METHOD	ARGUMENT MAPPING

Area of CoP Activity:	Creating Knowledge
CoP Lifecycle Phase:	Inquire Grow
CoP Success Factor:	Knowledge Production and Access to Knowledge Leadership Strategy
EIGE Step:	Step 1: Getting Started Step 2: Analysing and Assessing the State-of-Play
Group Size:	Unlimited
Difficulty Level:	Simple ♛♛♛ Complex ♛♛♛
Time Needed:	Simple 🕐🕐🕐 Complex 🕐🕐🕐
Facilitator Preparation:	Simple 📖📖📖 Complex 📖📖📖
Participant Preparation:	Simple ✏✏✏ Complex ✏✏✏
Description:	Two mapping methods are used here to help your community impart critical and analytical thinking, to see relationships between concepts, to structure thoughts, to give a clear and comprehensive overview of arguments, and to help make better decisions: For/Against (Simple) and Argument (Complex) Mapping. The common feature of these thought mapping methods is the use of diagrammatic visualisations in preference to written or verbal descriptions.
More Information:	www.argumentenfabriek.nl/en www.jostwald.com/ArgumentMapping/ www.wisemapping.com

ADAPTABLE ONLINE

ARGUMENT MAPPING[1]

Short description

Thought mapping is widely used for brainstorming, note taking, document drafting, project planning and other tasks that require hierarchical structuring of information. Thought (or mind/concept) maps have a central node (the root) which represents the main topic the map is concerned about. From this root node, child-nodes branch out to describe sub-topics. However, two mapping methods are used here to help your community impart critical and analytical thinking, to see relationships between concepts, to structure thoughts, to give a clear and comprehensive overview of arguments, and to help make better decisions: For/Against (Simple) and Argument (Complex) Mapping. The common feature of these thought mapping methods is the use of diagrammatic visualisations in preference to written or verbal descriptions.

When to use

You can use these methods for a variety of purposes and with wide-ranging stakeholders. These methods are best used when you want to explore people's opinions and ideas about a given issue, but also by using Argument Mapping you can zoom on the reasoning behind their perceptions. These methods can be used to structure a focus group. For example, you can use these methods if you want to explore the perceptions of a particular group (or groups) of stakeholders to provide you with in-depth insights into certain issues and their unique perspectives. If you conduct the same activity among different homogenous groups of stakeholders (junior academic staff versus senior academic staff/ or versus management/leadership), you might be able to illuminate dramatically different viewpoints.

You can use these methods with a diverse group of people (mix), or with homogenous groups, such as:

• Students (under- and post-graduate)
• PhD researchers
• Post-docs, early-career researchers
• Academic staff
• Senior staff/professors
• Management and leadership (strategy, decision making)
• Admin staff
• Service and support staff
• Human Resources staff (recruitment, talent management, staff development)
• Marketing (corporate image, corporate social responsibility, ethics)
• Activists
• Policymakers
• Women's networks
• Lawyers

How to

A: Brief explanation

Use **For/Against Mapping** to illuminate diverse perspectives from your key stakeholders and how they perceive a specific issue:
  • What do people think/observe/feel/perceive to be the pros and cons of an issue, etc.?

Use **Argument Mapping** to explicate the inferential structure of arguments, i.e. what the inferences between people's arguments are:
  • Why do people think/observe/feel/perceive an issue in this way? How do they make sense of it?

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[1] Adapted from Davies (2010) and Beel and Langer (2011)

B: Detailed step-by-step guide

FOR/AGAINST MAPPING (SIMPLE)

This type of mapping allows gathering various considerations on a specific issue and it takes the form of a simple **advantage/disadvantage** contrast. This way of structuring of an issue is clear and can comprehensively capture the perceptions of different stakeholders.

• Collectively with your CoP decide on the central, root issue you want to explore. If the issue is complex, distribute the central question to the participants before the event and let them prepare.

• Plan to use any method contained in this toolkit that suits you, your participants, delivery method (online or face-to-face), and your context to give your session a framework. You can use the **Focus Group** format, **1-2-4-All**, **Brainstorming**, the **Fish Bowl**, or the **World Café**.

• Elicit the for and against arguments according to the rules of these methods. All the above methods can be adapted to online delivery. Please see descriptions of each method in the Toolkit.

• Depending on the method you chose, ask your participants to work individually or in groups to initially provide as many arguments for and against a certain goal or key issue, e.g. "more women at senior levels in HE".

• You can further structure the arguments into categories, such as those listed in **PESTEL** (political, economic, social, technological, environmental, legal – see in the Toolkit), or other ones such as, cultural, managerial, business-case, emancipatory, etc. Alternatively, the categories can reflect the character of the stakeholders, i.e., early-career researcher, policymakers, professors, etc.

• Next, you can also develop the mapping beyond the For/Against and introduce the **SWOT** factors (strengths, weaknesses, opportunities, threats). This will result in a much complex and nuanced product.

• In the next round link the arguments to evidence (if existing) to prove this point which can then be fed back and discussed. We recommend organising this activity in several rounds with different stakeholder groups (e.g. top management, women's networks or other diversity advocates, HR, lawyers, etc.), building different but related maps of pros/cons for individuals, teams, organisations, and wider society (if public policy needs to be influenced).

• Breadth vs. Depth: Invite either a wide-ranging group of stakeholders to provide you with rich perspectives in one session (exploration of the breadth); or invite only one particular group of stakeholders in multiple independent sessions (exploration of the depth). The latter version will allow you to compare the depth sessions in-between the groups later.

• Collect the outputs either during the session on the flipchart (or virtual whiteboard if online) or project them from your laptop, or ask someone to prepare comprehensive notes and then convert them into visual representation of the group outputs and distribute after the event.

• This exercise can highlight important points raised by minority stakeholders that would have been otherwise missed or illuminate fallacies in argumentation if no evidence for certain opinions is found. This might be useful in tackling resistance to institutional change.

See examples: www.argumentenfabriek.nl/en.

You can use free software www.wisemapping.com to visualise your results for dissemination and decision making. This website allows you to trial the software log-in free, and you can also use it fully for free.

(for the full map see: https://www.argumentenfabriek.nl/media/1985/11144-schaliegaswinning-s.pdf

Figure 6. Argument Map "Shale Gas Production" by Argumentenfabriek (2012)

B: Detailed step-by-step guide

ARGUMENT MAPPING (COMPLEX)[2]

The result of this type of mapping is a spatial representation of arguments that allows us to visualise their logical structure. Such maps help to clearly see how each part of an argument relates to every other part: how a main conclusion is supported by reasons, which in turn are supported by their own reasons, which in turn are supported by their own reasons, and so on (see example below).

Argument maps illustrate this logical structure in box-and-arrow form. Once arguments are translated into map form, you can identify unstated assumptions, recognise invalid claims, and assess the truthfulness of conclusions.

You could use this method **independently**, or as a **follow up** of the **For/Against Mapping** to dissect certain problematic arguments and flesh out the reasoning behind them with a specific group of stakeholders. This will allow you to illuminate the reasons critically and analytically behind certain beliefs, fears, stereotypes, etc. This in turn will enable you to demonstrate unreasonable/illogical/uncritical thinking behind certain arguments and claims.

Use **Argument Mapping** to explicate the inferential structure of arguments, i.e. what the inferences between people's arguments are: Why do people think/observe/feel/perceive an issue in this way? How do they make sense of it? This method might be effective in preparing participants to deal with resistance towards gender equality projects in their organisation. As this type of mapping is complex, it is best to keep the organising method as simple as possible. Therefore, it is recommended to use group work for this activity:

- Before the event, assess how much time you have and how much time you need. Plan accordingly: For shorter periods (up to 1 hr), it is best to have a pre-prepared CONCLUSION, and participants familiar with the method (asynchronous preparation).

- Explain the method and the rules of the mapping. It might be effective to email the participants before the event, so that they can familiarise themselves with the complex rules of this method.

- Have a pre-prepared provocation statement (CONCLUSION, see Fig. 7) or elicit a provocation from participants through brainstorming prior to starting this activity.

- Divide participants into groups of 3-4. Ideally there should be a minimum of 2 groups to work on supporting and opposing arguments. For **online facilitation**, ensure you work with a platform that offers breakout rooms.

- Ask 1-2 groups to work on developing REASONS (Fig.7) to support the CONCLUSION; and the other group(s) to focus on developing OBJECTIONS, and possible REBUTTALS.

- Allow the participants to work in groups for 15-30 minutes depending on the time available.

- Bring the participants out of groups (or breakout rooms) into a plenary session to share their outputs.

- Use a flipchart/virtual whiteboard to record the REASONS and OBJECTIONS/REBUTTALS. If using a virtual platform, you can either decide to take control of the whiteboard and record the inputs yourself or ask each group to contribute (virtual whiteboard editing by participants must be possible).

- The end-product can be then saved and distributed to participants.

- The co-created syntax will allow participants to anticipate the kinds of arguments they may experience from people in their organisations who resist or oppose institutional change towards gender equality. Having ready-made arguments will be helpful to deal with resistance and for building a convincing rationale for GE projects.

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[2] Adapted from Ostwald (2007).

Definitions of key terms:

Argument

It is a claim and reason(s) to believe that the claim is true.

Conclusion

A belief, the main point and argument is trying to prove,

e.g., "women should be promoted to top positions".

Reason

Evidence in support of the conclusion,

e.g., "women are underrepresented in top positions"

Co-premise

Is the subset of reason and every reason has at least two co-premises? Each co-premise must be true for the reason to support the clam.

Objection

A "reason" that a claim is false, evidence against a claim.

Rebuttal

An objection to an objection.

The Syntax of an Argument Map
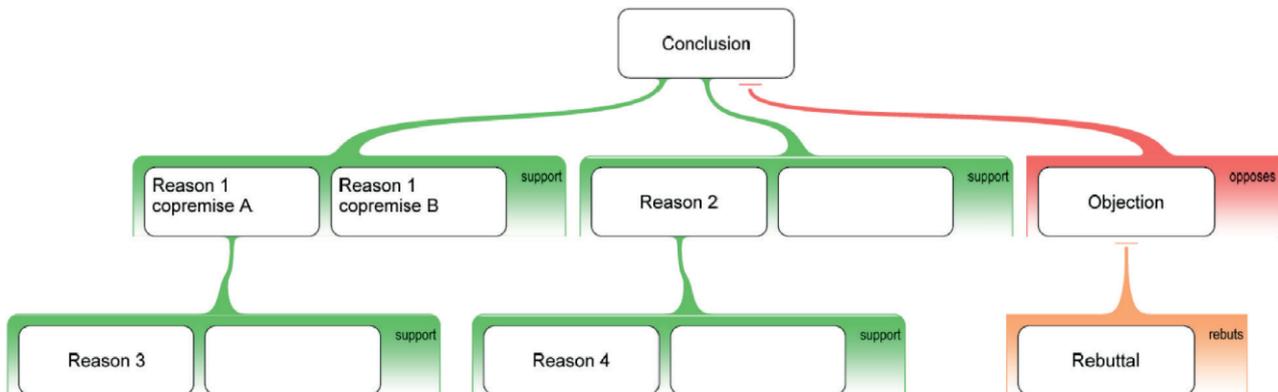
Figure 7. The syntax of Argument Mapping - the basics (Ostwald 2007). Reproduced with the author's permission.

There are certain **rules** that have to be followed to enable you to conduct Argument Mapping consistently and clearly:

1. Each box contains only one **declarative sentence** and should be declaring something, taking a position (true or false). For example, "organisations should adopt women in top managerial positions", or "women are overruled by emotions at work".
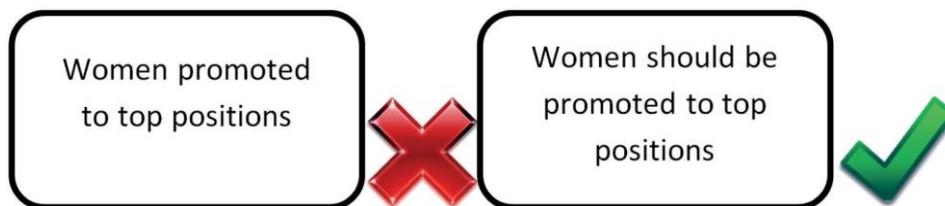

2. Each box should only contain a single claim and **no reasoning**. The reasoning should be included in a separate box linked to the claim with an arrow.
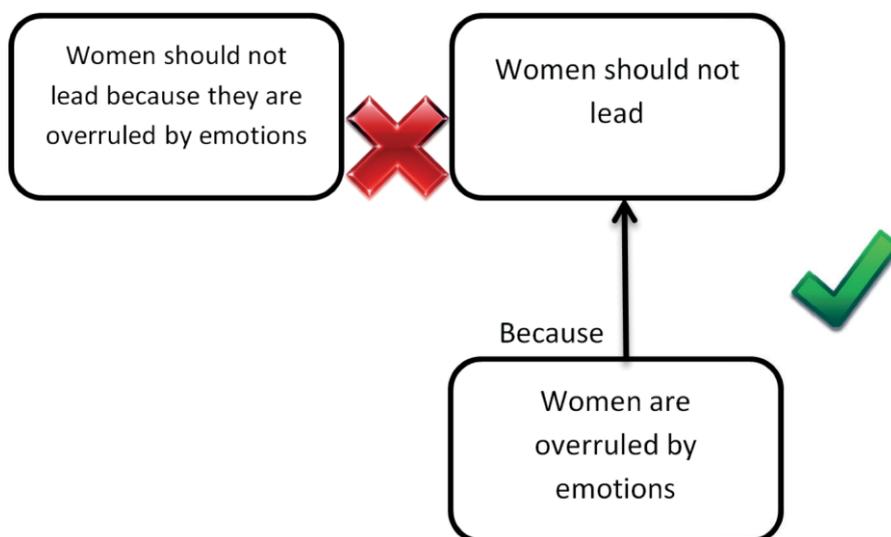
3. Each box can only have **two main terms**, so that each box can be either true or false.
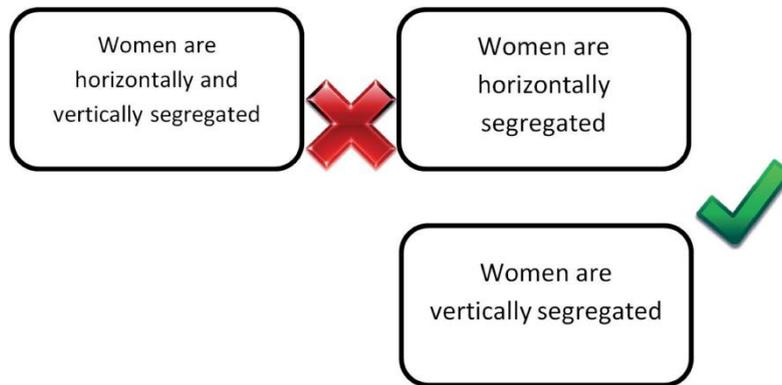
4. All reasons for claims must answer the **assertability question**, i.e. "How do we know that [insert claim] is true?"

5. Within each reason, a term stated in one co-premise must be mentioned in one of the other co-premises in that same reason (if it is not in the claim above it – see the Rabbit Rule below). In this way the terms are **Holding Hands** within a single reason.
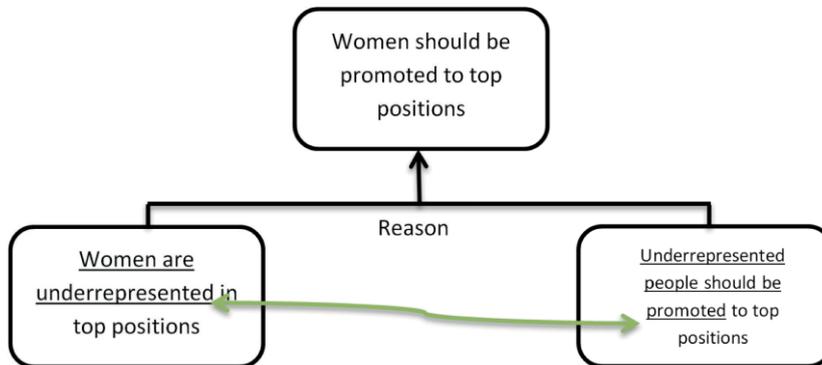
6. The last rule is the **Rabbit Rule** ("You can't pull a rabbit out of a hat"), which is applied vertically, between a claim and each of its reasons. It is also combined with the Holding Hands rule. Use these two rules for each simple argument to ensure that every term mentioned in each box is found in one of the others.
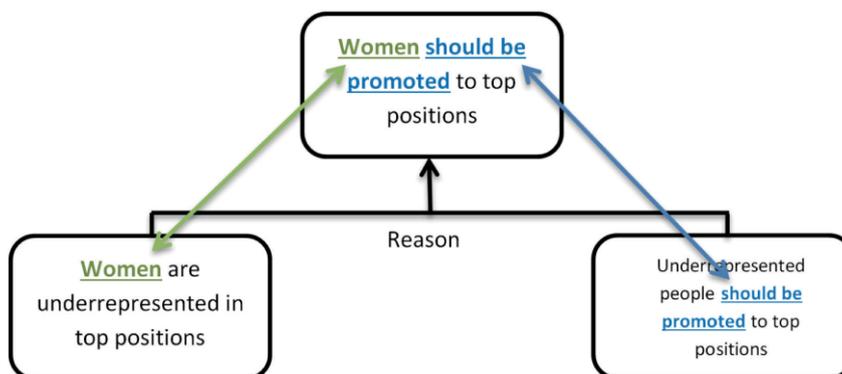
Additional ideas / information

More resources and further examples and explanations are provided by Jamel Ostwald (www.jostwald.com/ ArgumentMapping/).

Example:

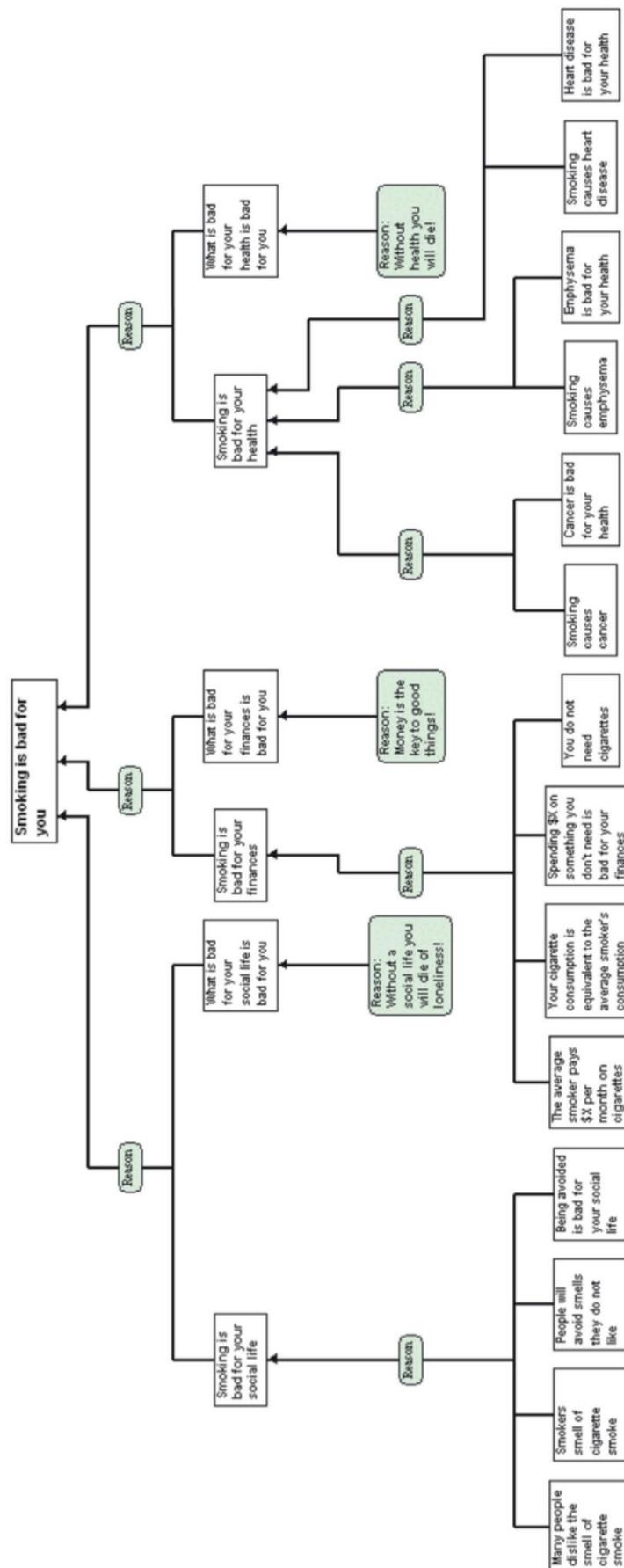Figure 8. Smoking is bad for you (Ostwald 2007). Reproduced with the author's permission.

REFERENCES

Argumentenfabriek 2020. Available from: https://www.argumentenfabriek.nl/en

Davies, Martin. 2010. "Concept mapping, mind mapping and argument mapping: what are the differences and do they matter?" *Higher Education*, 62(3): 279-301.

Ostwald, Jamel. 2007. "Argument Mapping." Available from: http://www.jostwald.com/ArgumentMapping/.