Enhancing Policymaking with Design

MSc Design for Interaction thesis by
Geert Brinkman
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Preface

Throughout my years of design education at the Faculty of Industrial Design Engineering at the Delft University of Technology I increasingly started to realize I may in fact not want to design products per se. The design methodologies, approaches, techniques and frameworks I was taught have extensively been employed by capitalism to drive up mass consumption and are hereby complicit in many of present day's humanitarian, financial and environmental crises. In the midst of these crises an existential crisis was born.

Simultaneously, I increasingly started to realize that these same design methodologies, approaches, techniques and frameworks may be helpful in a wider spectrum of problemsolving and solutioning processes. By the time my years of education were coming to an end, I had become determined to utilize the skills and knowledge I had acquired for inciting systemic change and solving societal issues. As such, I decided to venture into the world of policymaking; this graduation project was born.

Executive Summary

Although policymaking has been regarded as a design practice for at least half a century, policymakers around the world have only started exploring the possibilities of *approaching* it as a design practice in the past decade. As such, much is yet to discover at the intersection between policymaking and design. Hence, this MSc Design for Interaction graduation project aims to explore how design may enhance policymaking.

In light of this, an extensive study was conducted at the Dutch Ministry of Education, Culture and Science. This study entailed a nine month ethnographic research during which six policymaking cases were studied and a four month experimental study was conducted. The six policymaking cases served to identify an opportunity to enhance policymaking with design, whereas the experimental study served to further investigate this opportunity. Based on these endeavours, and in light of the identified opportunity, a design intervention to enhance policymaking was developed and evaluated.

The six policymaking cases were studied from the perspective of balancing exploration and exploitation; in order to be able to respond to societal developments and issues in a manner that is efficient, effective and legitimate, policymaking practices need to appropriately balance between utilizing existing knowledge and means (exploitation) and generating new knowledge and means (exploration). However, it was found that policymaking predominantly possesses exploitative traits and, more specifically, is remarkably non-experimental.

It was thus argued that current policymaking practices may best be enhanced with experimentation throughout the policymaking process. In light of this, it was found that the systematic, deliberate way designers experiment may be helpful in policymaking as well. As opposed to policymaking, in which an experiment is typically the final piece of the problemsolving process, in design, several 'safe to fail' experiments serve as points of departure, initiating a progressive iterative process of working towards a solution. As such, it was found worthwhile to find a way to apply this particular way of experimenting in policymaking as well.

However, this necessitates a particular disposition. It requires the willingness to spend some time with ideas before discarding them, it implies taking decisions, becoming concrete and going with intuition early on in the process and it may entail making mistakes, learning and having to change course accordingly. Yet, throughout the study it was found that in policymaking ideas are nipped in the bud, taking decisions is postponed, intended solutions and measures are kept abstract, there is hardly any room for intuition and making mistakes, and learning and having to change course are seen as politically risky. Clearly, the context and dynamics of policymaking are not lenient towards this particular way of experimenting.

Hence, it was argued that the context and dynamics required for this way of experimenting may only be found outside of the political system; 'safe to fail' experiments may be conducted most effectively and efficiently by policy implementers themselves - that are given sufficient discretion - rather than policymakers. In order to see how this can be done, an experimental study was conducted. This study clearly showed that these 'safe to fail' experiments cannot simply be delegated; it requires taking into account the commitment, capacity and capability of policy implementers to conduct 'safe to fail'

experiments and responding accordingly.

In order to enable policymakers to do so, guidelines were developed. These guidelines provide three simple steps to ensure that the necessary prerequisites of having policy implementers conduct 'safe to fail' experiments are met:

1. Gauging the commitment, capacity and capability of the policy implementer.

2. Determining a suitable response of government.

3. Drafting a plan for making the necessary arrangements for this.

In five simulations conducted with policymakers it was found that although the guidelines do not directly help in making policies in a more experimental manner, they do help minimize the risk associated with experiments, increase the chances of successful execution and contribute to the process of having policy implementers conduct 'safe to fail' experiments. As such, they may help lower the barriers for, as well as smooth the way towards making policies in a more experimental manner. This being said, the exploitative traits found in policymaking are symptomatic of rigid underlying factors that are hard to change; much more is needed in order to embed this type of experimentation in policymaking.

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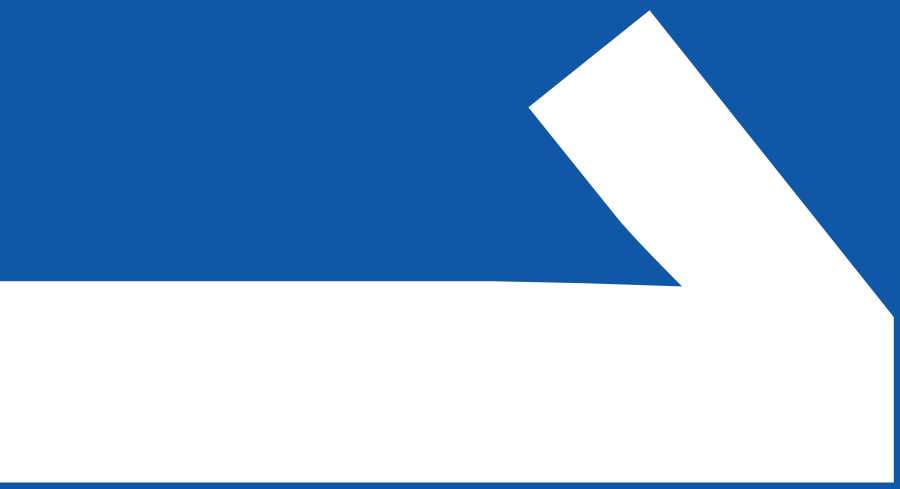
Introduction

The past two decades have seen global humanitarian, financial and environmental crises and simultaneously a decrease in citizen's trust in institutional systems. Hand in hand with this came the rise of populism as well as civic activism and initiatives. Dutch examples of this are easily given: only recently the far-right populist Forum for Democracy won the provincial state elections, two months ago 'climate truants' were en masse protesting for more climate measures and in the Veluwe criminals are caught by A-team-esque neighbourhood watches - including helicopters and dogs. These developments seem to imply that governments are inadequately dealing with present day's issues. Seeing this made me wonder. What are they doing at the government? Why does it seem they are systematically missing the mark nowadays? And, more importantly, how can they do it better - if at all?

This MSc Design for Interaction graduation project aims to address these questions by looking for ways to enhance policymaking with design. In light of this, an extensive study was conducted at the Ministry of Education, Culture and Science. This study entailed ethnographic research, six case studies, and an experimental study. The six case studies served to identify an opportunity to enhance policymaking with design, whereas the experimental study served to further investigate this opportunity. The ethnographic study provided additional substance to this. Based on these endeavours, and in light of the identified opportunity, a design intervention was developed and evaluated. This thesis provides an elaborate description of this investigative journey.



1. Project Description

In the following chapter the background, aim, objective, approach and relevance of the project are described, hereby setting the scene for this thesis.

1. Project Description

In 1969 Herbert Simon wrote the following paragraph in his book The Sciences of the Artificial: "Engineers are not the only professional designers. Everyone designs who devises courses of action aimed at changing existing situations into preferred ones. The intellectual activity that produces material artifacts is no different fundamentally from the one that prescribes remedies for a sick patient or the one that devises a new sales plan for a company or a social welfare policy for a state.".

As such, policymaking has been regarded as a design practice for at least half a century. Nonetheless, policymakers around the world have started exploring the possibilities of *approaching* it as a design practice only in the past decade. As this field is still rather young there is no clear consensus on how to integrate these practices in policymaking and there is lack of evidence addressing the value of this (SEE Platform et al., 2013). Moreover, most of these explorations are done from a public administration perspective and focus on designing public services, rather than on the process of policymaking itself (Blomkamp, 2018). Hence, there is clear scope for investigating the potential of design in policymaking from a designer's perspective.

1.1 Aim and Objective

In line with the abovementioned, this MSc Design for Interaction graduation project aims to explore how design may enhance policymaking. In order to do so a study will be conducted at the Dutch Ministry of Education, Culture and Science. The goal of this study is twofold:

1. Evaluate current policymaking practices at the Ministry of Education, Culture and Science.

2. Investigate and evaluate how policymaking may be enhanced with design.

1.2 Approach

In light of the aim and objective, an action research approach is found most suitable. Action research is a form of research in which the researcher takes an insider perspective to generate knowledge about practice that is informed by practice in order to improve practice (McNiff & Whitehead, 2010). Action research entails progressive cycles of question answering and question emergence according to a process of plan, act, describe and evaluate (Tripp, 1995). As such, this project will be an investigative journey resulting in both answers and questions.

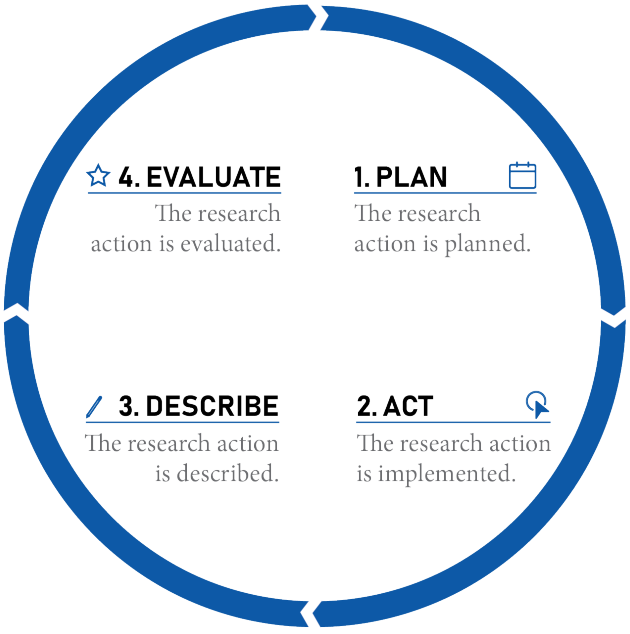


Fig. 1: The action research cycle

This investigative journey entails five sequential cycles accompanied by one cycle throughout. The initial cycle predominantly revolves around conducting literature research in order to gain sufficient domain knowledge as well as establish a theoretical framework. Subsequently, six case studies will be conducted according to the theoretical framework. In turn, an opportunity for enhancing policymaking with design will be identified. In the third cycle additional literature research and interviews will be conducted in order to further substantiate, deepen and flesh out the opportunity. Based on this, an experiment will be conducted in order to gain practical knowledge in light of the defined opportunity. The findings from this experiment will be complemented with the findings from the ongoing cycle, which entails an ethnographic study of policymaking in general. According to this, a final, fifth cycle is conducted in which guidelines to enhance policymaking with design will be proposed and evaluated. As such, the first three cycles revolve around evaluating current policymaking practices. The last two cycles, in turn, revolve around investigating and evaluating how policymaking may be enhanced further with design. As such, both the above stated goals will be addressed. Note that as the project unfolds, the focus shifts from research to informed action. Hence, the project will be grounded in both theory and practice. An elaborate description of the process can be found in Appendices A-G.

1.3 Relevance

This project explores the wider application of the skills and knowledge taught in the master Design for Interaction at the Delft University of Technology in the field of public administration. In doing so, it attempts to bring together two scientific domains and hereby expand both. Moreover, it attempts to produce practical knowledge and hereby contribute to current policymaking practices at the Ministry of Education, Culture and Science.

	1. literature research	2. case studies	3. additional research	4. empirical research	5. design
ACTIVITIES	- read books - read papers	- 6 cases - 20 interviews	- read books - read papers - 7 interviews	- ethnographic study - experimental study - 2 focus groups - 3 interviews - observations - 1 creative session - brainstorm - concept development - 4 evaluations	- idea generation - concept development - evaluation - iteration (3x)
OUTCOME	- theoretical ground-/framework	- evaluation of policymaking processes - opportunity for enhancement	- substantiation of findings - lessons from design	- 'failed' experiment - insights for policymaking	- guidelines to enhance policymaking

Fig. 2: The process of this graduation project

2. Theoretical Groundwork

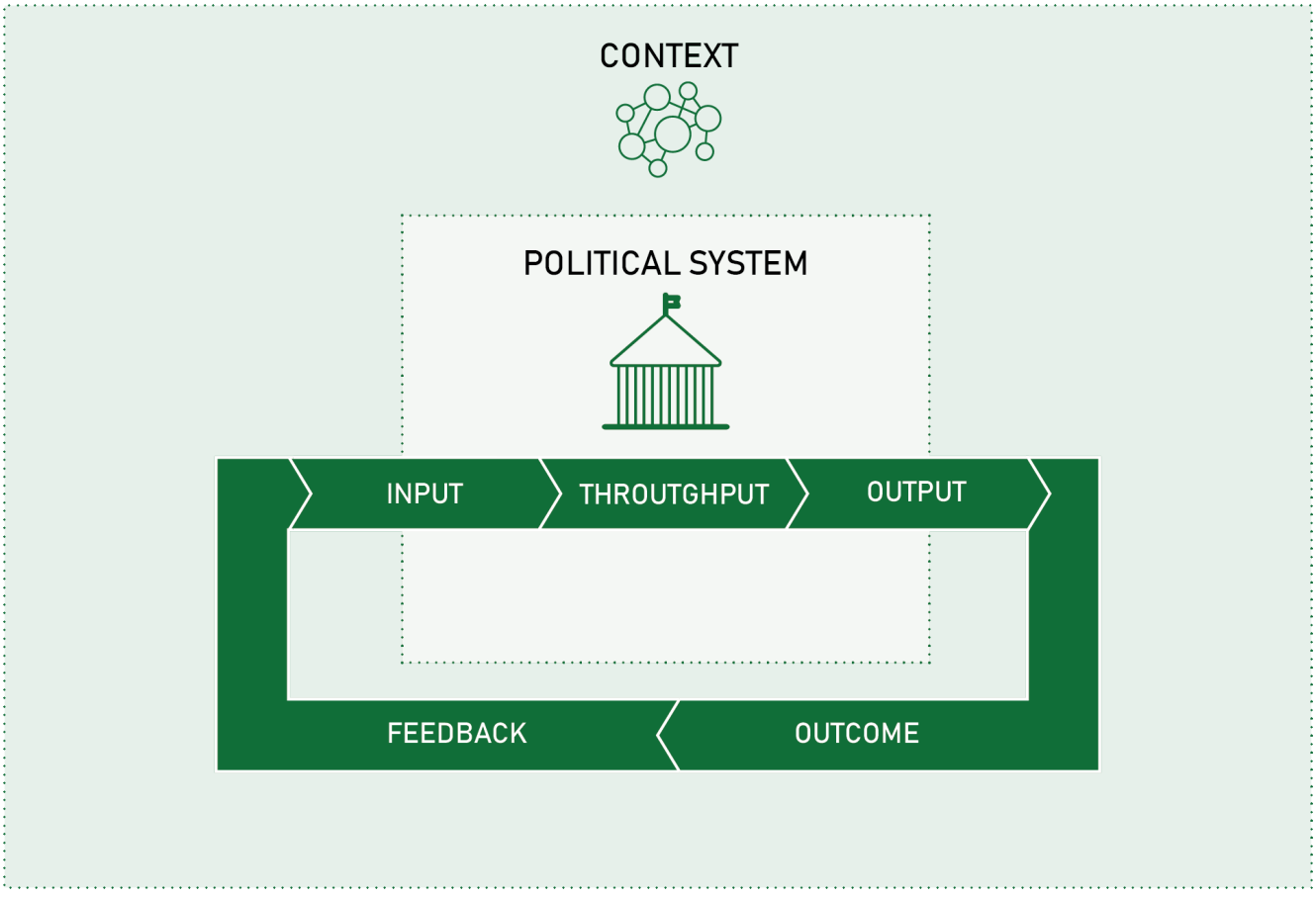
In order to explore how design may enhance policymaking, a basic understanding of policymaking is required first. In light of this, initial literature research was conducted (see Appendix B). Accordingly, this chapter provides a brief explanation of policymaking in The Netherlands. It will become clear what policies are and how they come to be through the Dutch political system. As such, this chapter lays the foundation for the rest of this thesis.

2.1 Policymaking in the Political Ecosystem

Policymaking can be seen as the process of defining, deciding on and implementing a set of means and resources to influence societal developments and solve societal problems (Bekkers, Fenger & Scholten, 2017); in other words, as a process of societal problemsolving. In The Netherlands this process is organized through a collective decision making system called representative democracy. Through this system, policymaking links societal needs and demands to policies addressing these needs and demands. As such, policymaking is grounded in both politics and society. This is clearly depicted in the diagram below (taken from Herweijer & Hoogerwerf, 2003).

In order to gain a general understanding of policymaking, each part of this diagram will be explained hereafter.

Fig. 3: The policymaking ecosystem



2.1.1 The Context: Society

The context in which the Dutch political system operates is the Dutch as well as the international - especially European - society. Within this society, all kinds of developments take place, more or less affecting the functioning and well-being of society or groups within this society. These developments can be natural, such as changes in biodiversity, soil/water/air quality, and climate, or social, such as changes regarding demographics, technology, economy, and science. Not all of these developments require political interference; some are dealt with by members of society itself, some are adjusted through the market system. However, for the sake of the functioning and well-being of society, some developments do require political attention, or, at least they are considered to do so. These are fed into the political system, bringing us to the next part of the diagram: input.

2.1.2 Input: Demands and Support

From the aforementioned context, the Dutch political system undergoes a variety of influences. Herweijer & Hoogerwerf (2003) distinguish two types of influences: demands and support. Demands can be described as requests from society to the political system to intervene on a certain issue. Typically, members of society need to mobilize assistance for this in order to be able to gain political attention. This is done through social interest groups and organisations, market players, political parties, and media. Support can be seen as an expression of approval from society to parts of the political system: the political regime, political parties, figures of authority, or a policy itself. This is done through voting, donating money, or public expressions through media or campaigns.

The interaction of demands and support can result in political attention to certain societal developments. However, this does not guarantee political intervention; in a plural society with limited resources different rivalling claims and proposals are competing for political recognition. These rivalling claims and proposals need to be balanced against each other in order to decide whether - and what kind of - political intervention is required. This is done through the political system.

2.1.3 The Dutch Political System

As mentioned, in The Netherlands policymaking is organized through a collective decision making system called representative democracy. The way this system works is best described according to the diagram shown on the next page (taken from Andeweg & Irwin, 2014).

Although the diagram is clearly a simplification of the Dutch political system, disregarding many of the nuances and complexities of its actual workings, it does serve to gain sufficient understanding of the political system in which policymaking takes place by shedding light on three things:

1. The organisational structure of the Dutch political system: As can be seen, the Dutch political system comprises of three levels mutually influencing each other. The national level concerns itself with the full array of policy areas as well as the supervision of the provinces and municipalities. The provincial level is given responsibility for policy areas such as regional spatial planning, landscape and water management, culture and tourism and public transportation and traffic management. The municipal level concerns itself with - amongst others - local housing, road maintenance, waste management, public order and security, social affairs, recreation and education.

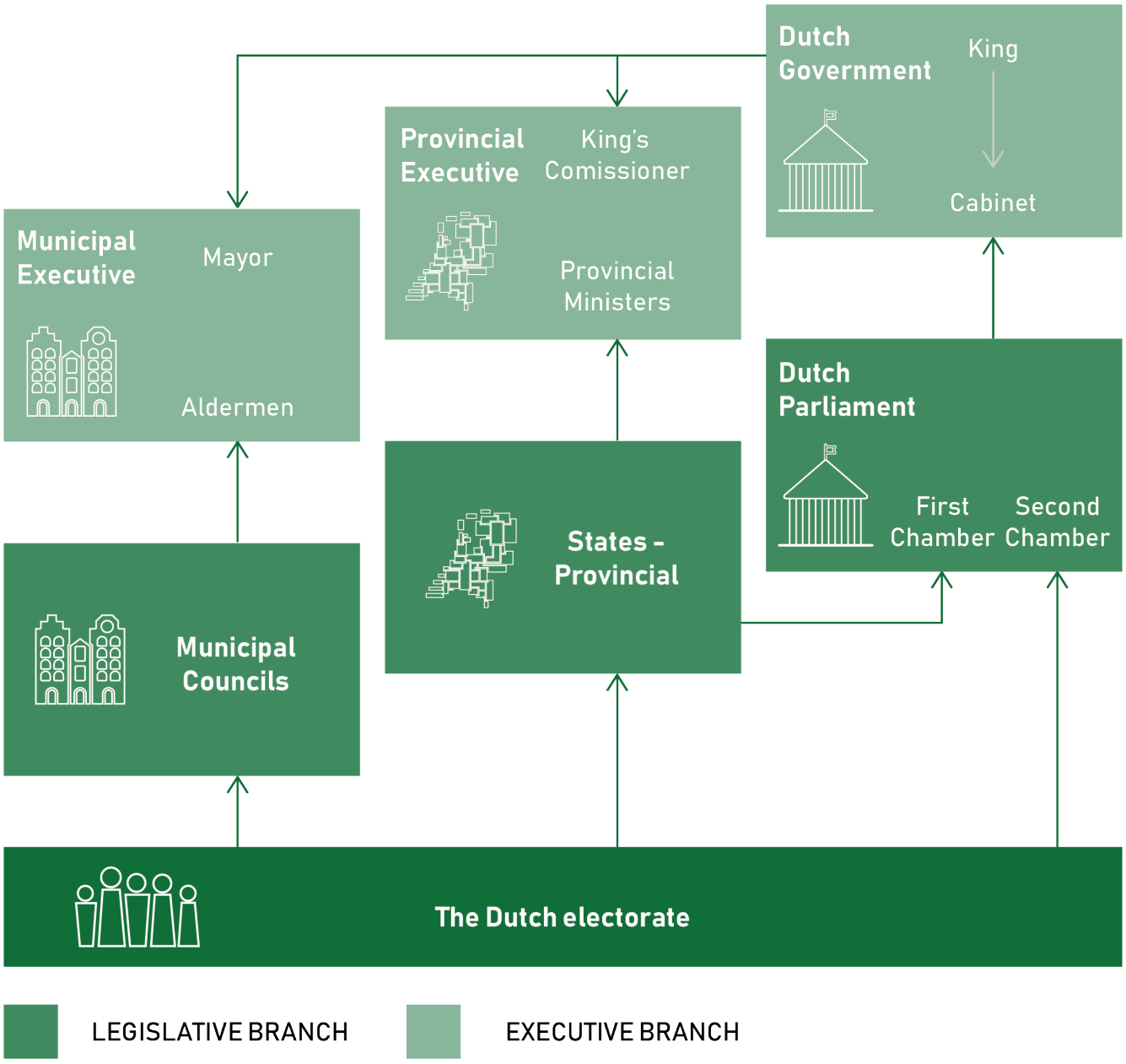


Fig. 4: The Dutch political system

2. The interplay between a legislative and an executive branch: On each of the three levels there is a separation between a legislative and an executive branch. Although in practice some of the tasks of these branches may overlap, the executive branch is responsible for developing and implementing policies, whereas the legislative branch is responsible for deciding on and reviewing the work of the executive branch.

3. The way the interests of the Dutch citizenry are represented in policymaking through this system: In the Dutch representative democracy Dutch citizens above the age of 18 have the right to elect the members of the legislative branches on each level of government. These members have the duty to represent the interests of the Dutch citizenry while scrutinizing the executive branch. Elections take place once every four years, but not necessarily at the same time. After elections

have taken place and the composition of the legislative branch has become clear, the executive branch is composed through elections by the corresponding legislative branch or through a process of formation in which the members of the executive branch are appointed upon approval of the legislative branch.

As such, the Dutch system of representative democracy aims to deal with societal issues in a manner that is considered satisfactory, or at least legitimate, by the majority of citizens.

Note: he Dutch political system also operates in an international context - as part of the European Union. The Dutch political system as depicted before can thus be seen as part of a larger European political system. However, the European political system is beyond the scope of this study and thus excluded from this explanation.

2.1.4 Throughput: the Policy Cycle

Now that it has become clear how policymaking is embedded in the political system, the policy process itself can be clarified, hereby further explaining the interplay between the aforementioned executive and legislative branches as well. Again, this is best done according to a diagram (taken from Bekkers, Fenger & Scholten, 2017).

Fig. 5: The policy cycle

As can be seen, the policy process distinguishes five phases. Each phase will briefly be described here:

1. Agenda setting: according to the input the political system receives, decisions need to be made regarding which societal issues require political intervention. The societal issues that are found to require political intervention are put on the policy agenda. This is decided upon by the legislative branch.

2. Policy development: once a societal issue is put on the policy agenda, alternative courses of action are developed and proposed. This entails gathering and analyzing information regarding the societal issue, considering and assessing the alternatives, and formulating advice based on this. The executive branch concerns itself with policy development.

3. Policy decision making: in turn, the proposed alternatives are evaluated and the course of action that is considered most appropriate is accepted. This sets out the measures and instruments that make up the political intervention to deal with the societal issue. Again, this is decided upon by the legislative branch.

4. Policy implementation: the necessary arrangements are made in order to carry out the course of action that is set. This is done by the executive branch. In turn, the policy is carried out by the relevant actors.

5. Policy evaluation: the implementation is evaluated; is the course of action carried out the way it is intended and does it achieve the intended effect in a legitimate manner? This is either done by the executive branch, or an externally appointed organisation. Although this is the final step in the policy process, policies sometimes require adjustment or reconsideration. In such cases, the issue is put back on the policy agenda, hereby closing the circle.

2.1.5 Output: Policies

The output of the political system, through the policymaking process, is the course of action that is set in order to address societal developments and problems. This is referred to as a policy. These policies can serve a variety of purposes that can be achieved through a variety of ways. Three types of policy purpose can be distinguished (based on Herweijer & Hoogerwerf, 2003):

Delegation: delegation policies are policies aimed at providing the necessary space for certain societal actors to employ their own capacities in dealing with certain societal issues according to the way they see fit. This type of policy is pursued when societal actors themselves are considered best capable in dealing with societal issues.

Provision: provision policies are aimed at directly dealing with certain societal issues. This type of policy is pursued when government itself possesses the capabilities to deal with societal issues.

Suasion: suasion policies are aimed at indirectly dealing with certain societal issues through influencing certain societal actors. This type of policy is pursued when government itself does not possess the capabilities to deal with societal issues, yet it cannot be left to societal actors themselves either.

In order to achieve these policy purposes, governments have a variety of policy instruments at their disposal. Three types of policy instruments are commonly identified (based on Herweijer & Hoogerwerf, 2003; Bekkers, Fenger & Scholten, 2017):

Regulative instruments: regulative instruments have a prescriptive nature; these instruments are put in place to regulate and control certain societal developments through obligations, prohibitions, or allowances.

Economical instruments: economic instruments have a directive nature; these instruments are put in place to guide certain societal developments through intervening on the resources related to these societal developments.

Communicative instruments: communicative instruments have an informative nature; these instruments are put in place to guide certain societal developments through the transfer of knowledge and argumentation related to these societal developments.

These instruments can be aimed at individual actors, societal groups and organisations, or society at large. Moreover, these instruments can be either restrictive or expansive, meaning they can diminish or enlarge the freedom and capabilities of the policy target.

2.1.6 Outcomes: Effects

The outcome refers to the effects that the implemented policies actually bring about. These effects can be intended as well as unintended. Effective policies are policies that bring about effects that are in line with the intended effects. Effective policies, however, may not be considered satisfactory or legitimate by the majority of citizens. When the effects are considered satisfactory or legitimate by the majority of citizens, policies are considered responsive.

2.1.7 Feedback

Once a policy has been implemented and brought about effects, information with regard to the effectiveness and responsiveness of a policy is fed back into the policymaking system. According to this information, it is decided to pursue, adjust or terminate a policy.

2.1.8 Conclusion

By elaborating on the different elements of the policymaking ecosystem it has become clear how policymaking can be seen as a process of societal problemsolving that is at the heart of the Dutch system of representative democracy by linking societal needs and demands to policies addressing these needs and demands through the interplay between the executive and legislative branches on different levels of government. This explains the way policymaking is grounded in both society and politics, and how these two systems mutually influence each other. As such, a basic understanding of the workings and complexities of policymaking has been established. Moreover, it can be concluded that democratic policymaking is responsive policymaking; resulting in policies that are a legitimate, effective and timely answer to societal developments as well as the collective needs of citizens. This last point is as self-evident as it is crucial as it helps in further defining responsive policymaking practices in the next chapter.

Note: As policymaking can be seen as a process of societal problemsolving, policymaking and problemsolving, problems and societal issues, and solutions and policies will be used interchangeably throughout the rest of this thesis; in this context they are referring to the same thing.

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3. Theoretical Framework

Although merely comparing policymaking with design would be an interesting exercise, this does not sufficiently help identify and evaluate opportunities to enhance policymaking with design. Moreover, it is easy to fall in the trap of opposing the two when making such comparisons, whereas the aim is to look for ways in which design can complement policymaking. Therefore, based on the notion of responsive policymaking, additional literature research was conducted (see Appendix B). Accordingly, this chapter builds an argument for the appropriateness of policymaking practices in light of the determinacy of the issue at hand, hereby providing the necessary handhelds to assess policymaking practices at the Ministry of Education, Culture and Science in the next chapter. As such, current policymaking practices are taken as a valuable basis on which to improve upon.

3.1 Responsive Policymaking

As concluded previously, democratic responsive policymaking can be seen as a process of societal problemsolving that entails coming up with a legitimate, effective and timely answer to societal developments as well as the collective needs of citizens. On the one hand, this necessitates policymaking practices that focus attention on *utilizing existing knowledge* in order to find the most effective and efficient means to deal with societal issues. On the other hand, this necessitates policymaking practices that focus attention on *generating new knowledge and coming up with and developing alternative means* in order to deal with societal issues. These different approaches are commonly referred to as exploitation and exploration, respectively (March, 1991). Note that overemphasizing on exploitation comes with the pitfall of short-sightedness, whereas overemphasizing on exploration comes with the pitfall of inefficiency; an appropriate balance between the two is needed in order to be responsive (March, 1991).

From the above definitions it can be derived that exploitation is suitable when there is agreement on the availability and sufficiency of knowledge and means that are required in order to deal with the societal issue at hand, whereas exploration is suitable when the available knowledge and means are considered insufficient, there is disagreement on which knowledge and means are required, or both (Chen, 2017). As such, it can be argued that the suitability of exploitative or explorative approaches is dependent on the extent to which a problem can be definitely and unequivocally characterized, or in other words, the determinacy of the problem. Realizing a balance between exploitation and exploration can thus be seen as a matter of methodological congruence; the approach that is taken should be congruent with the problem at hand (Dunn, 1988).
In the following sections, this notion of methodological congruence will be further developed. In turn, this helps assess the appropriateness of policymaking practices at the Ministry of Education, Culture and Science as well as find opportunities for enhancing policymaking with design practices.

Note: exploitation and exploration can manifest itself on many different levels in many different ways; from an organisational level, in which different departments are assigned to different modes of execution, to an individual level, in deciding to either utilize or expand one's knowledge and skillset. However, as explained in this section, this thesis focuses on the way exploitation and exploration manifest themselves in policymaking processes and practices at the Ministry of Education, Culture and Science.

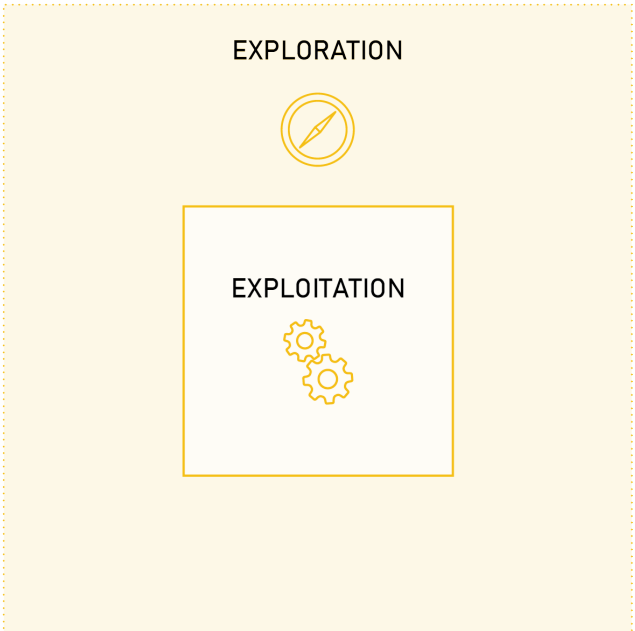


Fig. 6: Exploitation and exploration.

3.2 The Determinacy of Problems

As explained, the suitability of exploitative or explorative approaches is dependent on the determinacy of the problem; the extent to which a problem can be definitely and unequivocally characterized. Based on this definition an opposed pair of determinate problems versus indeterminate problems can be distinguished. Determinate problems can be definitely and unequivocally characterized, whereas indeterminate problems cannot. Several factors underlying the determinacy of the problem can be identified, namely: complexity, dynamicity, opaqueness and divergence of perspectives (selected from descriptions of Herweijer & Hoogerwerf (2003) & Hung & Jonassen (2008)). Before elaborating on each factor, it is required to briefly define several basic concepts regarding problems.

A problem can be defined as the gap between the notion of a desired situation, and the current situation (Hoppe, 2011). A solution can thus be defined as an intervention bridging this gap. The notion of a current as well as desired situation is commonly referred to as the problem space (Jonassen, 2000). In turn, the entire set of solution alternatives is called the solution space. A particular notion of a current and desired situation can be seen as a set of constraints within which solutions are sought for (Hoppe, 2011). As such, the problem space and the solution space are linked to one another. The characterization of a problem entails the construction of a mental representation of the problem - and hereby solution - space.

3.2.1 Complexity

Problems contain of all kinds of elements (such as artefacts, knowledge, resources, policies and stakeholders) that interact in some way. These elements and interactions may be so interwoven that the problem cannot be decomposed into smaller subproblems or isolated from its context and other problems therein (Hoppe, 2011). Complexity refers to the interwovenness of the problem. As complexity increases, it becomes increasingly hard (if not impossible) to characterize the problem in terms of its constituent elements, interactions and boundaries; the problem becomes less determinate.

3.2.2 Dynamicity

Some problems change over time. On the one hand, such change may be inherent; certain elements of the problem change with the passing of time (Herweijer & Hoogerwerf, 2003). On the other hand, such change can be emergent; new problematic elements appear with the passing of time (Hung & Jonassen, 2008). Dynamicity refers to the extent to which the problem is subject to change. Problems that are subject to change do not allow for stable or fixed characterization. As dynamicity increases, the problem thus becomes less determinate.

3.2.3 Opaqueness

Problems may contain elements that are unknown, or even unknowable; knowledge may not yet be available (Bekkers, Fenger & Scholten, 2017), the amount of research that is required in order to obtain complete knowledge is unmanageable (Hoppe, 2011), conventional ways of gaining knowledge may be insufficient (Kemp & Voss, 2005), or the problem simply entails unpredictabilities such as a person's irrationalities in their moral standards, biases, beliefs, or behaviour (Hung & Jonassen, 2008). Opaqueness refers to the extent to which a problem contains such unknown or unknowable

elements. Problems that contain unknown or unknowable elements do not allow for complete characterization; as opaqueness increases, the problem becomes less determinate.

3.2.4 Divergence of Perspectives

Depending on the amount of parties involved, and the extent to which elements of a problem are value-laden, there may be multiple different perspectives on the problem (Hung & Jonassen, 2008). Divergence of perspectives refers to the extent to which a multiplicity of perspectives on the problem exist. Clearly, a large multiplicity of perspectives complicates consensual problem characterization; as the divergence of perspectives increases, the problem becomes less determinate.

3.2.5 Determinate versus Indeterminate Problems

Based on these factors, the opposed pair of determinate problems versus indeterminate problems can be further defined. Problems that are simple, static, clear and undisputed allow for definite and unequivocal characterization. These problems are referred to as determinate. A broken lamppost is a typical example of a determinate problem. Problems that are complex, dynamic, unclear and highly disputed do not allow for definite and unequivocal characterization. These problems are referred to as indeterminate. Common examples of indeterminate problems include climate change, immigration and polarization. Although problems are commonly somewhere in between determinate and indeterminate, distinguishing between these two extremes helps clearly distinguish between methodologically congruent exploitative and explorative approaches in the next section.

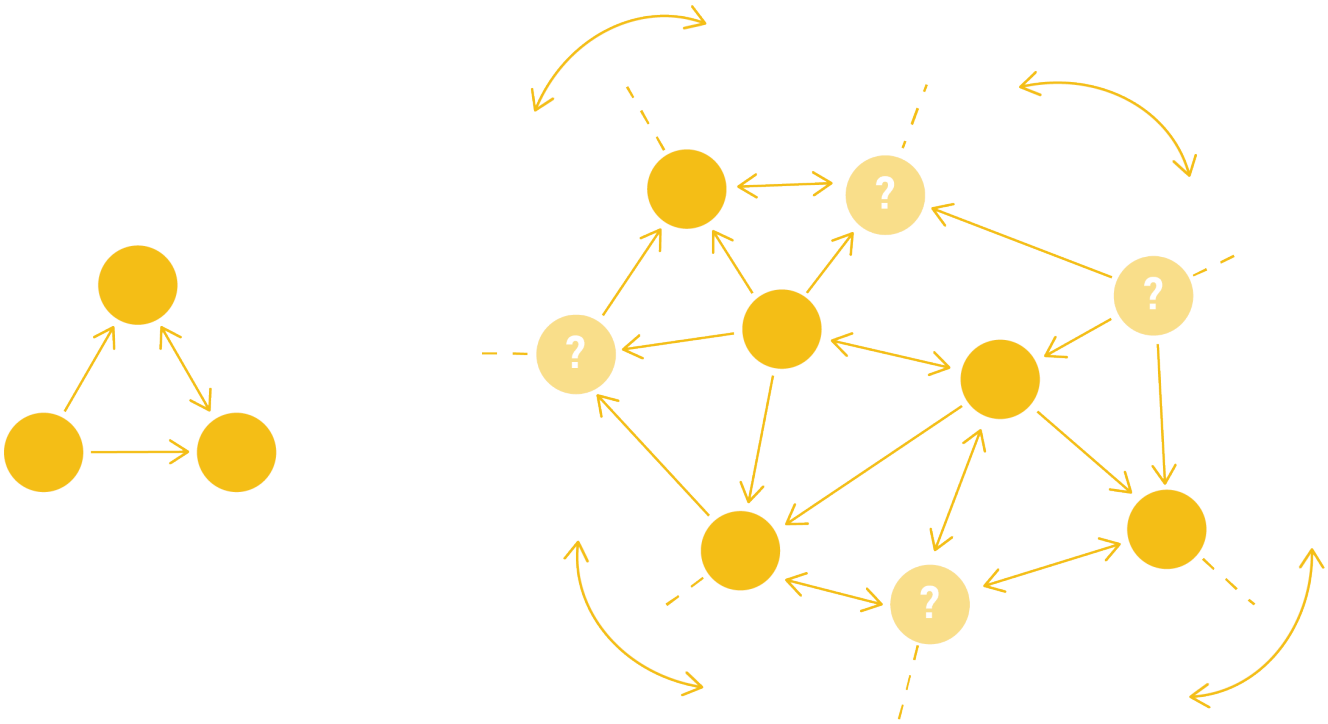


Fig. 7: Determinate versus indeterminate problems

3.3 Exploitative and Explorative Problemsolving

From the definition of problems and solutions given earlier one can derive that any problemsolving process entails the construction of a problem space, the conception of a solution, and the implementation of the solution in order to realize the desired situation. As such, problemsolving is commonly defined as a goal-directed sequence of mental or physical activities (Jonassen, 2000). According to the determinacy of problems, this goal-directed sequence of mental or physical activities may look considerably different. Based on the two extremes of determinate and indeterminate problems as identified earlier, exploitative and explorative problemsolving will be defined here.

3.3.1 Exploitative Problemsolving

For determinate - simple, static, clear and undisputed - problems there exists one well-representable agreed upon problem space that can be isolated from its context and for which all knowledge and means are available in order to solve the problem with certainty (Chen, 2017; Hoppe, 2011). In these cases it is clear which steps have to be undertaken in order to move towards a solution. In fact, for determinate problems - regardless of what the problem is about - a universal approach as depicted below is found to be most efficient and effective in order to achieve the desired situation (this is a synthesis of the IDEAL problem-solving model of Bransford & Stein, 1984 and the rational policymaking process as described by Herweijer & Hoogerwerf, 2003).

Planning
As the problemsolving process can be determined beforehand, planning entails further defining the different steps of the entire problemsolving process as shown below in terms of the required activities, time, resources and agreed upon priorities.

Analysis
Analysis entails gathering the available relevant information regarding the current and desired situation in terms of their elements and the interactions between them. Typically this revolves around doing literature research and, if needed, expert consultation.

Definition
Once the relevant information is gathered, the problem can be fully defined. This entails constructing the problem space, formulating the desired goal a solution should aim to achieve as well as criteria for evaluating solution alternatives.

Search
Search entails finding the alternative existing solution options that are expected to achieve the formulated goal. Again, this may require literature research and expert consultation.

Fig. 8: Exploitative problemsolving

Selection
According to the defined criteria a pay-off function can be established, which, in turn, is used to select the most cost-effective solution alternative.

Implementation
As there is a high degree of certainty about the effectiveness of the selected solution, it can be implemented instantly.

Evaluation
Once implemented and executed, the solution will be evaluated in order to verify that the desired situation has been achieved as well as find potential avenues for optimization in terms of effectiveness and efficiency gains.

3.3.2 Explorative Problemsolving

For indeterminate - complex, dynamic, opaque and divergent - problems, the problem cannot be isolated from its context, it is amenable to choice, highly disputed and knowledge and means in order to solve the problem are insufficient (Chen, 2017; Hoppe, 2011). In these cases, the process needs to allow both problem and solution to emerge simultaneously. In light of this, there is a multiplicity of potential steps to undertake with no guarantee that these steps will be directly beneficial in terms of moving towards a solution; this can only be determined in hindsight (Jonassen, 2000). As such, a one-size-fits-all approach as depicted previously does not work for indeterminate problems. Therefore, rather than depicting a process, several different potential explorative problemsolving activities will be elaborated on here - and in no particular order.

Fig. 9: Explorative problemsolving

Planning
As the problemsolving process cannot be entirely determined beforehand, planning entails defining the activities, time and resources required for the next steps that can be foreseen while simultaneously forecasting the different potential subsequent activities in order to establish a general overview of the rest of the process. As such, planning recurs throughout the entire process.

Analysis
Analysis revolves around gathering the information and different perspectives regarding the current and desired situation that are deemed relevant. In turn, according to the gathered information and perspectives certain unknowns can be identified. As with exploitative problemsolving, this entails conducting literature research and expert consultation. Moreover, in order to gain insight in the different perspectives, stakeholder involvement is required.

Research
In order to clarify certain unkowns, additional research may be conducted. This entails generating knowledge that is deemed necessary in order to move from problem to solution. Three types of knowledge can be distinguished: knowledge regarding the problem space, the solution space, and the underlying norms, values, and beliefs related to these spaces (Jahn, Bergmann & Keil, 2012). Due to the complexity of the problem, generating these types of knowledge may call for the combination of different types of (contextual) research as well as ways to integrate knowledge from the different (extra-)scientific domains that are deemed relevant (Kemp & Voss, 2005). This may necessitate researcher and stakeholder involvement.

Framing
As the problem space is enigmatic and amenable to choice, the problem cannot be objectively defined; it is framed instead (Jonassen, 1997). Framing entails selecting certain knowledge and beliefs and linking them together in a meaningful way in order to generate a certain orientation towards the problematic situation (Hoppe, 2011). As such, framing may help overcome divergent perspectives. Moreover, as problem space and solution space are linked to one another, framing can be used to reveal novel solution directions. Again, this may require stakeholder involvement.

Anticipation
In order to be able to proactively respond to potential future problems as well as align solutions with the potential future state(s) of the problem, anticipation is needed. This revolves around investigating potential development paths of the problem according to its underlying path-dependencies and mechanisms of change (Kemp & Voss, 2005). As certain path-dependencies and mechanisms of change may be due to certain external parties, involvement of these parties may be necessary.

Creation
As there exist no (definite and certain) solutions, new solutions need to be conceived.

Development
The selected new solutions need to be developed.

Experimentation
Due to complexity and opaqueness, the outcome of solutions in terms of its intended and unintended effects cannot be fully predicted (Kemp & Voss, 2005). As such, solutions cannot be pre-defined or instantly implemented and executed; deliberate experimentation is required. This entails testing out new ideas in order to identify the underlying mechanisms of the problem, assess the consequences of an intervention and evaluate what works. Hereby the problem and solution space are systematically explored in order to work towards a suitable solution.

Selection
As the problem space is amenable to choice, selection applies to both problem and solution. Moreover, in light of the indeterminacy, several

diverse options of problem frames and solution alternatives ought to be selected and explored before narrowing down to one or a few (Kemp & Voss, 2005). This also potentiates learning and the co-emergence of problem and solution.

Implementation
Once a suitable solution is developed, it can be implemented.

Evaluation
As the usefulness of the aforementioned steps only shows in hindsight, continuous evaluation of the chosen steps and the selected problem frame(s) and solution alternative(s) throughout the entire process is required. This enables the problemsolver to make adjustments when necessary and hereby steer the problemsolving endeavours in the 'right' direction and work towards a suitable solution.

Iteration
As the process unfolds and learning occurs, it may be necessary to redo certain activities accordingly. In fact, iterations are almost inevitable for indeterminate problems and thus a crucial part in explorative problemsolving (Jonassen, 1997).

External Engagement
As can be seen, almost all of the aforementioned activities may require the problemsolver to reach out to external actors. In policymaking, three ways of doing so can be distinguished: consultation, deliberation and cooperation. Consultation refers to forms of engagement that involve input gathering from the external actors by the problemsolver (IAP2, 2014). Deliberation refers to forms of engagement that involve dialogue between the external actors and the problemsolver (Teorell, 2006). Cooperation refers to forms of joint problemsolving in which external actors get to play an active role in the problemsolving process and decision-making (OECD, 2001).

3.3.3 Exploitative versus Explorative Problemsolving

Based on the opposed pair of determinate and indeterminate problems one can distinguish an opposed pair of exploitative problemsolving versus explorative problemsolving. Both problemsolving processes are markedly different. As can be seen, exploitative problemsolving entails a linear, sequential, predominantly cognitive and decontextualized process of problem characterization and solution conception that can be planned beforehand and conducted with minimal involvement of external actors (Haas, Springer & Porowski, 2017; Hoppe, 2011). Explorative problemsolving on the other hand entails an open, both cognitive and practical, cyclical process that involves in-context activities and unfolds step by step and hereby allows for learning and the emergence of both problem representation and solution (Haas, Springer & Porowski, 2017; Jonassen, 1997). As problems are commonly somewhere in between determinate and indeterminate, problemsolving processes ought to be somewhere in between exploitative and explorative as well.

3.4 Conclusion

In this chapter it was argued that responsive policymaking necessitates an appropriate balance between exploitative and explorative approaches. Achieving such a balance was looked at from the perspective of methodological congruence; the approach that is taken should depend on the determinacy of the problem. In light of this, several factors underlying the determinacy of the problem were identified: complexity, dynamicity, opaqueness and divergence of perspectives. Based on these factors an opposed pair of determinate versus indeterminate problems was distinguished in order to define exploitative and explorative problemsolving approaches, respectively. This is summarized in the table on the next page.

Although the distinctions between determinate and indeterminate problems as well as exploitative and explorative problemsolving approaches made in this chapter are still considerably abstract, they provide sufficient handhelds to assess the appropriateness of policymaking practices and processes at the Ministry of Education, Culture and Science, as will be done in the next chapter. An opportunity for enhancing policymaking will be identified and further elaborated on accordingly.

Note: responsive policymaking can be seen as an indeterminate problem itself. As such, the line of reasoning in this chapter is by no means a definite answer; it is merely proposed as a convincing framework for examining policymaking practices in the chapter hereafter.

DETERMINATE PROBLEMS	INDETERMINATE PROBLEMS
Simple - problem is decomposable and isolable	**Complex -** problem is interwoven with context and other problems
Static - problem is stable	**Dynamic -** problem is subject to change
Clear - available knowledge and means are sufficient	**Opaque -** available knowledge and means are insufficient
Undisputed - there is agreement on the problem	**Divergent -** the problem is highly disputed
EXPLOITATION	**EXPLORATION**
Predefined - process follows plan	**Emergent -** process unfolds step by step
Sequential - problem definition followed by solution conception	**Lateral -** problem framing and solution emerge in parallel
Linear - process is executed once	**Cyclical -** process is repeated
Narrow - one definite problem and solution from the start	**Broad -** several problem and solution alternatives are used as a starting point
Closed - problemsolving is conducted with minimal involvement of external actors	**Open -** problemsolving is conducted with external actors
Cognitive - problemsolving involves mental activities	**Practical -** problemsolving involves both mental and physical activities
Isolated - problemsolving involves out-of-context activities	**Situated -** problemsolving involves in-context activities

Fig. 10: Opposed pairs of problems and corresponding problemsolving approaches as defined in this chapter

4. Case Studies

From the perspective of methodological congruence, as established in the theoretical framework, six policymaking cases at the Ministry of Education, Culture and Science have been studied. Four of these cases entailed an entire policymaking process and two cases zoomed in on particular policymaking practices. Together, the case studies reveal certain problemsolving tendencies in policymaking as well as key factors influencing this. These findings will be described in this chapter (for a comprehensive description of each separate case study refer to Appendix C). According to these findings, an opportunity to enhance policymaking with design will be identified.

4.1 Research Description

According to the theoretical framework, six case studies were conducted. The research method of these case studies will be described here.

4.1.1 Goal

The goal of the case studies was threefold:

1. Gain an overview of policymaking processes as well as an in-depth view on certain policymaking practices.

2. Assess the appropriateness of these policymaking processes and practices in light of the determinacy of the problem at hand.

3. Identify an opportunity for enhancing policymaking with design.

4.1.2 Research Questions

According to the abovestated goal, the following research questions were formulated:

1. What are common problemsolving processes and practices in policymaking at the Ministry of Education, Culture and Science?

2. What are the key factors influencing these problemsolving processes and practices?

3. To what extent are these problemsolving processes and practices adequate to deal with a sufficient breadth of problems (from determinate to indeterminate)?

4. What are the opportunities for enhancing policymaking with design?

4.1.3 Approach

In order to address the research questions, six case studies were conducted: four cases that entailed an entire policymaking process and two cases that zoomed in on particular policymaking practices.

For each of the four process cases data was obtained through available documentation and a semi-structured interview with the lead of the process. This interview revolved around obtaining a detailed description and evaluation of the steps that were taken throughout the policymaking process. In order to gather comparable data, a process template was used (see Appendix C). For each of the two practice cases data was obtained through available documentation, observation and several semi-structured interviews with policymakers and participants involved. Additionallly, semi-structured interviews about policy making processes in general were conducted.

The relative complexity, dynamicity, opaqueness and divergence of perspectives of the different issues of these cases were determined according to the way the issue was framed by the policymakers involved.

Based on the gathered data and the determinacy of the issue these processes and practices were assessed. Subsequently, an opportunity for enhancing policymaking with design was identified.

4.1.4 Case Selection

Cases were selected on the basis of informed convenience (read: opportunistic sampling). Criteria for selection were: availability of information and experience, recency (the case

took place within the past two years) and breadth in terms of determinacy of the problem. Moreover, the four cases displayed considerable breadth in terms of process: one being highly experimental, another being highly political, and two somewhere in between. In turn, one practice case revolved around the construction of the problem space and the other revolved around the conception of a solution. As such, an attempt was made to obtain a comprehensive view on policymaking processes and practices in order to provide sufficient basis for making generalizations about policymaking at the Ministry of Education, Culture and Science.

4.1.5 Case Descriptions

Each case will briefly be described below. A more elaborate description can be found in Appendix C.

Process Cases

As explained, four policymaking processes have been studied. These will be described here.

Process Case 1: Vocational Education StudentLabs

Each year over 22.500 vocational education students flow through to higher education. This is a big step for these students. In higher education the educational environment, the way of working that is required and the expectations from the students are rather different. Some of the ex-vocational education students adapt to this new situation quite well. However, a considerable amount of students has difficulties to adapt. Consequently, many of these students drop out within the first few months of the higher education programme (Van den Broek, et al. 2017). Although this has been a recurring issue, the Ministry of Education, Culture, and Science has not found an adequate solution before.

Therefore it was decided to do things differently this time: coming up with a solution was delegated to the students themselves. In a large scale half-year collaborative endeavour with 250 students, supervised by ten coaches, 29 unique solutions were developed. Currently, these solutions are implemented as pilots (70 in total) across The Netherlands (Van den Broek, et al. 2017). These pilots will provide input for the next policy cycle in a few years. As such, this case is particularly interesting as it entails an unusually large-scale exploration of solution options.

Process Case 2: Vocational Education Quality Arrangements

Vocational education institutions in The Netherlands are responsible for providing high quality vocational education that ensures a student's success on the labor market, successful flow through of students to higher education and a student's personal development (Regeling Kwaliteitsafspraken, 2018). In order to ensure that the vocational education institutions are sufficiently equipped to do so, the Vocational Education Quality Arrangements were introduced in 2015. According to an evaluation of these arrangements it was decided to proceed with an improved and adjusted version from 2019 onwards.

The development of these improved and adjusted Vocational Education Quality Arrangements was done in collaboration with the five best performing vocational education institutions. These institutions were involved throughout the entire development process; in evaluating the old arrangements, drafting the new quality arrangements and examining the eventually developed arrangements in order to check whether they were congruent with the input that was provided in the early phases. As such, this case is a great example of co-creation and sheds light on the strategic value this has in policymaking as it was found to benefit the process - and particularly the negotiations with the legislative branch - considerably.

Process Case 3: Vocational Education Right of Admission

In the past, aspiring vocational education students obtained admission to an educational programme of their choice according to an intake interview with the vocational education institution that offered the programme. Consequently, students were not always admitted to the educational programme, even if they had the right qualifications (MBO Raad, 2019). In response to media coverage as well as signals from the Youth Organisation of Vocational Education about the issue, the Ministry of Education, Culture and Science decided to change the admission procedure; every aspiring student has the right to education. As such, the Vocational Education Right of Admission regulations were developed.

The development of these regulations however, was no straightforward endeavour. The two main parties involved - the Ministry of Education, Culture and Science and the Vocational Education Advisory Board - could not find common ground; they ended up opposing each other throughout the entire process. This was exacerbated further by the way a solution was almost forcefully put forward in response to the media coverage. Consequently, the process turned into a 'battle' of exhaustive to-and-froing of argumentation. As such, this case illustrates the political side of policymaking very well.

Process Case 4: Regional Investment Fund Regulations

As explained in the case of the Vocational Education Quality Arrangements, vocational education institutions in The Netherlands are responsible for providing high quality vocational education that is congruent with the labor market in the region of the institution. Public-private collaboration between the institutions and companies within the region is found to be a crucial factor to ensure such congruence (Regeling Regionaal Investeringsfonds MBO, 2018). To stimulate public-private collaboration between vocational education institutes and companies within the region, the Regional Investment Fund Regulations were introduced in 2015. According to an evaluation of these arrangements it was decided to proceed with an improved and adjusted version from 2019 onwards.

The development of these improved and adjusted Regional Investment Fund Regulations had many similarities with the development of the Vocational Education Quality Arrangements. What made this case still interesting is that since there was considerable agreement on proceeding with the regulations - and the marginal changes this entailed - development and implementation did not require any negotiations with the legislative branch; they were merely notified of the changes through a signed letter from the Ministry.

Practice Cases

In addition to the case studies of policymaking processes. Two case studies were conducted in order to gain a more in-depth view on policymaking practices. Each case will be described here.

Practice Case 1: Dialogue Days

Currently there are 2.5 million low literates in The Netherlands (Algemene Rekenkamer, 2016). These people typically have difficulties in finding a job, keeping up with the increased digitalisation of our society, receiving and taking part in healthcare and managing their finances. In short, they have trouble taking part in society. Consequently, this leads to exclusion as well as tremendous societal costs. Clearly, low literacy is a pressing issue. As such, the Ministry of Education, Culture, and Science, the Ministry of Social Affairs and Employment, and the Ministry of Health, Welfare, and Sports joined forces by initiating the programme Tel mee met Taal (Take part with Language) in 2015. This initial programme runs until 2019, however it is decided to extend the programme for the period of 2020 onwards. For the extended period, the Ministry of the Interior and Kingdom Relations is also taking part in the programme. Currently, the plans for extension are

being developed.
The development process started off with three Dialogue Days. On each day 80 participants with a wide diversity of backgrounds - municipalities, educational institutes, libraries, public as well as private sector organisations, volunteers and low literates, to name a few - were invited to evaluate the current situation, formulate challenges and ambitions for the coming period, and develop ideas for a more effective approach in order to tackle low literacy and hereby generate potential building blocks for the extension period. This case provides an interesting in-depth look into a large scale participatory explorative endeavour at the initial stage of policy development. As with the StudentLabs, it shows how much is possible when there is agreement on the issue.

Practice Case 2: Adult Learning Labs
Since 2015, municipalities are given responsibility to acquire educational programmes for low literates from regional providers in order to provide educational programmes suited to the particular needs of the particular groups of low literates living in the municipal region. This entails acquiring either formal or nonformal education, depending on what is considered to be suitable. Formal education entails a systematic, intentional and institutional way of knowledge transfer aimed at obtaining a recognized qualification that is bound by statutory objectives (CINOP, 2008). Nonformal education too is sytematic and intentional, yet not necessarily institutional, nor aimed at obtaining a recognized qualification, and hereby not bound by statutory objectives (CINOP, 2008). The quality of formal education is monitored and warranted by the Inspectorate of Education, whereas nonformal education is not. This is considered the responsibility of the municipalities. However, from an evaluation in 2017 it was concluded that this is rather problematic; the quality of the educational programmes is not properly monitored, let alone warranted in half of the municipalities. Therefore, the Ministry of Education, Culture, and Science decided to develop a digital learning tool to support the municipalities in doing so.
In light of this, the Adult Learning Labs were organized in which experts, municipality workers and educational programme providers provided input for developing the digital learning tool. However, during these labs, it was found that a digital learning tool may not be the most desirable solution. Subsequently, plans were made to find ways to adjust the development process accordingly. Participation of relevant stakeholders was crucial to come to this conclusion. As such, this case shows how participation builds in checks and balances and hereby helps steering the process in the right direction.

4.2 Findings

Although the collection of the cases described earlier do not cover the entire breadth of policymaking practices and processes, the commonalities between the cases as well as the interviews that were conducted provide sufficient basis for making generalizations about policymaking at the Ministry of Education, Culture and Science with considerable confidence. These generalizations will be described below. In turn, an opportunity for enhancing policymaking will be identified.

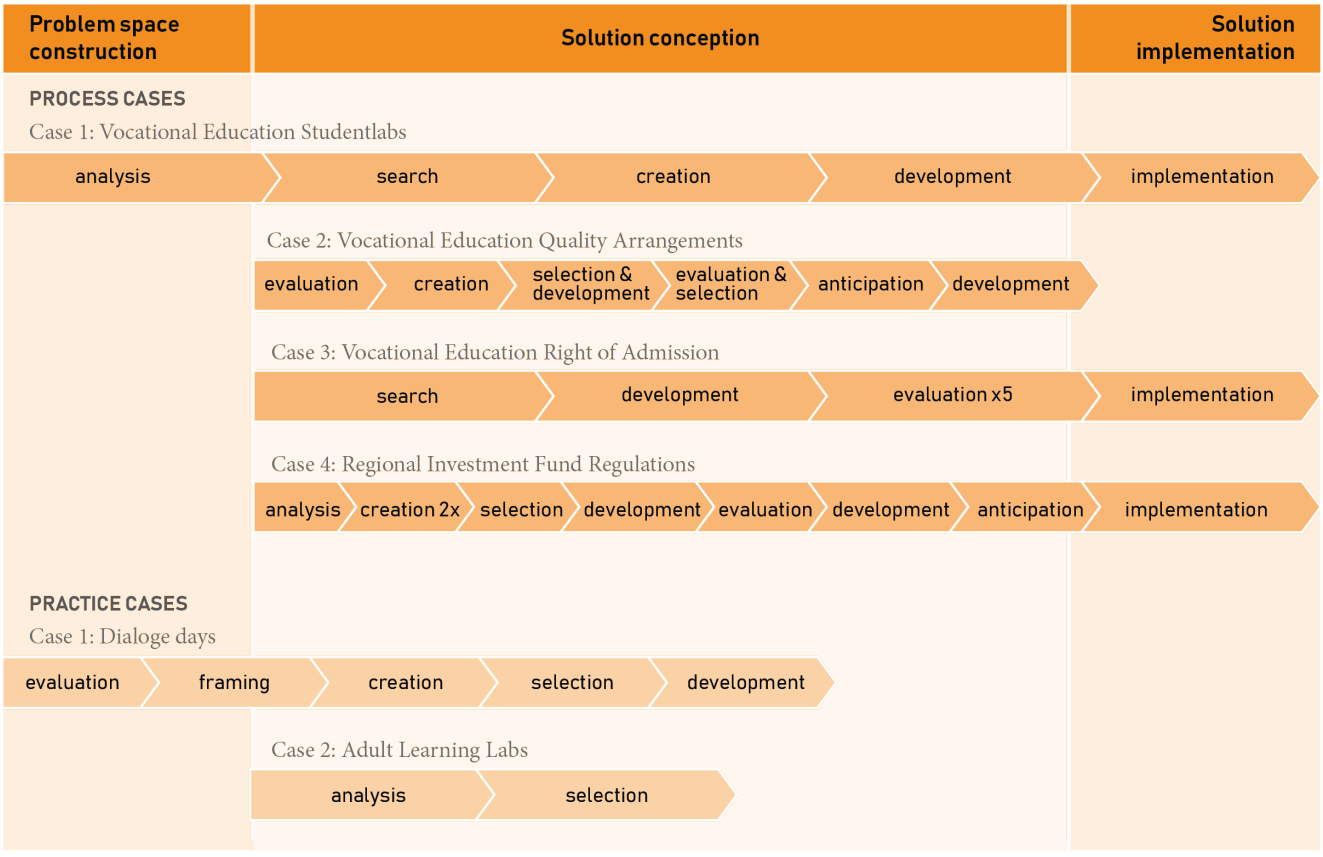


Fig. 11: A Panorama of the Case Studies

4.2.1 Problemsolving Tendencies

The panorama clearly reveals certain problemsolving tendencies. These will be elaborated on hereafter.

Emergent
Interestingly, none of the problemsolving processes has been planned out beforehand. As one of the policymakers mentioned, the process "unfolds organically" as adjustments and decisions are made along the way.

"At the front end we do think about this is roughly what the plan is going to be, the time we need to take, and the stakeholders we have to involve, etcetera. But for example, when you sit down with the stakeholders and one or several good ideas come up that take time, it may be necessary to adjust your planned time. Or adjust your plan of action entirely. Like: we did not see this at the front end. That means we have to adjust." - Policymaker 6

Sequential
As can be seen in the panorama of the different cases, policymakers predominantly operate in the solution space in most of the cases. Either the problem, the solution (direction), or both are readily defined by the legislative branch, resulting in a sequential process of problem definition and solution conception, or more interestingly, a reverse-order sequence of solution conception and problem definition.

"Oftentimes a solution is readily presented; the House of Parliament comes up with a solution like: this is what you have to do. And then you imagine the problem that belongs to it. Because ofcourse you need a problem. [...] Otherwise you don't have to change anything. So we do define the problem, but then this is after conceiving the solution." - Policymaker 3

Linear
Although in some cases certain problemsolving activities are repeated, none of the cases repeat the entire problemsolving process within the same policy cycle; the problemsolving endeavours are markedly linear.

"When you look at the way it is designed, you see it is all very linear. 'Going into the line' is a good example of the way this is even built into our language. [...] The core of many of our processes is very linear, very sequential." - Policymaker 3

Narrow
In the case studies it was found that the legislative branch can be rather deterministic in terms of defining both the problem and solution (direction). Besides this, most of the time policymaking revolves around issues of ongoing concern. In light of this, both the Vocational Education Quality Arrangements and the Regional Investment Fund Regulations show how past policies may restrain the search for alternative options. For these reasons, policymaking is oftentimes considerably narrow.

"Oftentimes you decide to go for a solution direction rather soon, rather than diverging a bit more. So from the start we are oftentimes already quite narrow. You also see this with the Regional Investment Fund Regulations. We made the choice pretty fast, like, yes it is a successful instrument, so we proceed with it." - Policymaker 4

External Engagement
External engagement, particularly with the stakeholders, is considered a crucial strategic choice in policymaking. It builds in checks and balances in the policymaking process and hereby increases the likelihood of solving the right problem in the right way. Moreover, it allows for bridge building between the policymakers and the policy implementers and thus helps gain support for the policy that is being developed. Consequently, it helps smooth the process of making policy. As such, opening up happens in

nearly all of the cases. In light of this, it should be noted that this typically entails decontextualized consultation, deliberation or cooperation sessions.

"It comes down to involving stakeholders early on in the process - so before everything is fully defined - by giving them a say, or even having them deliberate and decide. It is a form of generating support. Also, I think it increases the chances of success." - Policy Advisor

Cognitive
As can be seen, in all of the cases intervening only takes place at the end of the problemsolving process. By then, it is either decided to conduct a pilot to provide input for the next policy cycle, or to fully implement a policy. The preceding process is remarkably non-experimental; it merely entails cognitive processes such as analysis, framing, search, anticipation and evaluation.

Isolated
In none of the cases a deliberate effort to engage in contextual problem solving activities such as observation, ethnographic research, contextual interviews or experimentation was made. Cognitive, decontextualized processes of consultation, deliberation and cooperation seem to prevail. As such, policymaking predominantly entails out-of-context problemsolving activities.

4.2.2 Dominant Factors

The cases provide important insights in the dominant factors that influence the above mentioned problemsolving tendencies as well.

It was found that the extent to which political actors agree highly impacts the extent of freedom policymakers have to conduct their own problemsolving process. When there is agreement on the undesirability of a situation, yet there is no clarity on both the issue and a solution policymakers may be given tremendous freedom. Particularly the Vocational Education StudentLabs and the Dialogue Days are great examples of this. Yet, when there is little agreement, the policymaking process is severely hampered; in such cases policymakers seem to have little room to engage in any problemsolving activity, whether it be exploitative or explorative. The case of the Vocational Education Right of Admission exemplifies this very well.

Moreover, as explained above, the legislative branch seems to have a monopoly on the problem definition, and oftentimes a solution (direction) too. Besides this, past policies may further constrain the bandwidth within which policymakers operate. In addition, as can be seen in the case of the Vocational Education Right of Admission, the media can play a dominant role as well. Whenever an issue gains publicity, it can lead to a pressing call for a quick response.

For these reasons it seems as though policymakers themselves have little control of their own activities and process.

4.3 Conclusion

Although policymaking processes at the Ministry of Education, Culture and Science do possess explorative traits - as they are generally open and emergent - they mainly possess exploitative traits - as they are considerably sequential, linear, narrow, cognitive and isolated. These processes therefore allow for efficient execution, yet leave little room for learning and the simultaneous emergence of the problem representation and solution. Hence, these processes are well-suited to deal with determinate problems, yet insufficient to deal with indeterminate problems. As such, there is a considerable risk of methodological incongruence and thus unresponsive policymaking.

In light of this, the Vocational Education StudentLabs and the Dialogue Days provide intriguing examples of highly explorative ways of policymaking. Although these cases were considered exceptional by the policymakers involved, they may indicate a trend towards more explorative approaches.

Nonetheless, given the current tendencies, the repertoire of policymaking activities may be complemented with explorative practices that enable learning and the simultaneous emergence of the problem representation and solution. In light of the isolated and narrow way of problemsolving it can be argued that much can still be learned by conducting situated problemsolving activities and exploring a broader spectrum of problem and solution alternatives. Besides this, the cognitive nature of these problemsolving activities may not sufficiently enable the prediction of the intended and unintended effects of potential solutions; more practical problemsolving activities are required for this. This quite clearly implies the need for deliberate experimentation throughout the policymaking process. As explained in the previous chapter, this enables learning about the underlying mechanisms of the problem and the potential consequences of an intervention and hereby working towards a suitable solution. Moreover, it is solution-oriented (as is policymaking most of the times), yet it helps gain insights about the problem at the same time.

This being said, the concept of experimentation is nothing new. Why then, are policymaking processes predominantly sequential, linear, narrow, cognitive and isolated? Why has experimentation not yet found its way into policymaking? And what can policymakers learn from design in this respect? These questions will be addressed in the next chapter.

Note: Although other opportunities for enhancing policymaking with explorative problemsolving practices that are situated, broad or practical can be found, experimentation was found to complement current policymaking practices best as this seems to be the activity that is most perpendicular to current ways of policymaking.

5. Theoretical Springboard

The six cases studied in the previous chapter revealed how current problemsolving processes and practices are well-suited to deal with determinate problems, yet insufficient to deal with indeterminate problems. In light of this, it was argued that deliberate experimentation throughout the policymaking process is needed. This entails testing out new ideas in order to identify the underlying mechanisms of the problem, assess the consequences of an intervention, evaluate what works and hereby systematically explore the problem and solution space and work towards a suitable solution. Experimentation, however, is nothing new. As such, this raises several important questions. Why is policymaking the way it is? Why has experimentation not yet found its way into policymaking? And what can policymakers learn from design in this respect? In order to address these questions, additional research and interviews were conducted (see Appendix D). The findings thereof will be elaborated on in this chapter.

5.1 Four Perspectives on Policymaking

The case studies in the previous chapter revealed a marked tendency towards exploitative problemsolving. Moreover, it was found that policymaking is remarkably non-experimental. Although key factors influencing the problemsolving endeavours in policymaking were identified, these do not sufficiently explain why policymaking is predominantly exploitative and why experimentation has not yet found its way in policymaking. Therefore, the following section further delves into these questions from four different perspectives: the political, institutional, cultural and rational perspective (after Bekkers, Fenger & Scholten, 2017). Hereby, the empirical findings of the previous chapter will be further deepened and substantiated.

5.1.1 The Political Perspective

As has become clear, policymaking entails elaborate processes of collaboration, deliberation, consultation, negotiation, bargaining, persuasion, compromise and even conflict between different societal groups and actors within the legislative and executive branches. In order to pursue a particular interest, these groups and actors rely on one another. Consequently, networks of mutually dependent actors are formed (Bekkers, Fenger & Scholten, 2017). In turn, dominant networks will attempt to maintain a power position; so-called iron triangles are formed in which certain problem definitions and corresponding solutions in certain policy areas are monopolized (Bekkers, Fenger & Scholten, 2017), hereby hampering exploration.

Due to these iron triangles, experiments that might pose a challenge to the monopolized problem definitions and solutions have little opportunity to come into being. Instead, experiments not unusually serve to delay decision making or confirm certain ideas (Cabinet Office, 2003; Huitema et al., 2018).

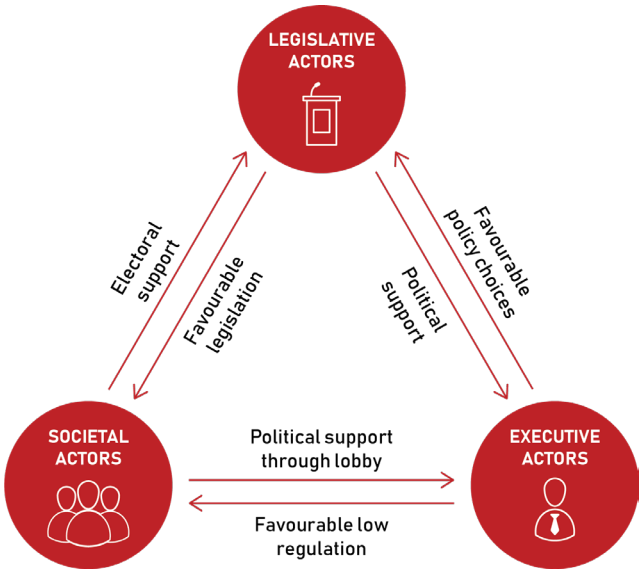


Fig. 12: Iron triangles

"So a politician analyzes a problem and wants to fix this as quickly as possible, so that they can receive credits for solving the problem and thus profit from this. By, for example, gaining more power in order to be able to realize even more of his or her brilliant ideas in the future. [...] So we never conduct a pilot from a neutral standpoint. [...] Pilots are always super thought through so we have as much confidence on the flawlessness of the pilot as possible. And the evaluation is then aimed at demonstrating the flawlessness of the pilot." - Policymaker 1

5.1.2 The Institutional Perspective

Policymaking is a result of institutionalized procedures, practices, perspectives and policies that incur all kinds of path-dependencies. First, in order to ensure stability and prevent excesses, certain regulations, instructions and procedures are put in place (Bekkers, Fenger & Scholten, 2017). Second, government organizations develop all kinds of routines in order to be able to deal with societal issues as efficiently as possible (Bekkers, Fenger & Scholten, 2017). Third, within these organizations a high degree of unison with regard to the definition and interpretation of a societal issue may establish (Bekkers, Fenger & Scholten, 2017). All of these factors can be rather deterministic in terms of both the policymaking process and outcome. As can be seen in some of the cases studied, this is exacerbated further by policies made in the past (Bekkers, Fenger & Scholten, 2017). Thereby the possibility to explore is rather limited.

Experiments too are bound by rigorous rules, terms, conditions and lengthy approval procedures in which both the approach and outcome have to be predefined to an unrealistically large extent (Kafkabrigade & ISDuurzaam, 2016). As such, promising, yet uncertain - and thus potentially risky - experiments barely make it through (van der Steen et al., 2014).

"When you live in a society in which people are afraid of making mistakes, and in which mistakes are to be prevented as much as possible, making mistakes is being ruled out with systems, regulations and laws. And then you are not experimenting anymore." - Policymaker 1

5.1.3 The Cultural Perspective

Policymaking is a result of a certain policymaking culture as well. The Dutch highly fragmented multi-party government system - typically referred to as the 'polder model' - traditionally revolves around consensus building (Andeweg & Irwin, 2014). As such, it is no surprise that most of the cases studied were opened up to external actors. This instills a high degree of legitimacy of decision making as well as continuity and stability (Andeweg & Irwin, 2014). However, it promotes the formation of the aforementioned iron triangles and results in exhaustive to-and-froing of argumentation (Andeweg & Irwin, 2014), again, hampering exploration.

Besides this, in these processes of consensus building, compromises may become built into an experiment, making it inflexible to further adjustments (Cabinet Office, 2003). Moreover, such processes typically result in an experiment of a single solution alternative, rather than several (Breckon, 2015).

5.1.4 The Rational Perspective

In light of grounding policies in solid argumentation and reasoning, policymaking endeavours are preferably as objective and rational as possible, thereby typically resulting in an exploitative policymaking process as described earlier, as this is commonly seen as the rational way of solving problems (for example, see Herweijer & Hoogerwerf, 2003). Additionally, due to bounded rationality policymakers tend to fall back on strategies of complexity reduction as well as risk avoidance; they oftentimes stick to overseeable, marginal and gradual policy adjustments (Bekkers, Fenger & Scholten, 2017). As such, policymakers have a tendency towards exploitative behaviours (Van der Steen et al., 2014).

Moreover, as policymaking endeavours are preferably as objective and rational as possible, experimentation seems to be 'stuck' in the scientific paradigm; it typically entails strict scientific approaches such as randomized controlled trials and quasi-experiments (Huitema et al., 2018). Experiments that do not fulfill the requirements of such approaches may not make it through. Moreover, these types of experiments focus on generating evidence with regard to the effectiveness of a policy. As such, these experiments need to be conducted on a sufficiently large scale and gaining results takes considerable time (Cabinet Office, 2003).

"The requirements of proper scientific research are sometimes so stringent that these experiments don't even get off the ground. And that is something we see more often. That makes it so difficult, to fulfill these basic requirements of proper research. And once you eventually have something that does so, what are you still actually measuring?" - Policymaker 3

Due to these political, institutional, cultural and rational factors policymaking can be considerably restrained, resulting in predominantly exploitative policymaking. Moreover, due to these factors experimentation mainly finds its way into policymaking considerably late in the process of development in the form of rather time-consuming, controlled and constrained scientific endeavours in which a single policy alternative is examined, mainly with the intent to delay decision making, confirm the status quo, or validate its effectiveness. As such, experiments hardly ever initiate a learning process in which they serve as the means for effecting change (Cabinet Office, 2003; Huitema et al., 2018; Kafkabrigade & ISDuurzaam, 2016). Deliberate experimentation throughout the policymaking process in order to allow for learning and the emergence of both problem representation and solution is clearly no straightforward endeavour; a different perspective on experiments may be required for this. In light of this, the role of experimentation in design will be elaborated on in the next section.

5.2 Experimentation in Design

By now it has become clear how political, institutional, cultural and rational factors considerably restrain policymaking, leaving little room for experimentation and hereby hampering learning and the simultaneous emergence of the problem representation and solution. In order to fit in experimentation at an earlier stage of policy development, a different perspective on experiments may be required. Therefore, the role of experimentation in design will be looked at in this section.

Here design refers to product design; developing courses of action required for manufacturing products. Manufacturing products generally requires large investments in terms of machinery, tooling and setting up an assembly line. In order to reduce the risk that comes with making such investments, experimentation is a key problemsolving activity in design. Such experimentation is commonly referred to as prototype testing. Below, the what, why and how of prototype testing will be elaborated on.

5.2.1 What?

Broadly stated, prototypes are preliminary representations of an idea that support communication with others and allow for testing. In light of this, Houde & Hill (1997) distinguish between ideas with regard to the role, look and feel or the implementation of a potential solution - or the integration of these. Role refers to the utility a potential solution has for the user, look and feel refers to the experience it evokes and implementation refers to the way the solution works. Sanders (2013), in turn, distinguishes between three complementary categories of prototypes: make, tell and enact prototypes. Make prototypes are physical representations of ideas. Models and maquettes are examples of this. Tell prototypes are narrative descriptions of ideas such as storytelling, storyboards and video prototypes. Enact prototypes entail bodily expressions of ideas. Roleplay and staging are typical examples of this. Furthermore, these prototypes may differ in exactness, scale (geometry or sample size) and medium (digital, physical, or a mix of both) (Camburn et al., 2017). Moreover, the ideas that are prototyped may depict an entire solution (direction) or a certain part of it (Camburn et al., 2017). As such, prototypes basically entail "anything tangible that lets [designers] explore an idea, evaluate it, and push it forward" (Brown, 2009, p. 92). Several examples of prototypes are given on the next page.

5.2.2 Why?

Prototype testing is done for three different purposes: discovery, improvement and validation (after Haenlein, 2007). Discovery revolves around gaining new insights about both the problem and solution space (Beaudouin-Lafon & Mackay, 2009). Improvement revolves around gaining additional insights about a certain solution direction (Camburn et al., 2017). Validation, in turn, entails further optimizing and verifying a final solution (Hallgrimson, 2012). As such, discovery typically precedes improvement, which, in turn, precedes validation; the different purposes can be seen as progressive stages of prototype testing (Haenlein, 2007).

Fig. 13: A storyboard prototype

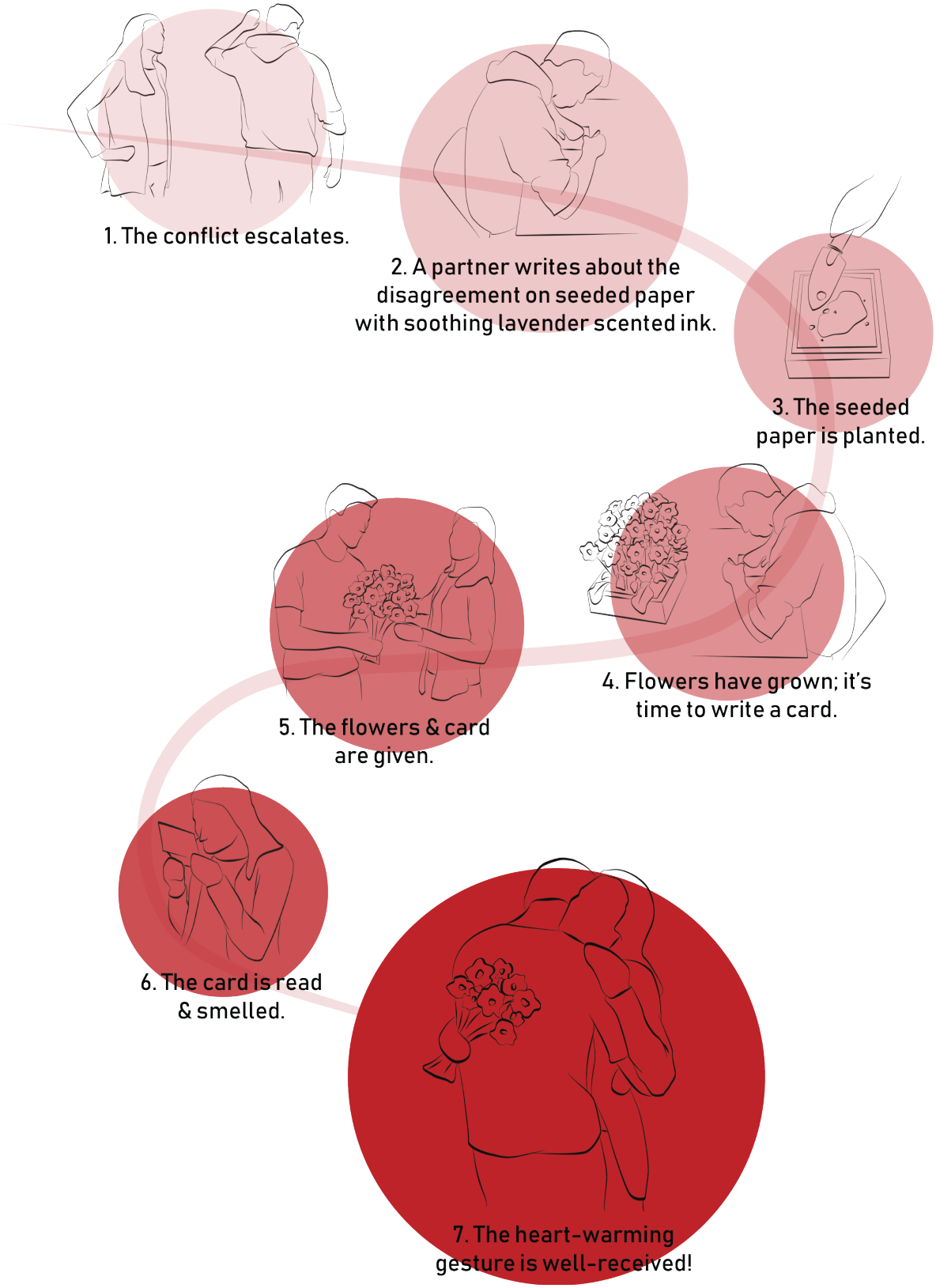


Fig. 14: A physical model

Fig. 15: A roleplay prototype

5.2.3 How?

Any prototype testing effort starts off with identifying critical questions and knowledge gaps (Elverum et al., 2016). According to this, the prototyping purpose can be defined; discovery is the most suitable starting point when little knowledge is available, whereas validation may be a sensible starting point when sufficient knowledge is available (Elverum et al., 2016). As can be seen, these different purposes nicely tie in with earlier notions of exploration and exploitation; methodological congruence applies to prototype testing as well. In turn, the defined purpose further determines the choices - strategies if you will - that are made with regard to the prototype as well as the way prototype testing is conducted.

For the purpose of discovery, it is most fruitful to test multiple prototypes representing multiple different options in parallel (Hallgrimson, 2012). Rough prototypes are oftentimes both sufficient and efficient means for this (Brown, 2009). Due to insufficiency of knowledge, failure is likely to occur at the stage of discovery. However, as IDEO's famous catchphrase states: "Fail early to succeed sooner." (Brown, 2009, p. 17), allowing failure to happen is crucial as it provides an opportunity for learning (Hallgrimson, 2012). Hence, testing needs to be done on a small scale in a 'safe to fail' environment in order to minimize and contain potential adverse consequences of a failure (Snowden & Boone, 2007). During this stage, so-called formative testing is most suitable. This entails qualitative forms of testing with few participants that allow for quickly spotting mistakes and points of improvement and hereby moving forward (Lazar, Feng & Hochheiser, 2010).

For the purpose of improvement sequential, progressive testing of certain options is most suitable (Camburn et al., 2017). The exactness of the prototype progressively advances according to the insights gained (Hallgrimson, 2012). At a certain point, the prototype needs to be tested in a realistic environment in order to further enhance

accuracy (Camburn et al., 2017). Formative testing is still the predominant way of gaining insights, yet summative testing may also become useful. Summative testing entails quantitative forms of testing with larger sample groups in order to evaluate the effectiveness of certain design choices according to predefined criteria (Lazar, Feng & Hochheiser, 2010; Tullis, Albert & Albert, 2013).

For the purpose of validation, a 'final', exact solution should be tested in a realistic environment at sufficient scale in order to confirm that it meets the design requirements; "by this time you know you have a good idea; you just don't yet know how good it is" (Brown, 2009, p. 107). At this point, validation testing is the preferred option. Validation testing entails testing a design against a certain benchmark (Lazar, Feng & Hochheiser, 2010). A benchmark, however, may not always be available. In these cases, summative testing is a suitable alternative.

More generally, it is self-evident that the most suitable medium for prototype testing needs to be chosen. Besides this, parts of a solution are best tested in isolation before integrating them (Christie et al., 2012). This allows for focused, in depth examination (Camburn et al., 2017).

As can be seen, prototype testing entails a deliberate, systematic approach that serves to inform decision making in many different ways; it helps educate guesses early on in the process, while it serves to make evidence-based decisions near the end. Through the different stages of discovery, improvement and validation, intermediate feedback about potential solutions is gained throughout the problemsolving process, hereby allowing for continuous learning and the emergence of both problem and solution in progressive iterative cycles of prototyping, testing and refinement.

In light of this, it should be noted that experimentation as such does require a particular disposition. It requires the willingness to spend some time with ideas - even the silly, aberrant and unconventional ones - before discarding them. Moreover, it implies taking decisions, becoming concrete and, especially in the early stages, going with intuition. Additionally, it may entail making mistakes, learning and having to change course accordingly. The extent to which the context and dynamics of problemsolving allow for this clearly affects the extent to which prototype testing as such may or may not fit into the problemsolving process.

5.3 Conclusion

The contrast between experimentation in policymaking and experimentation in design is summarized in the graph below (after Haenlein, 2007). As can be seen, experimentation in policymaking serves mainly one purpose: validation at the end of the problemsolving process. In design, however, validation is preceded with experimentation for discovery and improvement. These particular experiments enable learning and the emergence of both problem and solution in a progressive iterative manner. Currently, this is lacking in policymaking.

The political, institutional, cultural and rational factors as described earlier help explain why this is the case; the exploitative tendencies in policymaking, and more particularly experimentation, are clearly symptomatic of these factors. Nonetheless, the potential risk and costs of failure when implementing an experiment - let alone an entire policy - at the end of a problemsolving process without preceding experimentation clearly outweigh the potential risk and costs of failure of a small scale experiment at an earlier stage. It is therefore worthwhile to find a way to apply the design guidelines for experimentation in policymaking. In order to do so, an empirical study was conducted, as will be described in the next chapter.

Note: Although the way designers utilize prototypes to support communication may be helpful in policymaking as well, the design guidelines for prototype testing were particularly found helpful in light of the need for more situated, broad and practical problemsolving activities in policymaking.

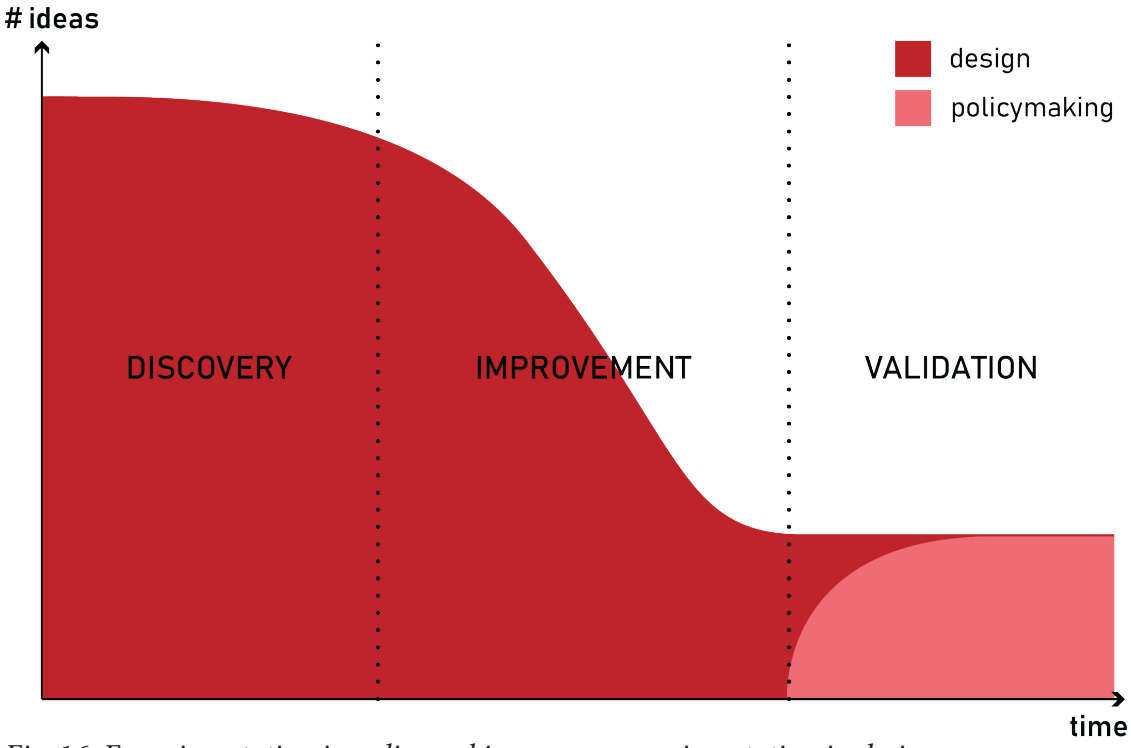


Fig. 16: Experimentation in policymaking versus experimentation in design

6. Practical Deepdive

In the last two chapters it has become clear how policymaking processes and practices, and particularly experimentation, are predominantly exploitative due to a combination of political, institutional, cultural and rational factors. As such, there is a stark contrast between experimentation in policymaking and experimentation in design. As opposed to policymaking, in which an experiment is typically the final piece of the problemsolving process, in design, several 'safe to fail' experiments for discovery serve as points of departure, initiating a progressive iterative process of working towards a solution. Such a systematic, deliberate way of experimentation may be helpful in policymaking as well. In order to find ways of doing so, an empirical study was conducted. The empirical study entailed a nine month ethnographic study as well as a four month experimental study (for a comprehensive description of these studies, refer to Appendices E and F). This chapter first elaborates on the ethnographic study. Subsequently, the experimental study will be described.

6.1 Ethnographic Study

The ethnographic study will be described below. A more elaborate description can be found in Appendix E.

6.1.1 Research Description

The goal of this study was to complement theoretical findings with empirical knowledge about day-to-day policymaking endeavours. In light of this goal, the following research questions were formulated:

1. How do policies actually come into being?

2. To what extent do these day-to-day policymaking endeavours lend themselves for applying design strategies for experimentation in policymaking?

In order to address the research questions, an ethnographic study was conducted at the Ministry of Education, Culture and Science. This study revolved around gaining practical experience and making observations while engaging in day-to-day policymaking endeavours.

6.1.2 Findings

The ethnographic study provides a comprehensive view on the perspectives on experimentation in both the legislative and executive branch as well as the dynamics of day-to-day policymaking endeavours. These findings are described below.

6.1.2.1 Perspectives on Experimentation

In policymaking, experimentation is associated with political risk. This risk is threefold. First, by conducting early experiments, politicians put themselves in a vulnerable position of not knowing. Second, failure lies at bay. Third, unexpected insights gained from experiments may bring forth an entirely different, politically undesirable problem or solution (direction). However, in a political context with fierce competition amongst politicians, the role of the media, as well as high expectations of citizens, there is little place for vulnerability, failure, or a change of course. Hence, politicians will think twice about approving an experimental approach.

"The risk is always that the original problem definition may prove to be different in practice. A politician has a certain conception of reality that may sometimes not be in line with actual reality. So then it depends on whether the politician is prepared to solve a different problem. And this may not be the case." - Policymaker 1

Moreover, it was found that amongst policymakers there exists a strong sense of moral responsibility; experiments should be conducted in a carefully thought through, just manner in which public money is spent well, potentially adverse consequences are banned out, and (non-) experimental groups are fairly appointed. As such, policymakers themselves are - rightfully so - very cautious about experimentation too.

6.1.2.2 Policymaking Dynamics

Throughout the ethnographic study it was found that policymaking predominantly entails deliberation (hence the remark made at the end of chapter four, saying that experimentation seems to be the activity that is most perpendicular to current ways of policymaking). Saying this might not be very mind blowing yet the imperative of this is vastly underestimated. Getting things done in policymaking necessitates the support, approval

and potentially the activation of other parties with divergent interests and perspectives. This requires building trust, managing expectations, cultivating engagement and meeting both individual and collective interests. The relative positioning between these parties in terms of (perceived) hierarchy, authority and power complicate these processes substantially. Hence, extensive processes of careful deliberation are simply necessary. However, the consequences this has on policymaking are tremendous.

Deliberative processes propagate self-sustaining relationships

Through deliberative processes, parties become invested and reciprocal relationships are established. Consequently, parting ways becomes mutually detrimental and is thus avoided. As a result, invariably the same parties expressing the same viewpoints appear to the table. Throughout the policymaking process that was followed, this self-sustaining pattern became markedly visible. On the one hand, this saves time and ensures continuity. On the other hand, it stands in the way of different perspectives, initiatives and approaches.

"When we decide to engage with external parties, especially when it involves money, it is very nice if this can be done through an established party. We know them, we trust them, this makes it much easier. [...] And this is certainly not just the case with low literacy. This happens across the board." - Policymaker 5

Deliberation is strategic

In order to navigate through the political landscape of hierarchy, authority, power and reciprocal relationships, it was found that certain deliberative strategies are calculatingly employed by policymakers. These strategies revolve around the form, content and timing of communication. Form entails choosing the right frame and tone of voice. In order to generate a shared understanding and orientation towards an issue, an appealing frame that is communicated in a way that resonates with the different actors was found to be given careful attention. Content and timing revolves around when and to what extent all cards are laid on the table. In light of this it was found that this is typically delayed considerably; intended solutions and measures are kept abstract and decision making is postponed in order to keep everyone on board throughout the process. Although these strategies support the necessary deliberative processes, they also hamper progress; the discussions that were held throughout the policymaking process (both internally and externally) remained strikingly similar for long periods of time.

Deliberation entails everything

Since deliberation with relevant parties is such an important part of policymaking, substantial professional deformation occurs. From the type of sandwiches that needs to be ordered for a stakeholder session to the particular wording in a certain sentence in the appendix of a letter to parliament - everything is deliberated on. Hence, the way the process unfolds and the steps that are taken are also a matter of extensive deliberation; the decisions that are made become the result of logic with a considerable dose of rhetoric and group think. Consequently, aberrant viewpoints, ideas or approaches are almost inevitably nipped in the bud.

6.1.3 Conclusion

Due to the perspectives on experimentation in both the legislative branch and the executive branch, only rarely a window of opportunity is open for conducting experiments in a more designerly manner. Moreover, as explained in the previous chapter, this requires the willingness to spend some time with ideas, it implies taking decisions, becoming concrete and going with intuition, and it may entail making mistakes, learning and having to change course. Yet, in policymaking abberrant ideas are nipped in the bud, taking decisions is postponed, intended solutions and measures are kept abstract, there is hardly any room for intuition and making mistakes, and learning and having to change course are seen as politically risky. Clearly, the context and dynamics of policymaking are not lenient towards this particular way of experimenting.

Based on these findings as well as earlier findings of the theoretical framework and case studies, it can be argued that the context and dynamics required for this way of experimenting may only be found outside of the political system; early, 'safe to fail' experiments for discovery may be conducted most effectively and efficiently by policy implementers themselves - that are given sufficient discretion - rather than policymakers. In order to see how this can be done, an experimental study was conducted as will be described in the section hereafter.

6.2 Experimental Study

The experimental study will be described below. A more elaborate description can be found in Appendix F.

6.2.1 Research Description

The goal of this experiment was to find out how policy implementers may conduct experiments for discovery in order to inform policymaking. As such, the following research question was formulated.

1. How can experiments for discovery be conducted by policy implementers?

In order to address the research question a project was initiated around finding ways to involve sports clubs in tackling low literacy. Low literates find different ways to cope, they are supported by the people surrounding them, and they are ashamed or unmotivated to improve a skill that is considered mundane. As such, low literacy is 'hard to track'. Particularly for the group of people with Dutch as their first language this is the case. For this group of people, factors such as shame, and negative experiences with education play a dominant role. Hence, although approximately 65% of the low literates in The Netherlands have Dutch as their first language (PIAAC, 2012), only around 10-20% of the people taking part in literacy education belong to this group (based on Algemene Rekenkamer, 2016; de Greef, 2018); there is a clear imbalance. As such, the collaborating ministries of Tel mee met Taal are looking for new ways of finding, referring and supporting low literates, and more particularly the group of people with Dutch as their first language.

The following canals through which this can be done have been identified: corporates, libraries, schools, educational centra, recreative associations and digital media (ECBO, 2011). Currently, mainly corporates, libraries, schools and educational centra are actively involved in this. Besides this, plans of utilizing digital media are being made. With regard to recreative associations, however, not much is known or being done. Since recreative associations play an entirely different role in people's lives as opposed to corporates, libraries, schools and educational centra they may provide a less intimidating environment for low literates, social support may be stronger, and there are opportunities for 'camouflage' (first-aid or bartending) courses or an entirely different approach. Therefore, finding ways to involve recreative associations in finding, referring or supporting low literates was found a suitable case to further explore how experiments for discovery can be conducted by local implementing actors. Within this direction, sports clubs were taken as the main focus.

"We have had many professionals. Many finding places. But within sports, where the target group must definitely be, we still don't have any contacts and we have never explored whether or not something might be possible there." - Contact from Stichting Lezen & Schrijven (Foundation for Reading & Writing)

6.2.2 Study Description

As explained, the project revolved around finding ways to involve sports clubs in tackling low literacy. The idea was to do this according to the design strategies for experimentation. In light of this an initial plan was made accordingly (see Appendix F). It included having sports clubs conduct early, small scale, 'safe to fail' experiments. According to this, further steps were to be made. However, despite the plan, no 'real' experiments were conducted. The actual process turned out to be strikingly different (see Appendix F). In fact, the actual process very much resembled a regular policymaking process; it mainly revolved around organising focus groups and brainstorm sessions and conducting interviews and observations, as will be described below.

Process

The project consisted of four phases: initiation, problem space construction, solution conception, and further development of both the problem space and solution. Each phase will be described here.

Phase 1: Initiation

The project started off with conducting desk research in order to gain some first insights and generate some initial ideas for 'safe to fail' experiments. These ideas entailed:

- Sending a reminder to members to pay their membership fees, including an invitation for payment support.

- Organising an open club day with a helpdesk for becoming a member.

- Setting up an information point during match day.

- Sending a Whatsapp message to Whatsapp groups requesting for a reply if the phone number is still correct.

While conducting the research, it was found that this topic was recently put on the agenda by the municipality of Rotterdam. Organisations and municipal civil servants that were involved were contacted accordingly. Moreover, since football is the most popular sport in The Netherlands, five football clubs within the municipality of Rotterdam were contacted as well.

Eventually, only one organisation - Rotterdam Sportsupport - was willing to discuss possibilities with regard to the project. In deliberation with them it was found that conducting a focus group with several chairmen of sports clubs would be a suitable first step. The focus group would then serve to gain more insights about the problem from the perspective of sports clubs, discuss and generate initial ideas and at the same time gain buy-in to conduct experiments.

Phase 2: Problem space construction

As agreed upon, a focus group was conducted with four chairmen of sports clubs (names provided by Rotterdam Sportsupport), a representative of Rotterdam Sportsupport, and a contact of Stichting Lezen & Schrijven (Foundation of Reading & Writing) (brought in by Rotterdam Sportsupport).

During the focus group different aspects of the problem were discussed. It turned out that few sports clubs were aware of low literacy. Nonetheless, all of the chairmen were able to distinguish potential signals of low literacy at their club, such as being hard to reach via (e-)mail or Whatsapp groups and coming up with typical excuses ("I will have my son look at it", "I will take a look at it at home"). As such, they did recognize a potential role of signalling low literacy.

Moreover, most sports clubs were motivated to play a societal role besides facilitating sports activities; some of the chairmen talked vividly about societal initiatives taking place at their club. One gave Dutch language classes to middle-aged women with a migration background, another

Fig. 17: Focus group with chairmen of sports clubs

gave all kinds of homework and exam preparation classes, while yet another gave kickboxing classes to intellectually challenged children; it appeared that they were quite open towards new initiatives.

Nonetheless, throughout the session it became clear that the ideas that were generated in the first phase were not suitable for initial experimentation. Besides this, the sports clubs did not find low literacy problematic; most of the issues potentially caused by low literacy were already sufficiently dealt with. As such, sports clubs had no direct interest in playing a part in tackling low literacy. Additionally, several chairmen expressed discontent about their past experiences of working with governments. For these reasons, the chairmen that were present were a bit reluctant about conducting experiments at their sports club.

"Actually it comes down to the government making the policy - in our case oftentimes the municipality - and we are just the executing party. We always get the tasks: we have to do this, we have to do that. What you just said, people have to eat healthy food, they have to sport, they have to move, etcetera. And eventually we are the ones that have to do something about it. And that is, I think, a bit too much." - Chairman of a korfball club

All in all, the focus group helped gain a much better perspective on the interests of sports clubs. However, in order to come up with ideas that were a better fit, a more comprehensive view on the different interests of potential stakeholders as well as the context of implementation was needed. As such, it was decided to conduct additional research. This entailed conducting a focus group with a hockey team, interviews with a trainer, coach and volunteer, and observation of a class of the Healthy Language Table - the Dutch language class to middle-aged women with a migration background. This research helped gain a comprehensive view on the different interests of the potential stakeholders.

Phase 3: Solution conception

Since sports clubs did not have a direct interest in playing a part in tackling low literacy, it was found that more creative solutions or a reframing of the problem was required. In light of this a creative session was organised. During the creative session a representative of Rotterdam Sportsupport, two professionals from Stichting Lezen & Schrijven, two members of the team of Tel mee met Taal, two designers and a psychologist took part.

First, the participants were asked to come up with overarching themes based on the different perspectives as identified earlier. In turn, based on these themes, they were instructed to generate ideas. After several rounds of brainwriting, a wide diversity of ideas were generated. Based on this, several ideas were selected and evaluated.

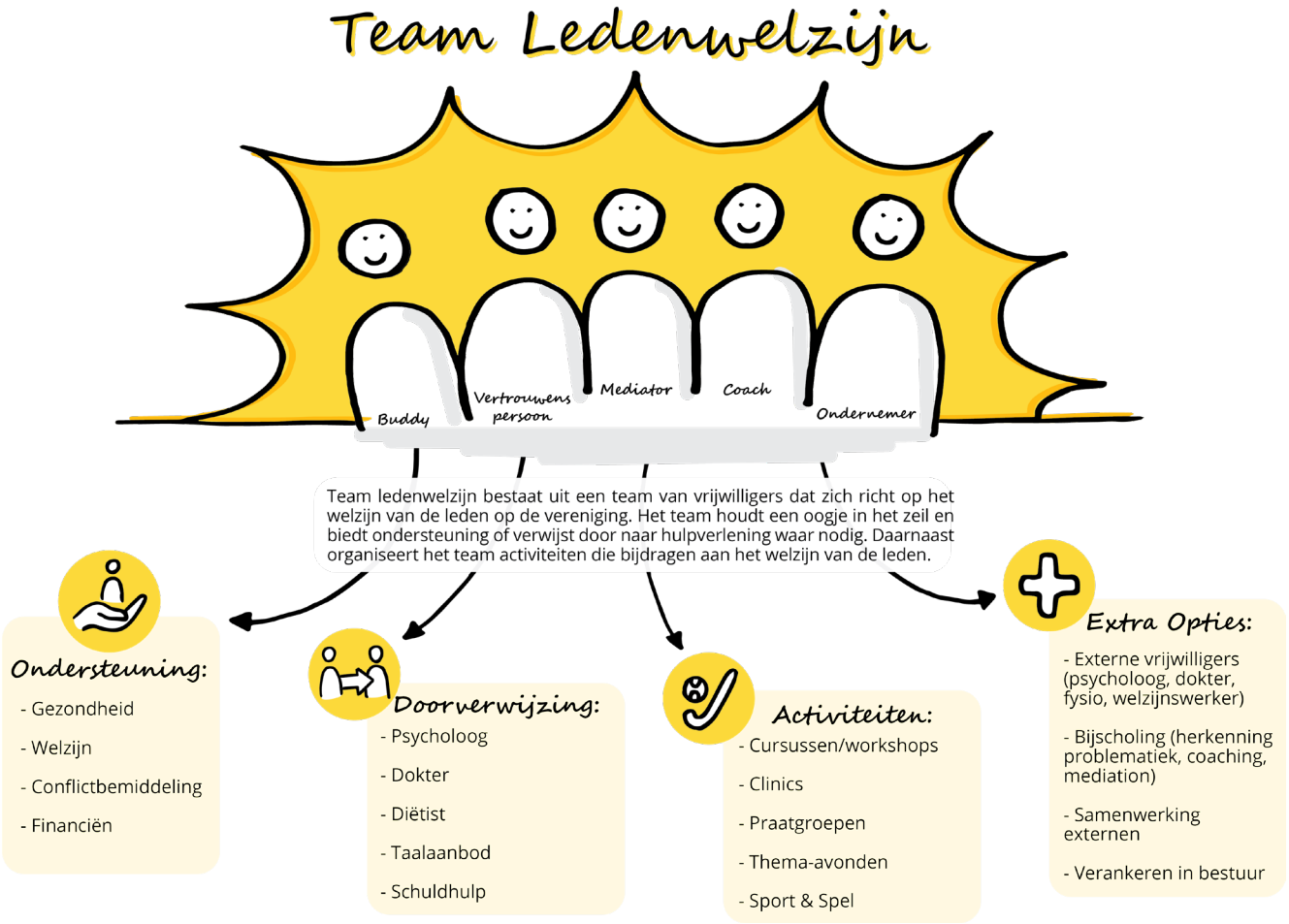
Fig. 18: Creative session - reframing the problem

After the session these ideas were inventorized, clustered and combined in order to come up with three concept solutions (see images below): team wellbeing (like a party committee, but a wellbeing committee instead), a membership intake and sports clubs united (a partnership between local sportsclubs). Each idea focused on something relevant for sports clubs, while at the same time creating an opportunity to tackle low literacy. The membership intake, for example, may help improve membership engagement while at the same time help gain a better view on the personal situation of members. Team wellbeing, in turn, revolves around improving membership wellbeing, yet at the same time, low literacy may underlie many wellbeing issues. Moreover, sports clubs united may come with benefits such as shared facilities, volunteers and courses while it also puts them in a better position to play a societal role.

Phase 4: Problem space construction & solution conception

Rough design prototypes (sketches and storyboards) were made of these concepts in order to conduct formative tests with several chairmen of sports clubs. These prototypes clearly served a communicative purpose by sparking lively conversations with the chairmen. As such, much was learned about both the problem and solution. Nonetheless, these prototypes still did not generate buy-in; the sports clubs expressed that they lacked resources in terms of capital and manpower, solutions had become so 'big' that additional support from external parties was required and they were hoping for a fully fleshed out plan. At this point, the project came to an end due to time constraints.

Fig. 19: Concept 1: Team Membership Wellbeing



Lidmaatschapsovereenkomst

Wat voor mensen haal je eigenlijk binnen als vereniging? Wat voor beroep doen zij? Waarom worden ze lid? Wat kunnen ze voor de vereniging en elkaar betekenen? Hoe kunnen en willen leden zich ontwikkelen binnen de vereniging? Hoe kan de vereniging hierin ondersteunen? Het doen van een intake - in plaats van het invullen van een inschrijfformulier - kan hierbij helpen.

1. Intake

Aankomende leden melden zich aan en voeren een intakegesprek om lid te worden.

2. Overeenkomst

Tijdens de intake wordt besproken wat het aankomend lid en de vereniging voor elkaar kunnen betekenen en op basis hiervan wordt een overeenkomst opgesteld.

Extra opties:

- Loopbaanplan:
  - Sportondersteuning
  - Sociaal
  - Gezondheid
  - Sportprestaties
- Korting/afkopen lidmaatschap met vrijwilligerswerk.
- Begeleiding/ondersteuning op maat
- Peergroups
- Doorverwijzing
- ClubCV opbouwen

3. Evaluatie

Gedurende het seizoen wordt samen met het lid besproken hoe het bevalt.

4. Betrokken Lid

Door regelmatig in gesprek te gaan met de leden krijgt de vereniging de leden beter in beeld, is helder wat de leden willen, en ontstaat een betere binding tussen leden en de vereniging.

Fig. 20: Concept 2: Membership Intake

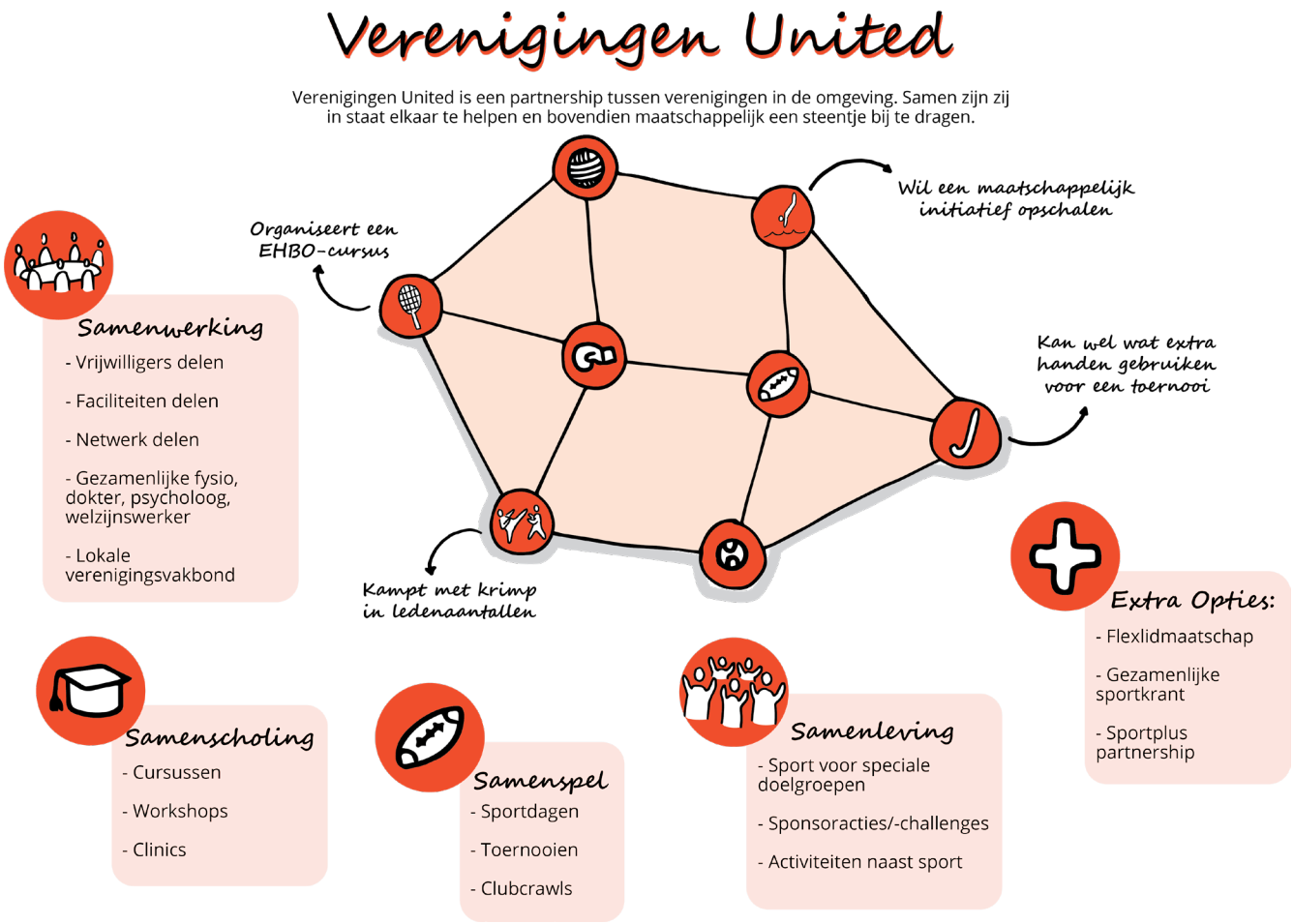


Fig. 21: Concept 3: Sports Clubs United

6.2.3 Findings

Although no 'real' experiments were conducted, much was learned about having local implementing actors conduct 'safe to fail' experiments.

Commitment, Capacity and Capability

In order to have sports clubs conduct 'safe to fail' experiments, they had to be activated in some way. As described, this was not particularly straightforward; factors with regard to the commitment, capacity and capability of sports clubs in order to conduct these experiments stood in the way of doing so.

With regard to commitment, it was found that sports clubs were unaware of the problem, they did not find low literacy problematic, did not have a particularly favourable attitude towards government, felt that dealing with low literacy was beyond their capabilities, were sceptical of being able to help low literates, and did not see much gain in conducting experiments. Nonetheless, they did recognize a potential role of signalling low literacy. Moreover, they were motivated to play a societal role besides facilitating sport activities. As they were somewhat open towards new initiatives. All in all it was found that the commitment of sports clubs to conduct 'safe to fail' experiments was quite low.

With regard to capacity, it was found that sports clubs had little resources in terms of capital and manpower, they felt that additional support and expertise from other organisations was necessary, and considerable organisation was required in order to get the experiments off the ground. Nonetheless, the sports clubs had access to the context and target group and were not constrained by a 'controlling' governmental body or any policy regarding this matter. For these reasons, it was found that the capacity of sports clubs to conduct 'safe to fail' experiments was quite low as well.

With regard to capability, it was found that sports clubs had little experience in coming up with, setting up and conducting 'safe to fail' experiments. As such, the capability was low too.

Strategies to Initiate Experiments
Since the commitment, capacity and capability of sports clubs were quite low, it was found that considerable effort had to be made to have sports clubs even consider conducting 'safe to fail' experiments. Additional research was required in order to get a more comprehensive view on the different interests of potential stakeholders as well as the context if implementation. In turn, according to the insights gained from the research, the problem had to be reframed. Based on this reframing of the problem, new ideas had to be generated that could potentially serve the interests of sports clubs, while at the same time create an opportunity for tackling low literacy. Meanwhile, trust had to be built and engagement had to be cultivated. Clearly, the low commitment, capacity and capability called for certain strategies and capabilities in order to generate the necessary momentum to get 'safe to fail' experiments off the ground.

Perspectives on Experimentation
Potential implementing actors obviously also have their own perspective on experimentation. Although locally, outside of the political system a 'safe to fail' environment for experimentation for policymaking can be found, experiments may not be 'safe to fail' for the implementing actors. As such, rough plans did not generate buy-in; fully fleshed out plans are preferred.

Establishment of Reciprocal Relations
As explained, Rotterdam Sportsupport provided a way into the sports clubs by serving as a mediating partner. In turn, Rotterdam Sportsupport became involved in the entire project. This was also the case for the chairmen of sports clubs; the ones that were willing to take part in the focus group became the go-to contacts throughout the project. In light of this, it was also intriguing to notice how established actors from Stichting Lezen & Schrijven became involved early on as well. The formation of a network of mutually dependent actors seemed to happen naturally and inevitably.

Learning from Local Initiatives
During the experiment it became clear that many unnoticed local initiatives related to low literacy - or language in general - are already taking place. These initiatives may provide policymakers with valuable lessons.

6.3 Conclusion

As concluded after the ethnographic study, early, 'safe to fail' experiments for discovery may be conducted most effectively and efficiently by policy implementers that are given sufficient discretion. Although during this experimental study no 'real' experiments were conducted, much was still learned. The experimental study clearly showed that these experiments cannot simply be delegated; when the commitment, capacity and capability of policy implementers to conduct 'safe to fail' experiments are low, certain strategies and capabilities are necessary in order to generate the necessary momentum. As can be seen, this adds another dimension to experimentation that is not found in design (in which the experiment is conducted by the designer); it requires taking into account the commitment, capacity and capability of the implementing actor, and responding accordingly. In order to enable policymakers to do so, guidelines were developed. These guidelines will be elaborated on in the next chapter.

7. Returning to the Surface

In the previous two chapters it became clear how little room there is to conduct 'safe to fail' experiments in policymaking according to the strategies employed in design. Both hard factors, such as the organization of the system and institutionalized rules and regulations, and soft factors, such as the organizational culture and the dynamics of deliberation, stand in the way of experimentation. As such, 'safe to fail' experiments may be conducted most effectively and efficiently by policy implementers that are given sufficient discretion. This, however, requires taking into account the commitment, capacity and capability of implementing actors and responding accordingly. In order to enable policymakers to do so, guidelines were developed. These guidelines will be elaborated on in this chapter (for a comprehensive description of the design process refer to Appendix G).

7.1 Guideline Elaboration

Once a decision has been made to have policy implementers conduct 'safe to fail' experiments, the commitment, capacity and capability of these actors need to be gauged first. According to this, a suitable response of government can be determined. In turn, the necessary arrangements need to be made. Hence, the means to gauge the commitment, capacity and capability, determine a suitable response and make the necessary arrangements that are required in order to enable policymakers to ensure the prerequisites of having policy implementers conduct 'safe to fail' experiments are met. Based on earlier findings as well as additional research these means will be further elaborated and developed here.

7.1.1 Gauging Commitment, Capacity and Capability

As was found in the experimental study, the commitment, capacity and capability of the policy implementer were determined by certain factors. Hence, in order to gauge the the commitment, capacity and capability, an assessment of these factors needs to be made. For each factor, certain indicators can be identified that help in doing so. The factors and indicators for gauging the commitment, capacity and capability will be described here.

Commitment

With regard to commitment, it was found that sports clubs were unaware of the problem, they did not find low literacy problematic, did not have a particularly favourable attitude towards government, felt that dealing with low literacy was beyond their capabilities, were sceptical of being able to help low literates, and did not see much gain in conducting experiments. Nonetheless, they did recognize a potential role of signalling low literacy. Moreover, they were motivated to play a societal role besides facilitating sport activities. As such, they were somewhat open towards new initiatives. Accordingly, the following factors with regard to the commitment to conduct 'safe to fail' experiments can be identified: awareness of the problem, recognition of role, perceived impact, expected gain, orientation towards the problem, altruism, openness towards initiatives, strength of the relationship with government and self-efficacy. Based on earlier findings, certain indicators can be identified that help assess these different factors. This is depicted in the schematic overview on the next page.

ASSESSMENT	Lowest	Low	Medium	High	Highest
COMMITMENT					
Awareness of problem: the extent to which the implementing actor is aware of the problem.	Is not aware of problem at all	Has heard of problem	Recognizes problem	Has experienced problem first hand	Has notified others of problem
Recognition of role: the extent to which the implementing actor recognizes a role in (solving) the problem.	Does not see a role	Sees minor role	Recognizes supportive role	Acknowledges key role	Claims responsibility
Perceived impact: the extent to which the implementing actor feels conducting a 'safe to fail' experiment contributes to solving the problem.	Is sceptical of potential impact	Doubts potential impact	Recognizes moderate potential impact	Acknowledges considerable potential impact	Anticipates major potential impact
Expected gain: the extent to which the implementing actor sees benefits for self of conducting 'safe to fail' experiments.	Anticipates losses	Cannot identify any benefit	Recognizes some potential benefits	Acknowledges considerable potential benefits	Anticipates major potential benefits
Orientation towards problem: the extent to which the implementing actor is inclined to act on the problem.	Is not inclined to act on the problem at all	Has more pressing issues to deal with	Has put issue on the agenda	Has made plans to act on the problem	Is already acting on the problem
Altruism: the extent to which the implementing actor is inclined to engage in initiatives that extend beyond self-interest.	Focused solely on individual interest	Only willing to contribute to collective interest if it serves individual interest	Willing to contribute to collective interest while serving individual interest	Willing to contribute to collective interest selflessly	Looking for ways to contribute to collective interest selflessly
Openness towards initiatives: the extent to which the implementing actor is open towards initiatives.	Is not open towards initiatives	Can be persuaded into discussing possibilities	Is open to discuss possibilities	Seeks out for initiatives	Has set up initiatives
Strength of relationship: the extent to which the implementing actor and the government body have established a mutually beneficial relationship.	Relationship is antagonistic	No relationship has been established yet	Relationship is impartial	Relationship is trustful	Relationship is mutually beneficial
Self-efficacy: the extent to which the implementing actor feels capable of conducting 'safe to fail' experiments.	Expresses being totally incapable	Expresses being inadequately capable	Expresses being partially capable	Expresses being fully capable	Expresses being proficient

Fig. 22: Indicators for assessing commitment

Capacity

With regard to capacity, it was found that sports clubs had little resources in terms of capital and manpower, they felt that additional support and expertise from other organisations was necessary, and considerable organisation was required in order to get the experiments off the ground. Nonetheless, the sports clubs had access to the context and target group and were not constrained by a 'controlling' governmental body or any policy regarding this matter. Accordingly, the following factors with regard to the capacity to conduct 'safe to fail' experiments can be identified: personnel, capital, facilities, time, knowledge, access to a network of potentially relevant partners, access to the context, access to the target group, control and flexibility. Again, certain indicators can be identified that help assess these different factors. This is depicted in the schematic overview on the next page.

ASSESSMENT	Lowest	Low	Medium	High	Highest
CAPACITY					
Personnel: the extent to which the implementing actor has sufficient human resources in order to conduct experiments.	Has insufficient personnel for core activities	Only has sufficient personnel for core activities	Has limited personnel for experiments	Has sufficient personnel for experiments	Is overstaffed
Capital: the extent to which the implementing actor has sufficient capital in order to conduct experiments.	Has a debt	Only has sufficient budget for core activities	Has limited budget for experiments	Has sufficient budget for experiments	Has excess budget
Facilities: the extent to which the implementing actor has sufficient facilities in order to conduct experiments.	Has to rent/borrow facilities for core activities	Only has sufficient facilities for core activities	Has limited facilities for experiments	Has sufficient facilities for experiments	Has excess facilities
Time: the extent to which the implementing actor has sufficient time in order to come up with, plan and conduct experiments.	Has insufficient time for core activities	Only has time for core activities	Has limited time for experiments	Has sufficient time for experiments	Has plenty of time for experiments
Knowledge: the extent to which the implementing actor has sufficient knowledge about the problem.	Has no knowledge about the problem	Has limited knowledge about the problem	Has some knowledge about the problem	Has sufficient knowledge about the problem	Has plenty of knowledge about the problem
Network: the extent to which the implementing actor has connections with relevant partners to conduct experiments.	Has not established connections with relevant partners	Has established few connections with relevant partners	Has established some connections with relevant partners	Has established sufficient connections with relevant partners	Has established a network with relevant partners
Context: the extent to which the implementing actor has access to the context in order to conduct experiments.	Has no access to context	Has limited access to context	Has some access to context	Has sufficient access to context	Has complete access to context
Target group: the extent to which the implementing actor has access to the the target group in order to conduct experiments.	Never gets to interact with target group	Rarely gets to interact with target group	Occasionally interacts with target group	Regularly interacts with target group	Frequently interacts with target group
Control: the extent to which the implementing actor is able to plan and conduct experiments according to own judgement.	Has to comply to predefined experiment	Has to comply to predefined experimental process	Can be co-producer of experiment	Can be given the lead in conducting experiment	Can be given the lead in conducting experiment
Flexibility: the extent to which the implementing actor is free to conduct experiments according to own judgement.	Is constrained by restrictive policy	Is bound by policy	No policy is put in place	Is accommodated by policy	Is reinforced by expansive policy

Fig. 23: Indicators for assessing capacity

Capability

With regard to capability, it was found that sports clubs had little experience in coming up with, setting up and conducting 'safe to fail' experiments. As was found in the study, in order to come up with 'safe to fail' experiments, it is required to be able to conduct relevant research, analyse the research and synthesize the insights and information in order to form a (new) whole. Setting up an experiment, in turn, requires planning and organising capabilities. Once an experiment is set up, it needs to be conducted, this entails testing and evaluation capabilities. The extent to which the policy implementer has experience with this may be an indicator of their capabilities. As such, for each factor an assessment can be made in terms of the implementer's experience. This is depicted in the schematic overview on the next page.

ASSESSMENT	Lowest	Low	Medium	High	Highest
CAPABILITY					
Research: the extent to which the implementing actor is capable of conducting relevant research.	Has no experience in conducting research	Has limited experience in conducting research	Has conducted research before	Has considerable experience in conducting research	Has proven track record of conducting research
Analysis: the extent to which the implementing actor is capable of examining and interpreting the relevant information and perspectives.	Has no experience in analysing	Has limited experience in analysing	Has analysed before	Has considerable experience in analysing	Has proven track record of analysis
Synthesis: the extent to which the implementing actor is capable of combining the information and perspectives in order to form a (new) whole.	Has no experience in doing synthesis	Has limited experience in synthesising	Has synthesized before	Has considerable experience in synthesizing	Has proven track record of synthesis
Planning: the extent to which the implementing actor is capable of defining the different actions required to conduct a 'safe to fail' experiment.	Has no experience with planning initiatives	Has limited experience in planning initiatives	Has planned initiatives before	Has considerable experience in planning initiatives	Has proventrack record of planning initiatives
Organising: the extent to which the implementing actor is capable of making the necessary arrangements in order to conduct a 'safe to fail' experiment.	Has no experience with organising initiatives	Has limited experience in organising initiatives	Has planned initiatives before	Has considerable experience in organising initiatives	Has proven track record of organising initiatives
Testing: the extent to which the implementing actor is capable of conducting the experiment and gathering the necessary data for evaluation.	Has no experience in conducting experiments	Has limited experience in conducting experiments	Has conducted experiments before	Has considerable experience in conducting experiments	Has proven track record of conducting experiments
Evaluation: the extent to which the implementing actor is capable of collating the data and hereby spotting mistakes and points of improvement.	Has no experience in evaluating experiments	Has limited experience in evaluating experiments	Has evaluated experiments before	Has considerable experience in evaluating experiments	Has proven track record of evaluating experiments

Fig. 24: Indicators for assessing capability

7.1.2 Determining a Suitable Response

As was found in the experimental study, according to the commitment, capacity and capability of the policy implementer a certain response of government may be required. When the commitment is low, the implementer needs to be *encouraged*. When the capacity is low, the implementer needs to be *equipped*. And when the capability is low, the implementer needs to be *enabled*. Clearly, encouraging, equipping and enabling can be done in various ways. In the experimental study, for example, encouragement was done by raising awareness, reframing the problem and establishing 'warm' contacts. As such, different strategies for encouraging, equipping and enabling will be identified below.

Encourage Strategies

In the experimental study, encouragement was done by raising awareness, reframing the problem and establishing 'warm' contacts. As it turns out, each of these activities exemplifies a different type of strategy commonly used to increase commitment: rational, emotional, and social strategies (after Center for Creative Leadership, 2017).

Rational Strategies

Rational strategies revolve around logical and intellectual arguments for doing something; they tap into a policy implementer's common sense. This type of strategy revolves around providing evidence about the problem, providing an argument for dealing with a problem, explicating the potential benefits for the implementer of acting on the problem and explicating the potential impact of an implementer's actions on the problem (Feser, 2016). Note that these different strategies can be matched with the factors identified earlier. This is depicted in the table on the next page.

Emotional Strategies

Emotional strategies revolve around more persuasive arguments for doing something; they tap into an implementer's goals, beliefs, values and desires. This type of strategy revolves around connecting to the implementer's orientation towards the problem, identifying a shared view, or reframing the problem according to an implementer's goals, beliefs, values and desires (Center for Creative Leadership, 2017; Feser, 2016). Again, these different strategies can be matched with certain factors as depicted in the table on the next page.

Social Strategies

Social strategies revolve around arguments of reciprocity; they make an appeal to the relationship with the implementer. This type of strategy revolves around engaging the implementing actor in decision-making and establishing mutually beneficial partnerships (Feser, 2016). As can be seen in the table below, these different strategies can be matched with certain factors as well.

Encourage Strategy	When	How
Rational: making appeals to an implementer's common sense.	Awareness is low	Provide evidence about problem
	Recognition is low	Provide argument for dealing with problem
	Expected gain is low	Explicate potential benefits
	Perceived impact is low	Explicate potential impact on problem
Emotional: making appeals to an implementer's goals, beliefs, values and desires.	Orientation is low	Connect with goals, beliefs, values and desires
	Altruism is low	Identify shared goal, beliefs, values and desires
	Openness is low	Reframe the problem according to goals, beliefs, values and desires
Social: making appeals to an implementer's relational reciprocity.	Strength of relationship is low	Engage implementing actor in planning, process, decision-making, etc.
	Self-efficacy is low	Establish collaborative partnerships

Fig. 25: Encourage strategies

Equip Strategies

Based on the aforementioned capacity factors, three different strategies can be identified in order to build the necessary capacity to have policy implementers conduct 'safe to fail' experiments: building capacity through resources, access and consent. Building capacity through resources revolves around providing the necessary resources in order to conduct 'safe to fail' experiments. Building capacity through access, in turn, revolves around providing access to potentially relevant networking partners, the context, or the target group. Building capacity through consent entails providing the necessary discretion and expanding the possibilities of the implementer to conduct 'safe to fail' experiments. As such, each of the factors with regard to capacity can be matched with a suitable response as depicted in the schematic overview below.

Equip Strategy	When	How
Resources: providing the necessary resources in order to conduct 'safe to fail' experiments.	Personnel is low	Provide personnel
	Capital is low	Provide capital
	Facilities are low	Provide facilities
	Time is low	Free up time
	Knowledge is low	Provide knowledge
Access: providing the necessary access in order to conduct 'safe to fail' experiments.	Access to network is low	Provide access to relevant networking partners
	Access to context is low	Provide access to context
	Access to target group is low	Provide access to target group
Consent: providing consent in order to conduct 'safe to fail' experiments.	Control is low	Provide discretion
	Flexibility is low	Expand possibilities

Fig. 26: Equip strategies

Enable Strategies

When the capabilities of a policy implementer are insufficient, they need to be enabled to conduct 'safe to fail' experiments. This can be done by bringing in the necessary expertise, through facilitation or training. The type of enablement strategy that is most suitable depends on several considerations. For example, when little time is available and the capabilities do not benefit the policy implementer, bringing in the necessary expertise may be the most suitable response. When the capabilities are somewhat insufficient and a degree of supervision is desirable, facilitation may be a suitable strategy. However, when there is time, the capabilities benefit the implementer, it is desirable to ensure full discretion and a long-term engagement is foreseen, training may be the best option. These considerations are depicted in the schematic overview below.

Enable Strategy	When	How
Expertise: provide the necessary capabilities.	Capabilities are insufficient	Bring in people with the right expertise. Depending on what kind of capability is required, this may be a designer, project manager or researcher
	Capabilities do not benefit implementing actor	
	Little time is available	
Facilitation: provide the necessary support.	Capabilities are somewhat insufficient	Bring in a facilitator with the right expertise. Typically a facilitator with a design background fits this profile.
	Supervision is desirable	
Training: provide the necessary training.	Capabilities are insufficient	Bring in a trainer with the right expertise. Again, a trainer with a design background may be the most suitable fit.
	Capabilities benefit implementing actor	
	Full discretion is desirable	
	Long-term engagement is foreseen	

Fig. 27: Enable strategies

7.1.3 Drafting a Plan

Once the commitment, capacity and capability have been gauged and a suitable response has been determined, it may be useful to know what kind of arrangements need to be made for this. In light of this, several questions need to be answered:

1. How will you do it?
2. What do you need to do?
3. What do you need to have?
4. Who do you need?

During the case study it was found that the scheme that was used to map the process may be very useful for setting up a process. As such, a similar scheme with the aforementioned questions can be helpful in order to make a rough plan of the necessary arrangements that need to be made.

	ENCOURAGE	EQUIP	ENABLE
How will you do it?			
What do you need to do?			
What do you need to have?			
Who do you need?			

Fig. 28: A scheme to help plan what kind of arrangements need to be made

7.2 Experimental Contingency Guidelines

As explained, once a decision has been made to have policy implementers conduct 'safe to fail' experiments, their commitment, capacity and capability needs to be gauged first. According to this, a suitable response of government can be determined. In turn, the necessary arrangements need to be made. In line with this reasoning, the experimental contingency guidelines were developed. These guidelines provide three simple steps to ensure that the necessary prerequisites of having policy implementers conduct 'safe to fail' experiments are met:

1. Gauging the commitment, capacity and capability of the policy implementer.

2. Determining a suitable response of government.

3. Drafting a rough plan for making the necessary arrangements.

Each step will be further explained on the following pages. As will become clear, the elaboration of the previous section forms the basis for these guidelines.

Fig. 29: The three steps of the experimental contingency guidelines

7.2.1 Step 1: Gauge

The first step revolves around assessing the different factors determining the commitment, capacity and capability. This is done according to the indicators identified in the guideline elaboration. In fact, the tables provided there (figures 21, 22 and 23) can be directly used as rubrics, enabling policymakers to make this assessment. The way this first step works is depicted in the image below.

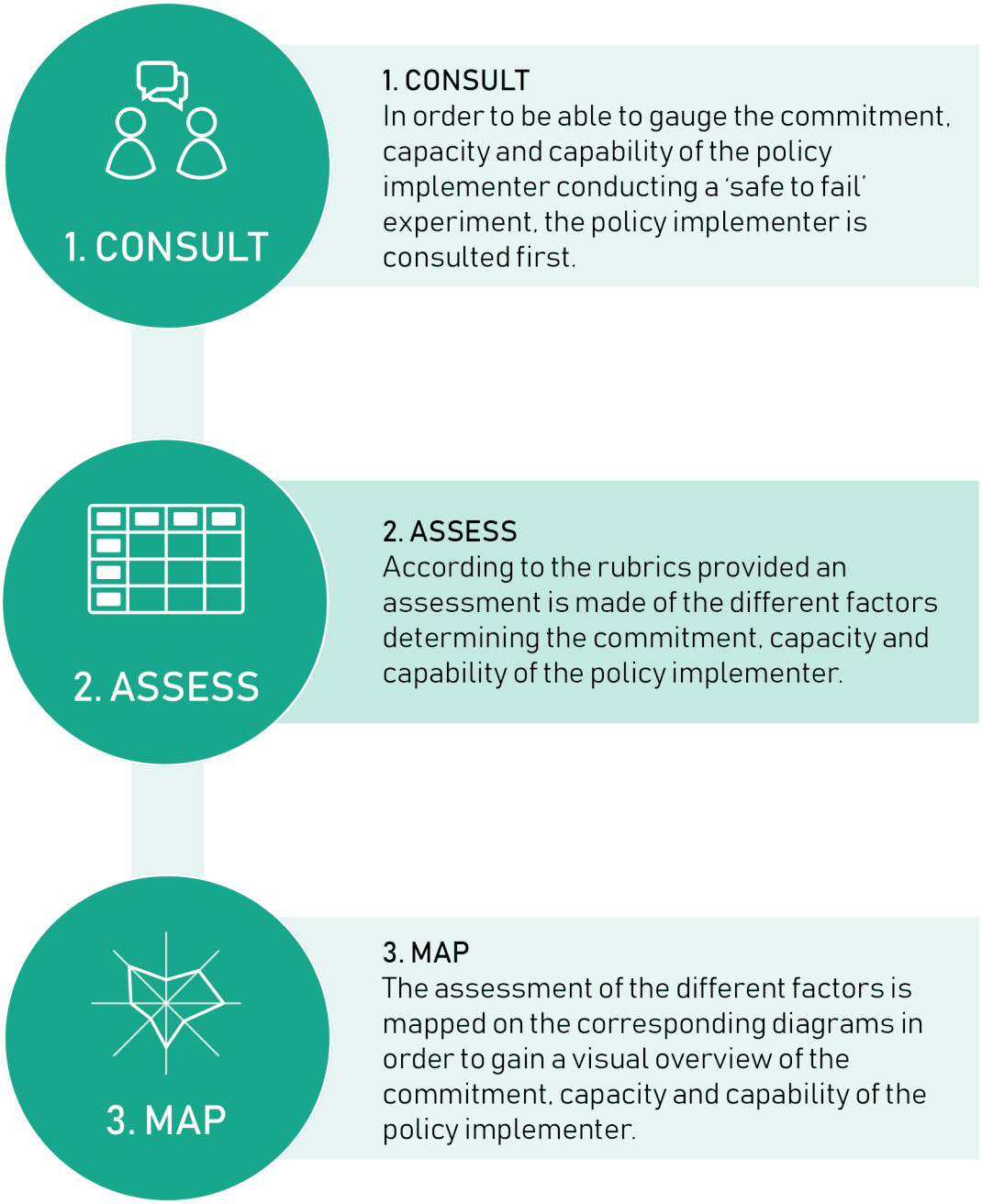


Fig. 30: The first step of the experimental contingency guidelines

7.2.2 Step 2: Determine

The assessment of the different factors that was made in the first step can be used to fill in a checklist that helps determine a suitable response of government. This is done according to the strategies identified in the guideline elaboration. Again, the tables provided there (figures 24, 25 and 26) are directly used as checklists. The way the second steps works is depicted in the image below.

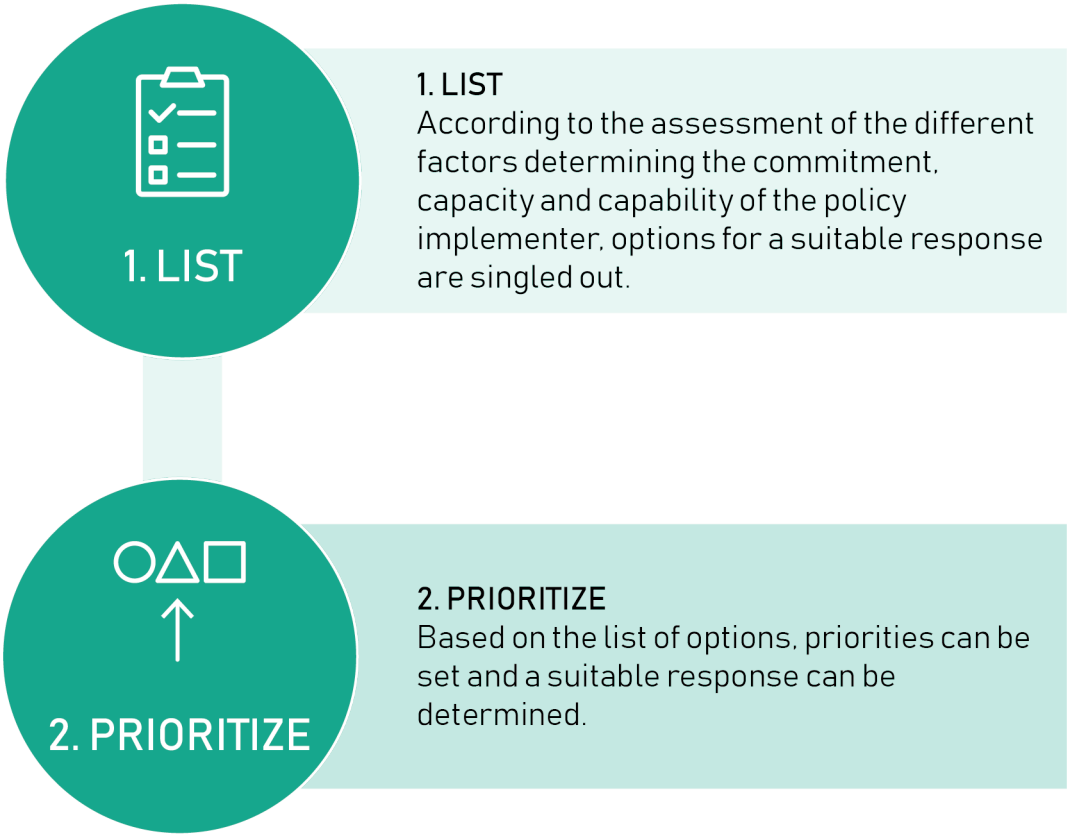


Fig. 31: The second step of the experimental contingency guidelines

7.2.3 Step 3: Plan

Once the commitment, capacity and capability have been gauged and a suitable response has been determined, a scheme is used in order to get an overview of the necessary arrangements that need to be made for this. This is done according to the scheme depicted in the guideline elaboration. The table shown there (figure 27) is directly used to draft a plan.

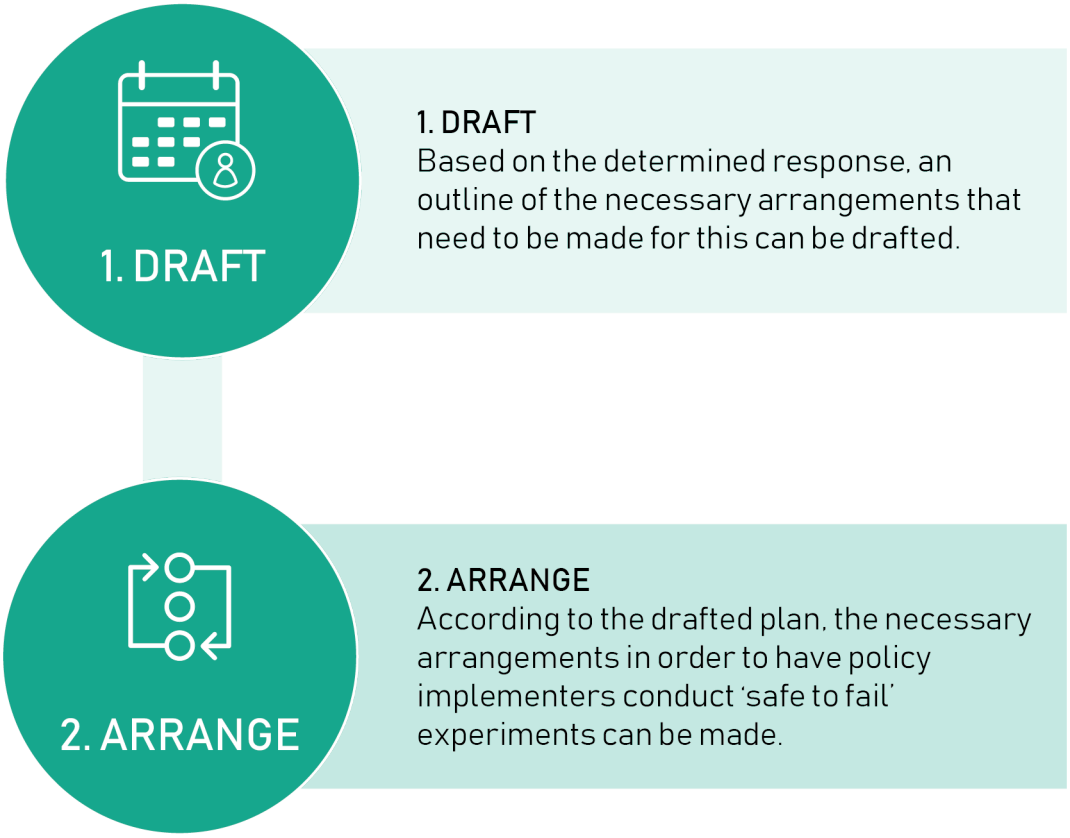


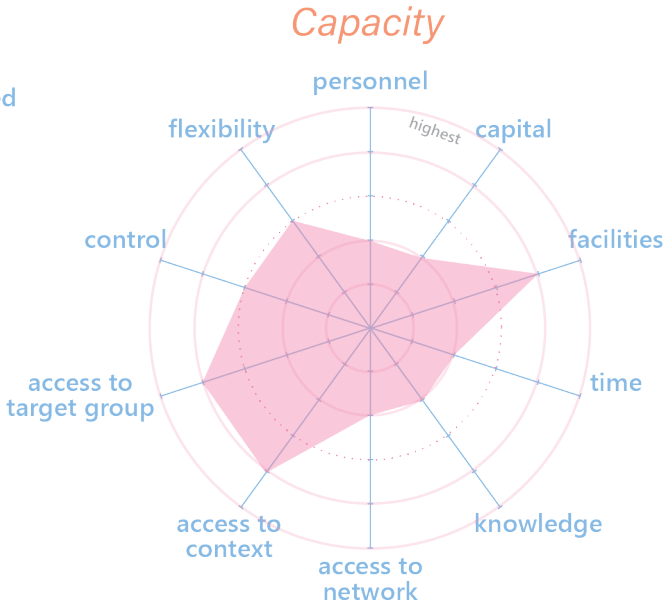
Fig. 32: The third step of the experimental contingency guidelines

7.3 Working Example

Since the case of involving sports clubs has been extensively elaborated on, this case can be conveniently used to briefly exemplify the usage of the guidelines. This will be done here.

7.3.1 Step 1: Gauge

According to earlier descriptions, the commitment, capacity and capability of sports clubs to conduct 'safe to fail' experiments in order to find ways to tackle low literacy can be mapped on the diagrams provided as shown here.



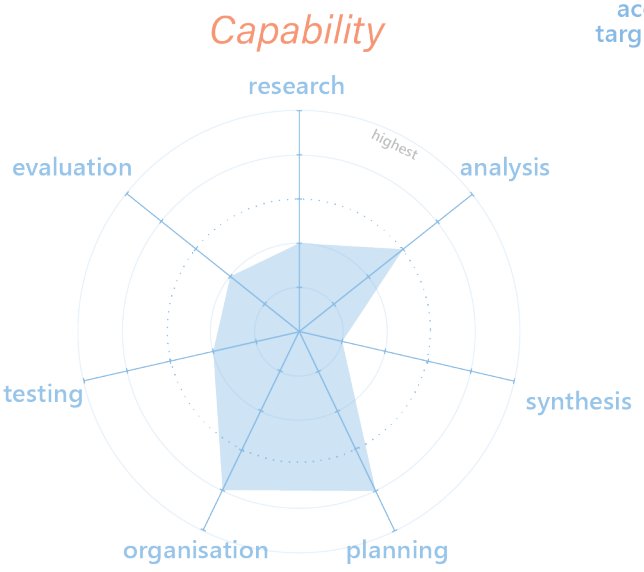
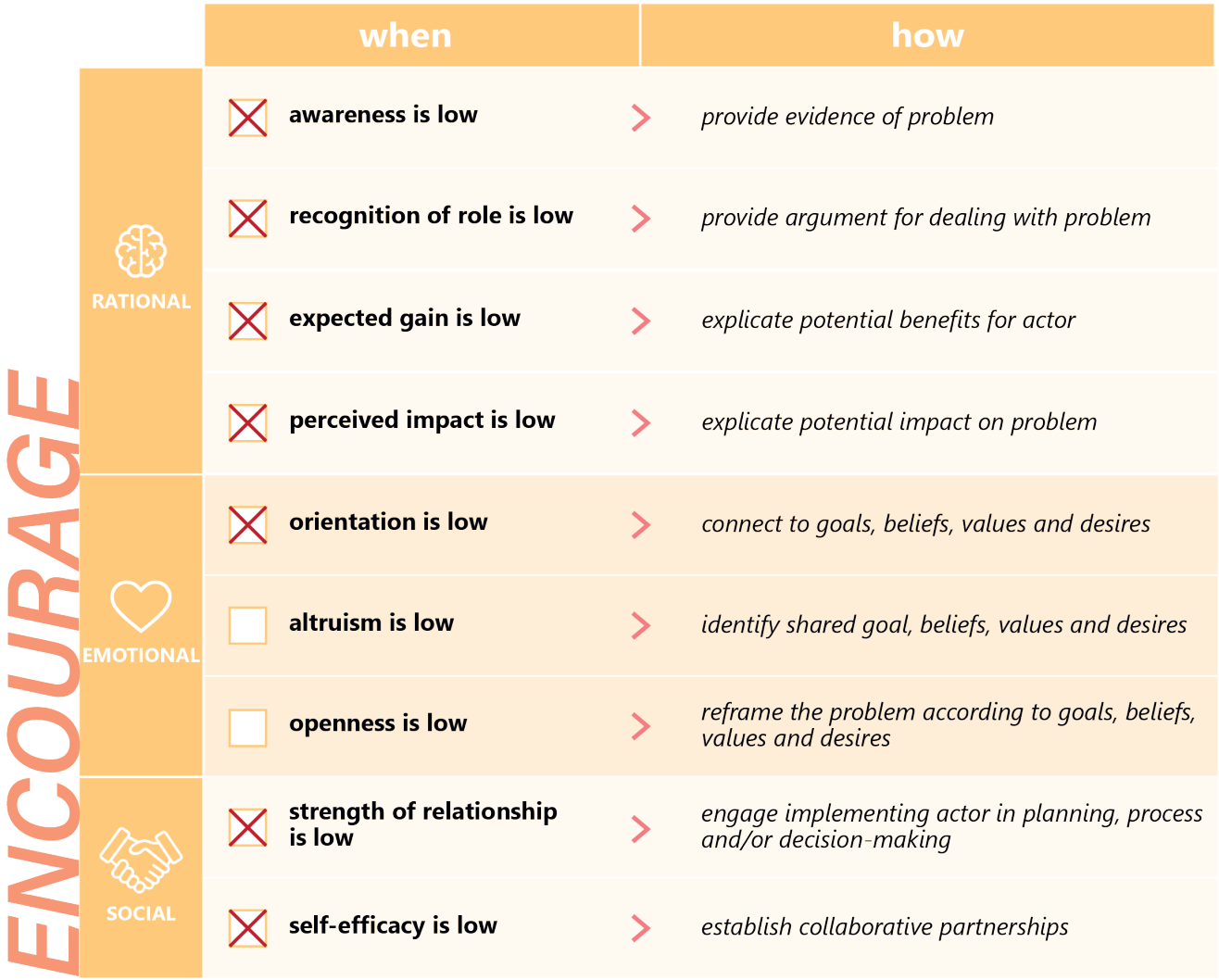


Fig. 33: The commitment, capacity and capability of sports clubs

7.3.2 Step 2: Determine

The diagrams that were made in the first step can be used to fill in corresponding checklists that help determine a suitable response of government (for an example of this, see below). As can be seen in the diagrams, the commitment, capacity and capability of sports clubs are all low in certain respects; they need to be encouraged, equipped as well as enabled in order to conduct 'safe to fail' experiments. With regard to encouragement, a combination of rational, emotional and social strategies is required: evidence and argumentation for dealing with the problem need to be provided, the potential benefits and impact need to be explicated, the problem needs to be connected to the goals, beliefs, values and desires of sports clubs, and the sports clubs need to be engaged in decision making. Moreover, government needs to provide the necessary resources in terms of personnel and capital, as well as access to potentially relevant partners such as Stichting Lezen & Schrijven. Besides this, as the capabilities of sports clubs of coming up with, setting up and conducting 'safe to fail' experiments are somewhat insufficient and some supervision is desirable (since no relationship has been established and nothing has been done with regard to involving sports clubs in tackling low literacy) facilitating sports clubs throughout the process of coming up with, setting up and conducting 'safe to fail' experiments may be a suitable strategy for enablement.

Fig. 34: Determining a suitable response according to the commitment of sports clubs



7.3.3 Step 3: Plan

Based on the determined response, a possible outline for making the necessary arrangements in order to have sports clubs conduct 'safe to fail' experiments is depicted below.

	ENCOURAGE	EQUIP	ENABLE
How will you do it?	- Connect problem of low literacy to goals of sports clubs - Engage sports clubs in decision-making - Establish partnerships	- Provide the necessary resources in terms of personnel, capital and knowledge - Provide the necessary contacts	- Facilitate the process for coming up with and conducting 'safe to fail' experiments
What do you need to do?	- Identify opportunities to connect low literacy to goals of sports clubs - Set up a meeting with relevant partners	- Ensure there is a budget - Inventorise and inform contacts	- Acquire a facilitator with expertise in design processes
What do you need to have?	- Clear view on goals sports clubs - Network of relevant partners - Location for the meeting	- Support - Contacts of relevant partners	- A process plan - A location for facilitation (sports clubs?)
Who do you need?	- Account manager of sports clubs - Contacts of relevant partners - Chairmen of sports clubs	- Ensure there is a budget - Contacts of relevant partners - Chairmen of sports clubs	- A facilitator - Chairmen of sports clubs

Fig. 35: A rough plan to encourage, equip and enable sports clubs

7.4 Evaluation

The guidelines have been evaluated with five policymakers at the Ministry of Education, Culture and Science. Three policymakers evaluated an older version of the guidelines (see Appendix G), whereas two policymakers evaluated the guidelines as previously described. The essence of this older version, however, was largely the same. As such, many of the findings are still applicable to the current version. The way the evaluation has been conducted, as well as the findings thereof, will be elaborated on below (for more comprehensive description, see Appendix G).

7.4.1 Evaluation Setup

The goal of the evaluation was to gather input with regard to the applicability and usability of the guidelines as well as the applicability of the overall concept behind the guidelines. With regard to these goals, the following evaluation questions were formulated:

1. How does ensuring the prerequisites of having policy implementers conduct 'safe to fail' experiments are met help in making policies in a more experimental manner?

2. To what extent do the guidelines support policymakers in ensuring the prerequisites of having policy implementers conduct 'safe to fail' experiments are met?

3. How does taking into account the commitment, capacity and capability of policy implementers and determining a suitable response accordingly help policymakers in their day-to-day work?

Although the guidelines revolve around ensuring the prerequisites of having policy implementers conduct 'safe to fail' experiments are met, no 'safe to fail' experiments were going to be conducted. As such, it was impossible to apply the guidelines to a real-life case. Instead, based on the experimental study as described in the previous chapter, a simulation - i.e. a 'safe to fail' experiment - was conducted.

In this simulation the policymakers that took part had to go through a scenario in which they had to develop the extension of the Tel mee met Taal programme. In this scenario it was decided to find ways to involve sports clubs in tackling low literacy in an experimental manner. As such, they had to gauge the commitment, capacity and capability of sports clubs, determine a suitable response of government, and draft a plan to make the necessary arrangements. This was done according to an audio fragment of the focus group that was conducted with sports clubs as part of the experimental study. In the audio fragment chairmen of sports clubs talk about their commitment, capacity and capability to conduct 'safe to fail' experiments in order to find ways to tackle low literacy. As such, the audio fragment served as a basis to go through the three steps in a realistic manner and hereby gather valuable input about the concept. The following transcripts of the audio fragment illustrate this well:

"Low literacy, honestly I do not recognize it. But that may also be because I have not been triggered yet. I think that is very important. For example, it does not occur to me to look at it like: can someone actually read? So I think this is very interesting. And I'm curious. I can imagine there's a problem and I think that if you recognize it and make it a topic of conversation you can do something about it." - Part of the audio fragment

"But there's a lot of organisation behind this. Oftentimes these things cost a lot of time and resources. At my club, we are only with the four of us and I am the headtrainer. And together we have to take care of everything. So we simply don't have the capacity for these things. We also have to work. And if we have to arrange all of this, we cannot handle this. Meanwhile also making sure that contribution is paid. That sort of things. So I do see these things, and I also have ideas about them, but I simply cannot execute them." - Part of the audio fragment

Fig. 36: The setup of the evaluation

7.4.2 Findings

In line with the abovementioned goals and evaluation questions, the simulation helped gain valuable input with regard to the guidelines as well as the concept behind the guidelines. Below, these findings will be elaborated on.

Applicability and Usability of the Guidelines

With regard to the guidelines, the overall applicability of the guidelines will be discussed first. In turn, the usability of the guidelines and, more specifically, each step will be elaborated on.

Applicability

In terms of the applicability of the guidelines, it was found that it is very useful to make the necessary considerations at the front end of the process. This helps minimize the risk associated with experiments as well as increases the chances of successful execution. Hence, ensuring the prerequisites of having policy implementers conduct 'safe to fail' experiments are met makes a lot of sense.

"It is very useful that at the front end you can ensure that the experiment is well executed. This is a step that is oftentimes skipped. Of course it can still fail, and that is ok, but at least it is not because the necessary prerequisites were not met." - Policymaker 3

Moreover, the guidelines help explicate the considerations that have to be made in order to have policy implementers conduct 'safe to fail' experiments. This helps focus initial exploratory conversations with potential implementing actors. Besides this, it supports the internal thought process of policymakers as well as communication and argumentation towards relevant actors. As such, the guidelines may contribute to the process of having policy implementers conduct 'safe to fail' experiments.

"Although we already do most of these things, this is all very implicit. It works well to explicate what you are doing and why. Also to communicate things to others. And this can help enormously." - Policymaker 1

However, it was found that the guidelines were rather generic; most of the factors with regard to commitment, capacity and capability can be applied to involving policy implementers in general. Of course, this is not necessarily a bad thing; all of the policymakers saw this wider application of the guidelines. Yet, more specific guidelines may be more helpful to further increase the chances of successful execution.

Usability

First, the overall usability of the guidelines will be discussed. Subsequently, the usability of each step will be looked at.

Overall

Overall, the guidelines were found quite well thought-through and clear and there seemed to be a logical congruence between the different steps. This particularly goes for the final iteration of the guidelines in which this specific aspect was specifically further improved.

In terms of usage, an interesting suggestion was made to do the first two steps together with the policy implementer. This may help come to a more accurate assessment of their commitment, capacity and capability, and together identify what kind of response would be most suitable. As such, it was mentioned that the guidelines may be a very useful conversation tool.

"So based on this first step you determine what you can do, while not explicitly asking the implementer directly. You can do this just as well of course. [...] So actually, most preferably you do this with the policy implementer. And that is something I don't see here yet. I would include this as a solid option. It can almost be like a conversation tool." - Policymaker 1

Step 1: Gauge
The extensive rubrics that are provided to assess the commitment, capacity and capability make this step look very daunting at first. However, while using them, it was found that they actually make this step quite manageable. In fact, all of the policymakers appreciated the way the rubrics allow for assessment of the different factors in a very systematic manner. Moreover, although some improvements in terms of terminology could still be made, it was found that the factors that were identified were relevant, complete and complementary. As such, assessing the commitment, capacity and capability in this manner was considered a helpful, thorough first step. This being said, since policymakers have to conduct a lot of assessments already, there is a considerable risk that this becomes yet another thing to do.

"Systematically ordering what you heard works well. It also makes you weigh everything rather than only the few things you normally remember from a session." - Policymaker 1

Additionally, some policymakers felt that in some cases the commitment, capacity and capability of implementing actors may be so low that any further attempt to have them conduct 'safe to fail' experiments is bound to be unfruitful. In light of this, a 'go/no-go'-moment could be built in after conducting the assessment in order to decide whether or not it makes sense to proceed or to filter out implementing actors that are most suited to conduct 'safe to fail' experiments.

"With the strategic exploration we are looking at how to deal with shrinkage of students. In light of this we want to collaborate with a few student regions, but we still have to determine which ones. In that case, commitment, capacity and capability can be good questions we could ask while selecting these regions. To look at it from this perspective and decide which regions to proceed with accordingly." - Policymaker 4

Step 2: Determine
Again, due to the extensive checklists that were provided for the second step, this step looks very daunting as well. Yet since the assessment of each factor in the first step was directly linked to the selection of a response in the second step this turned out to be surprisingly easy. Moreover, logical links between factors and responses seemed to have been made. As such, the second step quickly enabled policymakers to determine a suitable response of government. However, many options may turn out to be necessary (as was the case with sports clubs). In light of this, it may be helpful to provide additional guidance in making an appropriate selection.

"What I see now is that there's a lot of actions to do. So I don't know if there's still a step in which you prioritize or cluster, but if this is the endpoint, I can imagine that in practice you might think: this is a lot. So how do you make the choice in this?" - Policymaker 5

Step 3: Plan
It was found that the final step nicely concludes the guidelines; a rough plan is drafted based on the determined response. As such, this helps obtain a general idea of what needs to be done in order to ensure the prerequisites of having policy implementers conduct 'safe to fail' experiments are met.

"It is a nice funnel. You work towards something. It comprehensively brings together the previous steps." - Policymaker 5

Applicability of the Concept
With regard to the applicability of the concept behind the guidelines there was considerable agreement amongst the policymakers; all of them saw value in taking into account the commitment, capacity and capability of policy implementers and determining a suitable response accordingly.

It was found that it complements current policymaking practices in two ways. First, it provides a more broad view on the position of policy implementers and ways to respond accordingly. Since government has the authority and means to impose things on others, the main factor that is generally taken into account is capacity. Yet, commitment and capability may be equally valuable. Second, it helps in making the translation towards implementation. Policymaking endeavours oftentimes revolve around setting the policy goals and means, yet little attention is paid to how the policy implementers are actually appropriately mobilized in order to be able to effectively implement these means and hereby achieve these goals.

"These are all aspects that you have to take into account. And with some we do this, for example with regard to capacity. But with some we don't. Actually I think we oftentimes mostly look at capacity rather than commitment because oftentimes we simply impose things on others." - Policymaker 2

Moreover, it was found that it is in line with a trend towards more networked ways of policymaking. As society has become increasingly networked (Bekkers, Fenger & Scholten, 2017), problems have become increasingly complex, and solutions increasingly involve the mobilization of a multitude of societal actors. Taking into account the commitment, capacity and capability of these actors may help organise fruitful collaborations amongst these actors.

"You put this in the context of experimentation, but I see it more as utilizing the policy implementers in policymaking. I see the trend of involving more actors and networks in very complex problems. And for such complex problems, which require a networked approach, you need to find new ways of collaborating and organising these collaborations. So for the interaction between the ministry and the implementing actor this is a suitable instrument. Of course, in parallel there are many other instruments required, but what I want to say is that this fits very well within the trend that I see." - Policymaker 5

7.4.3 Conclusion

Ensuring the prerequisites of having policy implementers conduct 'safe to fail' experiments are met does not directly help in making policies in a more experimental manner. However, it was found that this does help minimize the risk associated with experiments, increase the chances of successful execution, and contributes to the process of having policy implementers conduct 'safe to fail' experiments. As such, it may help lower the barriers for, as well as smooth the way towards making policies in a more experimental manner.

The guidelines were found useful in ensuring the prerequisites of having policy implementers conduct 'safe to fail' experiments are met. Although there is room for improvement and further development is necessary, the guidelines provide a comprehensive, systematic manner to assess the commitment, capacity and capability of policy implementers to conduct 'safe to fail' experiments and determine a suitable response accordingly. As such, the guidelines form a good basis for further development (for this, see recommendations).

Besides this, it was found that taking into account the commitment, capacity and capability of policy implementers and determining a suitable response accordingly may be helpful in involving policy implementers in general - not just for experimentation - as it provides a more broad view on the position of policy implementers which, in turn, helps mobilize them more effectively. As such, it is in line with a trend towards more networked ways of policymaking.

7.5 Recommendations

Although the guidelines form a good basis for further development, there is considerable room for improvement. Moreover, several aspects of the design are left unaddressed. Accordingly, several recommendations for further development can be made.

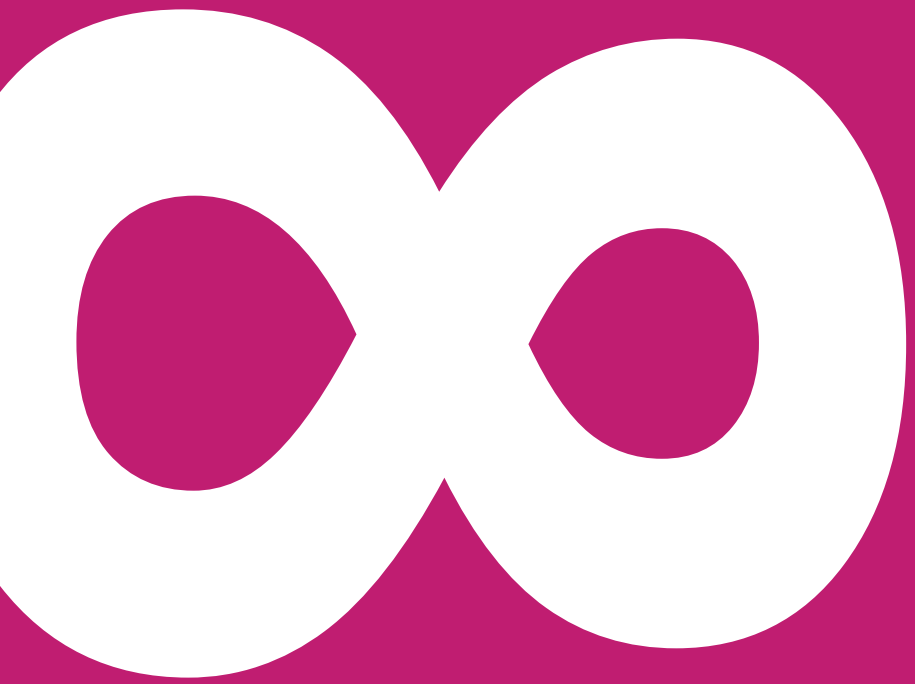
With regard to the concept, additional research can be conducted concerning the factors and indicators that were identified with respect to the commitment, capacity and capability of implementing actors to conduct 'safe to fail' experiments; currently these factors and indicators are merely based on one experimental study. Moreover, although the options that were given as a suitable response to certain factors make sense, they have not been validated. These options require further investigation. In light of this, different options that are not mentioned here may be just as valuable as well; currently they are predominantly based on the experimental study.

With regard to the guidelines, the inclusion of additional steps such as a 'go/no-go'-moment and guidance in selecting options - as explained in the evaluation - may be further explored. Moreover, providing and incorporating adequate instructions requires more attention in order to ensure policymakers are sufficiently enabled to utilize the guidelines; during the evaluation spoken instructions were given.

With regard to the usage of the guidelines, two different - yet not mutually exclusive - options may be further explored. First, using them internally as a means to decide whether or not to have certain policy implementers conduct 'safe to fail' experiments and determining a suitable response according to the commitment, capacity and capability of the policy implementer. Second, using them as a conversation tool with policy implementers in order to determine a suitable response together. Accordingly, the guidelines may be further developed, suited to their particular usage.

In light of this, a suitable form also needs to be found; as of yet, this aspect of the design has not been addressed at all.

In order to explore the abovementioned options and further develop the guidelines, several things can be done. Some of the recommendations - such as the additional steps that were proposed - can be explored in a similar manner as was done in the evaluation: through a simulation. In order to explore internal usage, a simulation with a team of policymakers - instead of a single policymaker - may be conducted. However, in light of this, the guidelines may very well be used in a realistic setting in which an actual experiment is to be conducted. As was found in the evaluation of the guidelines, the policymakers saw plenty of options for this. A realistic setting also lends itself well for exploring the usage as a conversation tool with policy implementers. Besides this, more real experiments could be studied through the lense of commitment, capacity and capability in order to further improve and complement the factors that were identified.



8. Discussion

In the previous chapter all of the findings discussed throughout this thesis were collated in order to develop the experimental contingency guidelines. This concludes the design process, yet it does not reflect on it. In this chapter, the findings, process and experience of this investigative journey will be reflected on, hereby concluding this thesis.

8.1 Conclusion

This MSc Design for Interaction graduation project aimed to explore how design may enhance policymaking. While conducting the research, it was found that opportunities for this are manifold. Yet, in order to focus further endeavours, it was chosen to dive into the opportunity that stood out most: experimentation.

In light of this, it was shown how experimentation in policymaking and experimentation in design are worlds apart. In hindsight, this is no surprise; both worlds come with a logic of its own and the world of policymaking is evidently much less lenient towards experimentation than the world of design. Hence, despite the risk and costs of implementing a policy without preceding experimentation, little evidence of the benefits of a more experimental approach in policymaking - according to the strategies employed in design - has been established yet. Although the ambition was to establish some initial evidence, this graduation project fails to do so.

Again, in hindsight this is no surprise; due to the different worlds and logics a one to one translation of the design strategies for experimentation to policymaking does not work. As explained, 'safe to fail' experiments may be conducted most effectively and efficiently by policy implementers that are given sufficient discretion. However, as was shown, this adds another dimension to experimentation that is not found in design (in which the experiment is conducted by the designer); it requires taking into account the commitment, capacity and capability of the implementer to conduct 'safe to fail' experiments and responding accordingly. In light of this, this graduation project did help in finding a potential avenue to make this translation by shedding light on this additional dimension and ways in which government can respond in order to ensure the prerequisites of having local actors conduct 'safe to fail' experiments are met. As such, this graduation project adds a small piece to the puzzle of enhancing policymaking with design.

This being said, much more is needed in order to embed this type of experimentation in policymaking. It requires a culture change in policymaking in which failure is not banned out but - as in design - reframed as an opportunity for learning instead. It requires a paradigm shift in which experimentation is not just seen as a rigorous scientific endeavour that serves to generate evidence, but as a key problemsolving activity that serves to educate guesses just as well. It requires a different mindset in which policymakers have a bias towards (informed) action rather than deliberation. And it requires a different public perspective in which the problemsolving process is valued just as much as the outcome thereof. As such, a more experimental approach in policymaking is still a long shot.

Yet, as mentioned, many opportunities to enhance policymaking with design were found. The wide variety of empathizing, creativity, anticipation and visualisation techniques commonly employed by designers may very well be the low hanging fruits to complement current policymaking practices. Also several processes employed in design - such as Vision in Product Design (Hekkert & van Dijk, 2011) or Frame Innovation (Dorst, 2015) - may lend themselves very well for policymaking. Finding ways to apply these different techniques and processes in the context of policymaking, however, is something for another graduation project.

8.2 Discussion

Throughout this thesis many theories, arguments, findings, concepts and ideas have been put forward. Here, the generalizability as well as limitations of these will be discussed.

First, only few case studies of policymaking processes have been conducted. Hence, it may be argued that this provides insufficient basis for the findings that were made. Moreover, all of these cases took place on one level of government, on a single department, within a single domain. It may be argued that this provides insufficient basis to extend the findings beyond this particular department, domain or level of government. However, since these findings were further complemented with interviews, observations and extensive literature research, it was found that this accumulates sufficient evidence to make generalizations with considerable confidence.

Nonetheless, the opportunity that was found based on these findings, lacks sufficient grounding; it is only briefly argued why experimentation may best complement current policymaking practices as opposed to other problemsolving activities. This being said, the decision was confirmed later on by all of the interviewees. Moreover - albeit rather consequential for the entire research - for the purpose of the research, this decision was trivial; any chosen opportunity to enhance policymaking with design would have made an interesting study.

More critically, however, are the claims that are made with regard to experimentation; these are predominantly based on interviews and literature research. As such, a rather monochromatic picture of experimentation in policymaking has been painted. Additional case studies specifically focused on experimentation may have helped further nuance and substantiate these claims. Unfortunately there was no time or opportunity for this.

Also the findings with regard to the commitment, capacity and capability - and the underlying factors that were identified - lack sufficient evidence; only one experimental study forms the basis for this. Again, there was no time or opportunity to further substantiate these findings with additional evidence. Nonetheless, all of the policymakers that took part in the evaluation of the guidelines recognized these findings from their own experience. As such, this provides considerable confirmation.

In light of this, it was found that taking into account the commitment, capacity and capability of policy implementers applies to policymaking in general (regardless of domain or government level). Hence, these findings may have relevance beyond experimentation; they seem to particularly fit well in the trend towards more networked ways of policymaking.

All in all most of the limitations mentioned are mitigated considerably by extensively incorporating the perspective of policymakers on every aspect. Yet, one perspective is missing throughout: the perspective of designers with experience in working as part of or on behalf of governments. This perspective - albeit scarce - could have contributed considerably in terms of the comparison that was made between experimentation in policymaking and experimentation in design, the experimental study that was conducted and bringing together both domains.

8.3 Recommendations

In the previous chapter, recommendations with regard to the guidelines that have been developed were identified. Here, recommendations for further research within this domain will be given.

First, additional research can be conducted in terms of applying the design strategies for experimentation in policymaking. As explained, this thesis does not provide a conclusive answer to this. In light of this, taking stock of cases that possess traits of a more designerly way of experimentation (such as the Vocational Education StudentLabs) may be a fruitful starting point. This may help identify crucial conditions for experimentation and archetypical experimental processes as well as generate evidence of an experimental approach.

Besides this, it may be worthwhile to investigate ways policies may be prototyped. As explained, before conducting 'real' experiments, solutions are already prototyped and tested. In light of this, it may particularly be interesting to investigate what kind of aspects of a policy can be prototyped and how these different aspects of a policy may be prototyped. In design, the role, look and feel and implementation of a solution are distinguished. How does this translate to prototyping policies?

More generally, in light of enhancing policymaking with design, further research can be conducted with regard to the different opportunities as described earlier - empathizing, creativity, anticipation and visualisation techniques, and processes like Vision in Product Design or Frame Innovation.

Lastly, as explained, taking into account the commitment, capacity and capability of policy implementers may have relevance in policymaking in general and particularly participatory and networked ways of policymaking. As such, conducting additional research within this direction may be worthwhile as well. In light of this, various things come to mind: further investigating the determining factors of activating policy implementers (both besides commitment, capacity and capability and with regard to commitment, capacity and capability), identifying domain-specific factors and further identifying ways to respond accordingly.

8.4 Reflection

One may have noticed that throughout this thesis personal pronouns have been avoided. This formal style will not be continued here; the reflection of this project is best described in a personal manner - as it was very personal.

As explained in the preface, throughout my years of design education I increasingly started to realize I may in fact not want to design products. Simultaneously, I increasingly started to realize that the knowledge and skills I had acquired may be helpful in a wider spectrum of problemsolving and solutioning processes. Along the lines of these realisations, at some point about one and a half year ago the thought occurred to me that the government could do with some designers in order to solve present day's problems. Back then, this was merely a thought, like many others. However, the moment my initial graduation plans fell through I decided to spend some time with this thought. I went to explore my options to turn this into a graduation project and this was received with great enthusiasm. Before I knew it I had attracted a most wanted supervisory team and was lobbying at several ministries to get a foot in the door. Eventually, about half a year later, I succeeded and my investigative journey at the Ministry of Education, Culture and Science began.

Soon I realized I actually had no clue what kind of world I had stepped into. And, to be honest, although I got used to the way things work, this sense of perplexity stuck with me pretty much the entire internship; each phase of the process of developing the extension of the Tel mee met Taal programme came with its own surprises. Soon I also realized how naive I had been. As an outsider one may get the impression that policymakers are systematically missing the mark. Yet, as it turns out, policies are made in a very considerate, careful, weighed manner with the very best intentions by very competent and intelligent people. As I have explained in this thesis, it is the context within which they work that can severely complicate, hinder and frustrate things. As such, this process has been far from easy. Although I have a knack for taking on challenges, I can confidently state that I have never been as challenged as I have been throughout this graduation project. Although this came with tremendous learnings, it also left me feeling very doubtful of my own capabilities at times. Both the learnings and the doubts will be explained below.

First, working strictly with non-designers made me aware how much I had been inside of my own design bubble throughout my entire studies. All of a sudden I had to be able to find the right vocabulary and arguments to be able to explain what I - and everyone I had been working with so far - had been doing for years. Hence, I decided to look more into design theory. This made me much more aware of the reasoning and theory - depth if you will - behind the processes and practices I had been taught. In turn, this sharpened my view on design. However, working with non-designers also made it considerably difficult to remain a designer myself. Whenever I proposed nonconventional ideas or ways of doing they were regularly dismissed - especially at the start. Whenever my desk was filled with post-its, inevitably this was responded with raised eyebrows and remarks like: "Look at you being all creative". These things affected me. I became more held back and eventually it felt like I had become like 'them'. It took considerable time to find my way in this environment without losing myself.
As such, I was also confronted with my own shortcomings. In order to get things done in a policymaking context, you need to be proactive,

assertive, and very capable of selling your ideas and gaining support. These are things that do not come naturally to me. In light of this, the experimental study was a great opportunity to develop myself further in this respect. During this experiment I had to reach out to sports clubs and organisations, organise and run focus groups and creative sessions as well as generate buy-in for my ideas. Thereby it forced me to work on these shortcomings.

This being said, it distracted me at the same time. At some point I was doing a project inside of a project. And this was not the only distraction during my graduation project; before doing this experiment I was considerably involved with the activities for Tel mee met Taal. Moreover, I was given the opportunity to give a guest lecture at the Erasmus University Rotterdam as well as the Vrije Universiteit Amsterdam. Additionally I went to Copenhagen to present my work at a seminar on design-led approaches in government. Of course, all of these things tremendously enriched my entire experience. However, at times it was hard keeping my eyes on the ball. Also, altogether was a bit much oftentimes. Since I am rather perfectionistic and tend to do things with full devotion I ended up working a lot of hours a lot of the time. Despite the joy I had in this, at times it became a bit obsessive - counterproductive even. For me it is really hard letting things go, even when I get stuck and even when I should be doing something else. In fact, when I cannot make things absolutely irrefutable it seems as though it does not let me go. Perfectionism can be a very helpful characteristic, yet at the same time it can be a tremendous pitfall. For me, oftentimes it is the latter. As such, finding a well-balanced, sustainable, effective and efficient way of working will remain a challenge in my professional career.
In light of this, I think I did not help myself either in the way I scoped the study. By wanting to investigate how design may enhance policymaking I started off rather diffuse. This was felt throughout my entire project. There were too many directions and too many possibilities within each direction. Since I am the type that wants to know everything, I ended up doing a lot of research into each of these directions and possibilities. It was like a universe; perpetually and endlessly expanding. Consequently, I got lost. Consequently, it was hard to become concrete. And consequently, I ended up rather diffuse; the bulk of knowledge I had gathered, as well as the many opportunities I kept seeing hindered me in working towards a tangible, concrete and usable outcome. When you want to do everything, you are at risk of doing nothing.

Despite these doubts and difficulties throughout the project I am very, very glad I made this journey. First, because it has been such a rich experience. All the things I have seen and done along the way have brought me a lot of learnings and insights which will undoubtedly be of help in my professional career. Second, because I have found something I am passionate about; I am intrigued by the topic, feel like my skills and knowledge are purposefully utilized in this domain and still see tremendous potential for improvement. As such I am really excited to be able to pursue my investigative journey at the Erasmus Governance Design Studio hereafter.

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