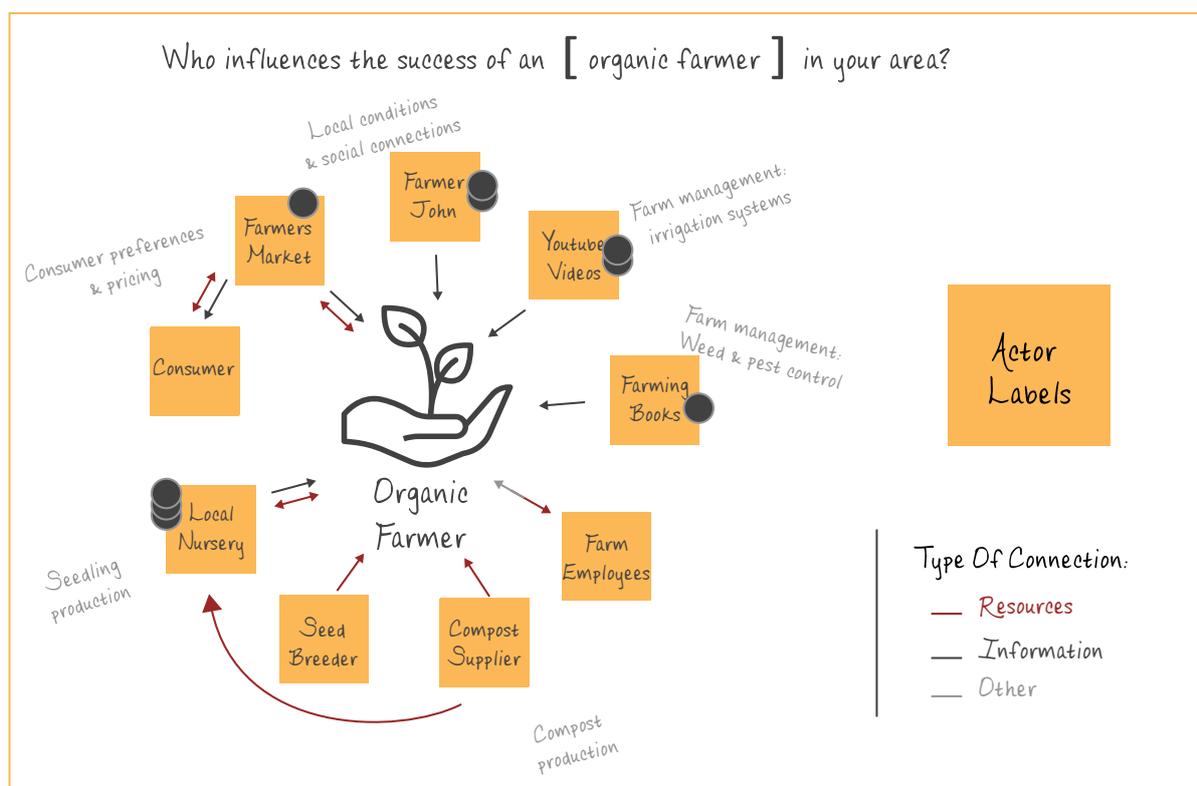


Image 5. Adding influence towers to selected actors

### 2.2. Identify star teachers

Provide 5 gold stars to interviewees. Ask them to imagine themselves as a student (you may want to specify the student's level) and then use the stars to indicate which actors/resources have the most to offer. Tell them they can allocate more than one star to a single actor.

Remind them that a book, or an experience of place (seeing something revolutionary with their own eyes) can be as effective as a person conveying information.

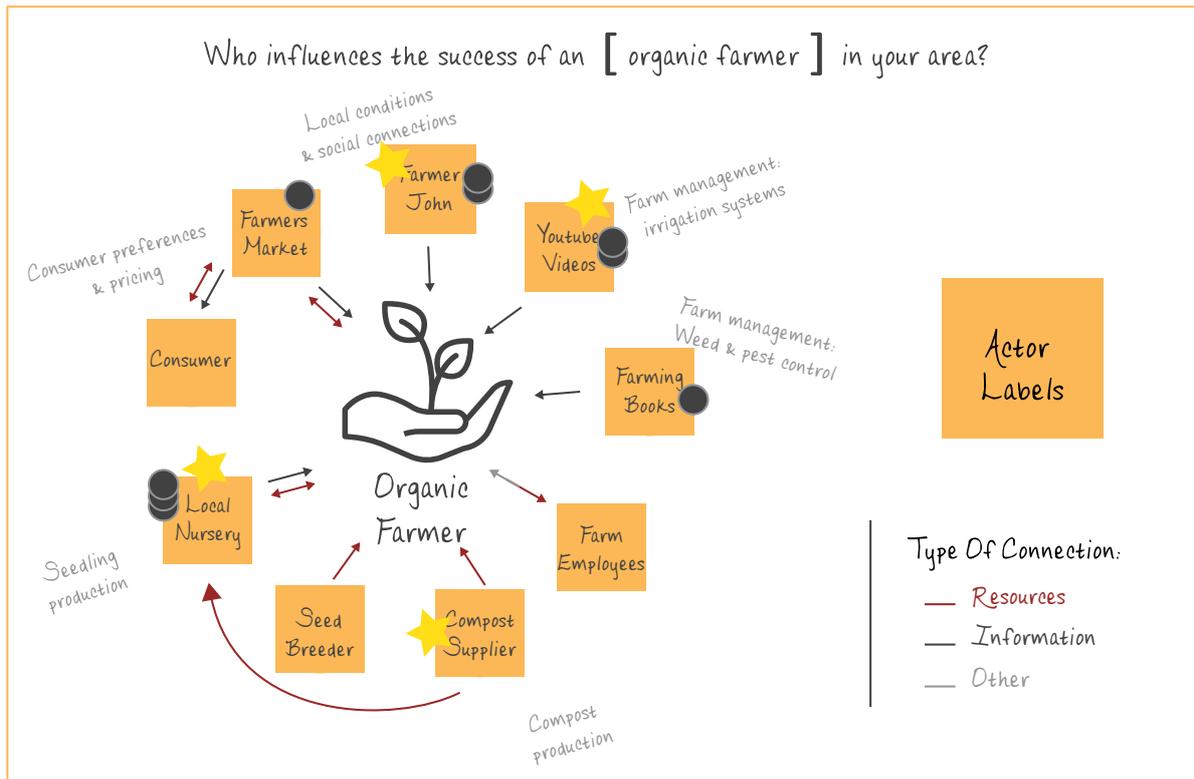


Image 6. Identifying star teachers

### 2.3. Rate resource availability (Optional)

As an additional step it may be helpful to rate the availability or accessibility of each potential teaching resource. For example, some information might be freely available online, while other information may have to be paid for. Similarly, some local experts might have a lot of free time and be willing to share their knowledge with young knowledge seekers, while others operate in high pressure environments and have little interest or time to teach others. This information is important in planning out a learning process.

Ask “On a scale of 1-3 how accessible is this resource to students?” This can be colour-coded by circling each actor in a particular colour.

**GREEN:** WILLING AND ABLE TO TEACH/SHARE/HELP – GOOD RESOURCE

**ORANGE:** WILLING BUT TIME STRESSED – PROCEED WITH CARE

**RED:** UNLIKELY TO BE ABLE TO ASSIST – LAST RESORT

### 2.4. Reflection and discussion

At the end of the process, if time allows, much can be gained by inviting participants to step back and reflect on what they have laid out. The discussions at this point can be rich and yield helpful insights to both parties.

## ANALYSIS OF NETWORK MAPS

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Once your Net-Maps are complete, you'll probably have a range of interesting insights bubbling to the surface based on your observations during the process. In analysing the Net-Maps, look for two things:

The patterns of relationship and the actors that seem to matter most to overall success for the given career. Beyond the focus on how successful actors within the network gain skills and information, the other forms of relationships they have are also important as learners may need to be made aware of these and be actively supported to cultivate them.

The specific ways that information is exchanged within the network. What kinds of knowledge do actors in the network consider to be most important to them? Who and what are the resources that people within the network trust and turn to when they need information? And, which of these resources might be available to you or your students?

## SUMMARY

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The power of Net-Map is really its simplicity and flexibility. The best way to learn is to start playing with the tool. Don't be afraid to adapt the steps above to fit your purposes in order to create a research tool that works for the needs of your unique context.

We'd love to hear your experiences and feedback. Please feel free to mail [lmetelerkamp@gmail.com](mailto:lmetelerkamp@gmail.com)

## FAQ'S

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### How long does it take?

The process can vary depending on the level of detail. An hour is usually enough time to do a simple Net-Map when working one-on-one.

### How many should I do?

This will depend on time and resources, but interviewing between five and ten local actors is a good number to aim for. If this is not possible even one or two can deliver helpful insights.

### Who should I target?

Typically, you interview actors who have excelled in the career field you want to learn about, as well as long-standing actors closely connected to these careers. The aim is to talk to people who you consider good, local success stories in their given discipline. Also interview people who have different perspectives on the same career field to help broaden your own perspective.

In essence, you're after diverse insider insights into the relationships needed for success in a particular career.

### Who developed Net-Map?

Net-Map was originally developed by Eva Schiffer while working on agricultural development issues.

**FURTHER READING**

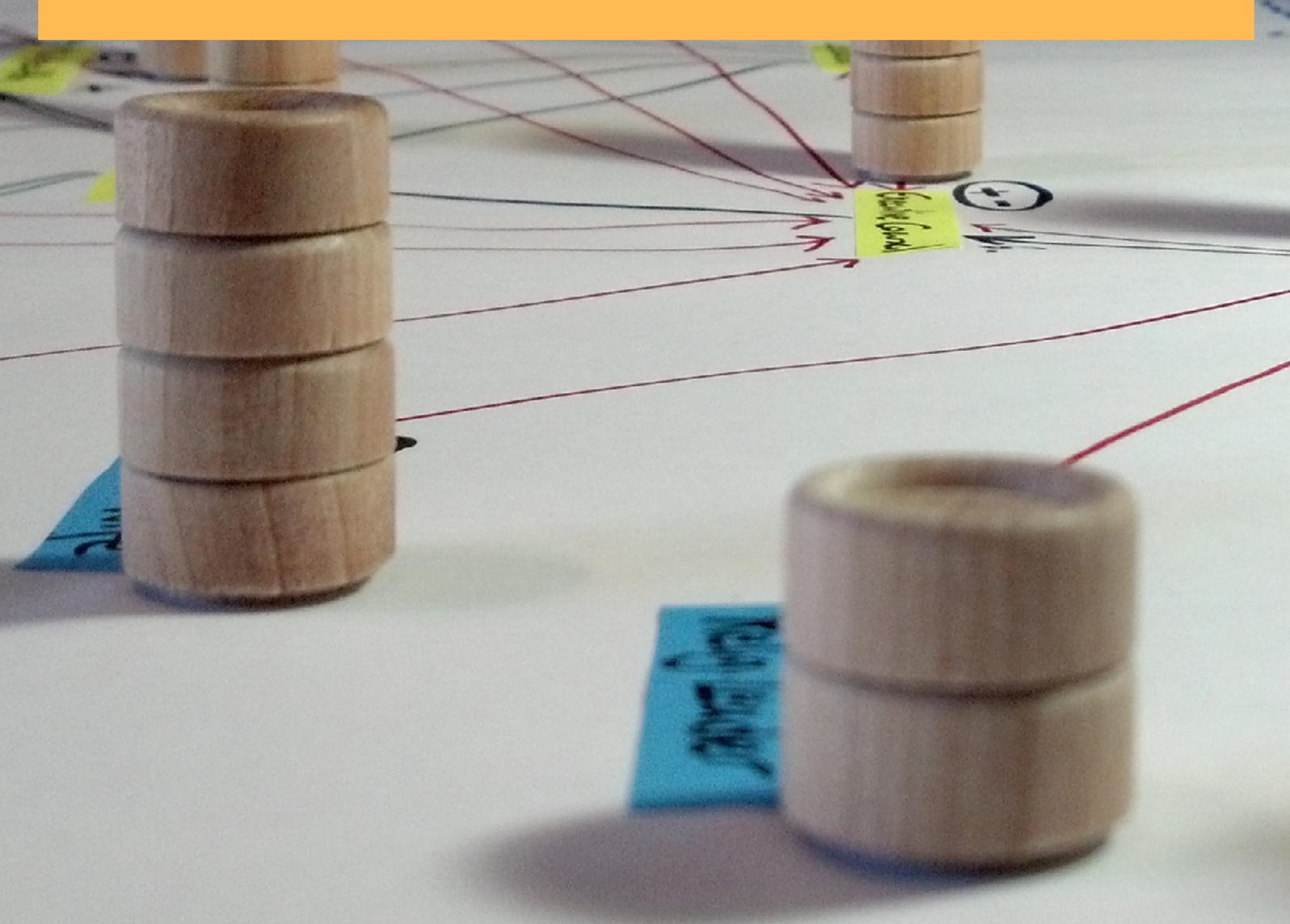
Eva Schiffer runs a great blog full of ongoing resources <https://netmap.wordpress.com/>

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Sobel, D. 2004. Place-based education: Connecting classroom and community. *Nature and Listening*, 4, pp.1-7.



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