Kennisland

Social innovation and the magic of experience

Emergence by Design - D.3.2: Case study Education Pioneers

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Date:	31-12-2014
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Preface

A frequently asked question in the field of social innovation is 'how can research better support social innovation practice, and how can practice make better use of research?'. It was one of the issues debated at a recent meeting: SI-Live 2014[1], a conference that assembled four of the largest social innovation EU-consortia: SI-drive, TEPSIE, Transition and BENISI.

This question has led to heated debates, where one party is saying 'just do the research and you will find useful results' and the other is saying 'I have tried but I don't get any'. The difference is fascinating, as both parties appear strongly motivated. The one is saying 'let's spend more effort to break the barrier of the *not yet*' and the other 'why not accept the never and start thinking about what to do differently?'. It appears a type of debate that is more frequent in some areas than in others – and is pursued especially in the area of social innovation.

From a practitioners' side both parties seem to be misguided. If one tries to continue the past, as in the first position, how come that so few results from research actually shape what is done in practice? There must be something strange going on. One could blame the results, not the researchers. They appear never to be strong enough to use them effectively. And if one tries to work in the future, as in the second position, how come what crops up so frequently are people's objectives and preferences for which there is no place in traditional research? This suggests that there must be a third position, something that separates the two mentioned – and provides support when people wish to act in practice.

The report in front of you describes and summarises Kennisland's effort to develop this third position. It is intended to identify what supports social innovation – typically an event that involves what people aim for. One must want to step out of existing constraints and break the rules and regulations. One must want to accrue value to others. One must want to explore and do something new. One must want to do so without creating chaos. One must want to be free but be disciplined about it. The third position examines ways to help realise these desires in a way that depends on empirical data – about the world we live in as well as about what others do that may help us. Such data are not things one may use or not use. In our research they bring us the magic of experience, the way experience 'brightens the future'.

Chris Sigaloff , CEO Kennisland.
December 2014, Amsterdam

[1] https://webgate.ec.europa.eu/socialinnovationeurope/magazine/methods-and-tools/special-features/bringing-together-social-innovation-research-incubation

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Executive Summary

Deliverable 3.2: Case Study Education Pioneers is delivered in the EU-funded FP7 programme Emergence by Design (2011-2014). Kennisland's innovation scheme for Dutch teachers Education Pioneers (EP) serves as a case study into the emerging field of social innovation. The study consisted of 20 projects that primary school teachers initiated in their schools during the school year 2012-2013. Similarly funded studies in other fields took place in Poland and Italy.

Social innovation is considered a high priority in various countries, including the Netherlands, due to the benefits it is expected to bring in terms of their social structure (health, education, safety, economy). While research was expected to help acquire the knowledge needed to produce those benefits, progress was considered to be slow, if not disappointing. The MD programme was designed to develop a theory of emergence by design.

Among the difficulties experienced is that initiating and maintaining social innovation is a multi-actor endeavour, where each actor has a different objective and hence may resist any predefined collective action. This means that what is of interest is the form of the actors' interaction: the way the actors contribute to each other's practice and together ensure that contributions change whenever the innovation is challenged.

Studying the problem led to a breakthrough in that the process of social innovation was conceived and implemented as a way for actors to engage each other and constrain the resulting activities, i.e. channel their contributions so the resulting collectives become able to self-organise as independent entities. This made it possible to represent their interaction uniquely as a story, or more particularly as an anecdote.

The anecdotes were developed to represent the experiences teachers had in a Dutch innovation scheme as developed by Kennisland: the Education Pioneers programme. They were also tested as to the way they guide people to take initiatives and develop them as social innovation projects. These results indicate that the purpose of the study was achieved. It proved possible to acquire something (the anecdotes) with sufficient quality to help teachers become competent in initiating social innovation in their schools.

[2] The literature review *'Social innovation, evaluation and stories: where do they meet?'* is available in appendix 3.

These results are discussed in terms of some of the consequences of the approach that was developed. It is noted that social policies may be based on them. Several suggestions for future projects and further research are provided.

List of Abbreviations

BENISI	Building a European Network of Incubators for Social Innovation Data Analysis
DE	Dynamic Evaluation
DE-r	Dynamic Evaluator
DIPO	Distributed Innovation Policy Organisation
EP	Education Pioneers
FP	Framework Programme (European Union funded programme)
INSITE	Innovation Sustainability and Technology
KL	Kennisland
LOOK	Wetenschappelijk Centrum Leraren Onderzoek / Scientific Centre for Teachers Research
MD	Emergence by Design
NESTA	National Endowment for Science Technology and the Arts
RCT	Randomised control trial
SI-Live	Social Innovation Live 2014 - Bringing together Social Innovation, Research, Incubation and Action
SIE	Social Innovation Europe
TEPSIE	Theoretical, empirical and policy foundations for building social innovation in Europe

Acknowledgements

This document is a product of experimenting with dynamic evaluation for three years as a partner in a large consortium. Kennisland recognises her indebtedness to the MD programme, generously funded by the EU and initiated by prof. dr. David Lane, forever the intellectual motor behind our efforts. Participating in the programme made it possible to experience the excitement – involving feelings of victory and defeat, but also of play – that comes from having to deal with unusual challenges.

Thanks are due to a number of people who contributed from their special expertise: Kimon Moerbeek, Chris Sigaloff, Paul Keller from Kennisland, fellow DE-developers Magda Jagielska, Martha Kacprzyk, Valentina Anzoise and Stefania Sardo in Italy and Poland, David Lane as project director, and Paolo Gurisatti as project manager. Martijn Russchen and Merijn Terheggen from Factlink, with whom we endlessly prototyped the ICT-tool, and finally built it with large leaps of faith. And thank you Agnese Boscarol, for always being available as our project officer at our host-institute European Centre for Living Technology (ECLT).

Last but not least we would like to thank the teachers and school directors in the Education Pioneers programme and those in the Education Innovation Impulse

programme for their generous contributions of time, for their patience and their cooperation. Without them our research would not have been possible.

Structure of this report

In Chapter 1 (Introduction) we describe the context of the research project Emergence by Design (MD) and INSITE, the objectives of MD work package 3, give a description of the kind of expected results, explain the case study selection and approach.

In Chapter 2 (Research Design), the design choices made for the Education Pioneers programme are described. This includes the use of narratives as identified in the MD project description. The data resulting from the evaluation and the model for their analysis are presented as well as the structure of the desired results (a suitable narrative structure and instruction; see §2.3-2.6). The procedure for testing the results is described (including the criteria used) as well as their interpretation.

In Chapter 3 (Implementation), the practical implementation of the research design are described in terms of the dynamic evaluation procedure, data collection and analysis and testing procedure.

In Chapter 4 (Analysis and Results) the actual results are presented. They are evaluated in terms of the desired quality: do they support social innovation only and not just anything? The evaluation has been conceived as proof of concept, e.g. the results are tested in terms of whether they help to generate social innovation (re-)actions and possibly also the cascades in the social innovation practice – but they have not been explored for possible side effects.

In Chapter 5 (Conclusions), the results and further considerations are described. The focus is on the special nature of the results, i.e. on narratives (and more particularly anecdotes), on the implications for an ICT-tool that supports the research process, and their research and policy relevance and links to efforts within INSITE and MD and the wider research and practice arena.

Chapter 1: Introduction

1.1 Context of the research project

This report documents the research undertaken as part of the FP7 Emergence by Design[3] (MD) consortium's work package 3 (WP3) Dynamic Evaluation (DE).[4] The vision of MD is to develop an international community around new theory, practices and tools able to construct a socially sustainable future. This report refers to the Dutch Education Pioneers[5] 2012-2013 programme, a case study performed by Kennisland (KL). The present report

[3] http://emergencebydesign.org/
[4] FP7-ICT-2011-C
[5] https://www.kl.nl/en/cases/onderwijsvernieuwing-door-pionierende-leraren/

concerns 20 social innovation projects initiated by teachers in Dutch primary schools. Two other case studies were initiated, in Poland and Italy by other WP3 collaborators.

The driver for the MD programme was the INSITE programme[6] (Innovation, Sustainability and Technology; completed in the summer of 2014). The overarching aim for both programmes was 'to provide a window on the emergence of the innovation society, and how innovation dynamics and the relation between innovation and sustainability changed as a result.'

Whereas the INSITE programme focused on innovation as a general scientific topic, MD work package 3 focused on social innovation in a practical setting, in our case that of primary education in the Netherlands. It was claimed that innovation constrained to technical innovation does not lead to the desired positive effects (Lane, 2014). It was also claimed that the usual form of theory is not sufficient, as it does not include the notions of design and emergence. Or more generally, it does not deal with the objectives, preferences and emotions of those involved in a process of innovation – or with their willingness to cooperate in helping to make that process viable. This means that traditional forms of theory do not recognise the collaboration between people as constraints on their behaviour and their potential 'to help them steer the [process of] change in socially positive directions' (Lane, 2011a: 2). Results should be impredicative entities: they should inform the design of innovation as well as be informed by the behaviour of the participants. Such results are expected to benefit those dealing with social ills, but also those interested in supporting high(er) quality actions (see §2.2.3 for an understanding of the concept 'high quality').

The main objective of WP 3 was:

A. The evaluation problem: design a process of Dynamic Evaluation for social innovation based on experiences in the Education Pioneers programme.

It was decided to take into consideration two further issues:

B. The scaffolding problem: How can innovation processes be organized, in such a way that innovation cascades can be guided in sustainable and socially positive directions?
C. A social innovation narrative: What kind of narratives can social innovators use that engages citizens to construct an innovative, but sustainable future for themselves?[7]

1.2 Results

The results of the research are taken to consist of a high quality description of the innovation process and of the way it can be facilitated – and hence also of a summary of the data, its implementation and of the tools used in the analysis of the social innovation process. In other words, the results consist of an improved form of the Dynamic Evaluation process (see §2.2), which provides a description of that process as well as a

[6] http://www.insiteproject.org/activities/research-lines/case-studies/
[7] See: MD deliverable 2.2: Addarii, F. & Lane, D. (2014). Social Innovation and the Innovation Society, p. 21.

means to initiate and identify a high quality implementation. The results should be in line with the objectives of KL as a Distributed Innovation Policy Organisation (DIPO).[8]

The results should be relevant to the policy field as well. Politicians and planners in general may use the results to support social innovation as a very promising approach to tackling social ills and sustainability issues, as well as to improve the local, national and international economic situation.[9] Assessing this kind of policy relevance requires the analysis of various approaches. As far as possible this report will provide such an analysis (see chapter 5).

1.3 Study – selection and approach

Kennisland is an organisation with a public mission. It works in the field of social innovation in the Netherlands. It aims to support innovators in the public, private and third sector. Its main interest in participating in the MD programme is to increase knowledge and competence to support social innovations as well as their sustainability. The MD work package 3 with its practical focus on designing and testing a social innovation process was timely and can be expected to enhance the support offered by KL more generally.

Kennisland offered the Education Pioneers programme (2013-2013) as a practical contribution to the study. It was selected because of its focus on social innovation, be it in (primary) education. It was not a project specially created for MD, as it was prototyped twice before. It was deemed suitable to be included in MD because of previous results that indicated the success of the type of support provided, while the programme design itself could potentially improve from participation in MD. The core Kennisland team for the MD project consisted of 4 staff (see Acknowledgements). The work was carried out over a period of 3 years (2012-2014).

Box 1: About Education Pioneers

The education field in the Netherlands consists of around 6000 primary schools and 1300 secondary schools, where more than 200.000 teachers attend the needs of 2.5 million pupils on a daily basis. However, the numbers of teachers is waning. This is largely due to an aging working population, but teachers also leave their profession due to a lack of drive and enthusiasm to continue their work. Due to 30 years of centralised,

[8] Following the description as given in the INSITE project a Distributed Innovation Policy Organisation is an organisation that practices a distributed, open and inclusive policy-making process rather than a top-down approach to innovation policy because it 'promotes innovation by enhancing the generative potential of relationships among participants in innovation processes'. See: http://www.insiteproject.org/article/innovation-and-sustainability/

[9] Such ills and problems are frequently referred to as 'wicked problems', following Rittel and Webber (1973). This reference is not correct as the term stands for situations where difficulties continue or increase when the approach taken does not fit the requirements for their removal. In the present project the 'culprit' is identified as the traditional form of research itself (see 2.2.3).

top-down national education policies and management models teachers are subject to a highly controlled environment: measures, rules, regulations and inspection visits rule their practice. Although this system aims at high quality education, for teachers it implies strict compliance to the national curriculum, weekly filing dozens of administration forms and rigorous testing of pupils achievements . At best this system results in trained teachers who are very good at implementing other people's ideas and solutions, and delivers society well-educated pupils who know how to digest traditional educational material. But it leaves little time and mental space for teachers to develop self-organized, self-owned innovations that improve educational practices in schools. Nor may we question whether this way of working adequately addresses the learning needs of children in the classroom.

In response Kennisland designed and developed 'Education Pioneers' (EP) in 2009: a learning infrastructure for teachers to create more space for self-organised, co-created innovation in their schools. Education Pioneers (EP) is a one-year learning programme, which supports 20-45 teachers each year. In this programme teachers are foremost trusted in their abilities and ideas. They are given full ownership over their innovation process and are able to self-determine their idea in terms of content and direction. In practice this means that through a national campaign and competition, the selected teachers are offered to take part in the EP learning programme. They are offered additional personal coaching, an on- and offline learning environment and a peer network. Teachers (not their managing directors) govern their own innovation budget (of €3500 - 5000,-) which is not actively monitored by the EP team. In four 'EP-Labs' (facilitated workshops organised on pioneering schools around the country) the teachers exchange experiences, dilemmas and ideas with participants from other projects and get acquainted with basic design-thinking principles (e.g. iteration, experimentation, prototyping). In between the labs they are offered interventions: storytelling assignments that teachers can try out in practice and aim to support and enhance their innovations (see appendix 1).

Five years later Education Pioneers continues to grow and is deeply embedded in the education field in the Netherlands. It is currently co-organised with the Education Cooperative[10], an assemblance of five labour unions for and by teachers.

[10] https://www.onderwijscooperatie.nl/about-us/

Chapter 2: Research design

2.1 Introduction

The aim of the MD programme is to 'develop a theory of emergence by design that can inform [...] processes that DIPOs can use:

A. To facilitate the formation and functioning of networks of social innovators;
B. To dynamically evaluate for themselves, their funders, and the general public the emergent socially transformative effects of the initiatives they generate and enable; and at the macro level,
C. To mobilize civil society to lead the construction of a systemic approach to innovation policy that monitors innovation cascades and steers them in socially positive directions' (Lane, 2011a: 10).

There is a difficulty in achieving these objectives. Such a theory cannot be derived from 'the totality of the interacting entities' individual properties, let alone just those that express agency!' – as would be the usual procedure (Lane, 2011a: 10). This difficulty is expressed in Arrow's (1952) 'impossibility theorem'. It says that individual objectives cannot be summarised such that each individual involved is willing to accept the summary as better. As an example one may think of a company intending to develop and sell a single type of soup. It asks everyone to rank a number of variations on that soup and expects to sell the one ranked first. It has been shown that only those who originally liked the number one soup like it. The old saying that 'one cannot agree on taste' holds. People will continue to prefer their own variation, whatever the outcome of the ranking.

This difficulty does not mean that there is no solution as Arrow himself comments (1952). The number one soup will be bought if the company is able to force them, for example if they have a monopoly – or in Arrow's words, if there is a tyrant. The external assignment of a collective objective ('this is good for you') is an example of such a tyrant. It happens when one endows 'multi-individual organizations with agency', for example the army or a bureaucracy. This type of tyranny may be overcome by introducing a system of voting. If one candidate wins, all candidates who lost will accept the result – as one may hope that one's own candidate may win next time. A third solution is that one allows the individuals involved to interact or in other words that one introduces 'the dynamics of the interaction of many agents'.

One may think of a couple of dancers or of a group of individuals who improvise music. Each individual will contribute as well as adapt to what the others do. After some time something may develop that all accept temporarily, i.e. not as a replacement of each individual's preferences – but as something that allows each to participate. Such temporary acceptance may even imply that individuals modify their contribution if the collective is threatened (such as if one of the dancers stumbles). This means that individual members contribute and may change their contribution even when together they achieve a task that does not change. The variety of individual contributions allows such a collective to resist internal and external threats to what it is doing.

A similar approach was chosen in the present study. Participants in social innovation do not necessarily share preferences as defined in the Arrow (1952) 'impossibility theorem'. According to Lane (2011a: 11) as yet only collectives can be accommodated that include 'a very limited number of agents'. Interactions link agency on the level of the individuals directly to agency on the collective level: one level can be used to monitor the other. This means they link to the idea of stories. Stories serve to make explicit the actors and social values in play and hence help to generate actions on the two levels that make up the quality of the collective as a self-organizing entity (one serving as a check on the other).

In consequence the usual forms of research are insufficient. As indicated above, the notion of what is needed to study innovation points to a form of research that is not like the traditional one that focuses on observing what happens. It has to include guided changes in objectives, preferences and other normative values. This study has been designed to deal with this difficulty. It is to consist of three activities. The first activity in the implementation of the Education Pioneers Programme, is to invite teachers to find ways to introduce a social innovation into their school. This allows individuals to contribute to the overall process, without necessarily having them agree on the final outcome. The second activity involves evaluating the *resulting collective* (the first evaluation). The third activity is to study the collective and identify *what supports* a positive outcome (the second evaluation). The result can be used to facilitate innovations in the future, i.e. as part of the practice of Distributed Innovation Policy Organisations (DIPO's) like Kennisland.

The research to support the second evaluation is expected to contribute in two ways therefore: a) to describe the process of social innovation and the changes and/or impacts that are part of it and b) to provide feedback to the participants in the social innovation projects so the latter are enabled to perform the best that circumstances allow. Both results satisfy the requirements of the MD study, as quoted above.

In the following the three levels are described in more detail, as a way to develop the research design of the study. In § 2.2.1 the process of DE is discussed. In § 2.2.2 the second evaluation is discussed. In § 2.2.3 the nature of research is discussed. In § 2.2.4 the design of the present study is derived.

2.2 Contributions to social innovation

There does not appear to be any agreement on what social innovation is (Kotsemir et al., 2013). Still, politicians, universities and individuals and many other social agents increasingly pay attention to the topic.[11] It is touted as a major new device to resolve social ills as well as a way to 'stay ahead' of other countries economically and politically (Moulaert, 2013).[12] This means that one must expect special difficulties (see § 2.1 and § 2.2.1; otherwise one would expect such agreement to have been reached already). The

[11] See Handbook of Social Innovation (2013); see also conferences (Social Frontiers, 2013) and research projects, such as (TEPSIE), FP7 Emergence by Design), practical projects (Lab and Lab2), HIVOS (international aid and development organisation) and organisations like NESTA.
[12] Social exclusion is one of the ills mentioned by Moulaert and Van Dijck (2013). According to Lane (2013), the Innovation Society has reached a meta-crisis due to the problem-solution-problem ideology that focuses too much on individual activities and characteristics (like creativity) and does not cater for mutual coordination, cascades of social innovation or their direction.

interest in social innovation also appears to be linked to an interest in social innovation as a process where the cost/effect ratio is low (Lane, 2013; Fowler, 2013).[13] This is a new interest, as most innovations that have been recognised as such in the past appear to have arisen accidentally (see § 2.2.2). Some form of guidance is therefore increasingly sought after to ensure such a low (Mulgan and Leadbeater, 2013). The same holds for forms of research that may support innovation (see § 2.2.3). The literature shows a range of attempts to find ways of systematically supporting the initiation of social innovation. The study being reported here constitutes another attempt (see § 2.2.4).

2.2.1 About social innovation

The term social innovation has come into vogue following Schumpeter (1942), who introduced the idea of creative destruction as an antecedent to innovation. Interest started to grow substantially since the 1960's.[14] Despite the long history, examples of social innovation still tend to prove relatively difficult to find or rather to recognise. What is new in one context is not new in another. This means that one cannot identify a set of observable or partially observable events that can be called innovative, independently of other events that occur at the same time and place. Social innovation is contextual in this sense. This becomes manifest in that different authors have different ideas about social innovation and see it happening at different levels. Some authors point to a problem of external control, for example can one force others to act innovatively, others emphasise the difficulty of initiating internal changes of organisational structures (Glänzel, 2013; Design Council, 2013).[15]

As described by Lane (2011a), social innovation refers to a set of phenomena that depends on what some people intend to modify. This means the set is characterised by itself and hence cannot be used as the scientific object of traditional research (unless one accepts the appearance of paradoxes like the Cretan Liar).[16] What is required of social innovation tends to include adding to existing forms of organising so they become sustainable even in situations in which they face life-threatening events, or add to their repertoire of actions. This means that one should expect visible or recognisable changes compared to the existing organisational structure. In other words, the addition should help individual contributions to innovation go in a preferred direction. This means that effects of activities cannot be predicted, but only anticipated (as when one brings sensible shoes to a demonstration rather than high-heeled ones). Furthermore, once innovations have been introduced in some organisations, there may be effects on other organisations, i.e. their impacts cascade.

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[13] One possibility is to think of 'functional differentiation', e.g. where one person takes part in many different networks with different roles. Experiences from one area can be used in another and vice versa, although usually linguistically rather than literally (e.g. as metaphor).
[14] Precursors include Robert Owen (1813), who emphasized social cooperation.
[15] Fowler (2013) suggests 'changing the rules or changing the game'.
[16] Thomas Fowler (1869) states the paradox as follows: "Epimenides the Cretan says, 'that all the Cretans are liars,' but Epimenides is himself a Cretan; therefore he is himself a liar. But if he be a liar, what he says is untrue, and consequently the Cretans are veracious; but Epimenides is a Cretan, and therefore what he says is true; saying the Cretans are liars, Epimenides is himself a liar, and what he says is untrue. Thus we may go on alternately proving that Epimenides and the Cretans are truthful and untruthful."

2.2.2 About evaluation

Evaluation tends to be defined as a systematic attempt to uniquely assign some value to the subject of an evaluation: the evaluand. An example would be to assign the value 'success' to a training when its objective has been achieved. The concept of an objective raises the question 'whose' objective is involved. As discussed in § 2.1, the answer usually is: nobody's. What is meant is that an objective is introduced like 'the best' or the 'cheapest', so acceptance depends on the local culture. Such general objectives tend to lead to some people to disagree and hence to resist. What serves as the evaluand is the result of a choice – such as a pupil at the end of a course when a specified behaviour is required. Two types of evaluation are distinguished. One is *summative* (the assignment of a value takes place at the end of a process, i.e. after the evaluand has been stabilised).[17] The other is *formative* and involves the assignment of values at different moments in time. Formative evaluations have the added value of making it possible to guide a process. In this case results are used as feed*forward*, as indications of what is to be done to bring a process closer to the realisation of its objectives. The aim of the Dynamic Evaluation[18]project is to identify and evaluate an approach that formatively supports forms of social innovation in so far they are recognisable both by those implementing and sustaining it as well as by others (see § 2.1; Lane, 2011a). Dynamic Evaluation consists of an instruction (for example a story) that helps facilitate people getting together and initiating some form of social innovation – in a process of self-organisation (i.e. without external help after its initial provision).

2.2.3 About research

Definitions of research seem to vary at least as much as those of evaluation and social innovation. They range from those accepted in physics and chemistry to approaches like action research and appreciative inquiry.[19] Action research has been designed to address individual members of existing systems, usually to help them liberate themselves from structures and concepts that may have been imposed on them for institutional or ideological reasons (Reason & Bradbury; 2013). The appreciative inquiry approach (Vickers, 1983; Cooperrider & Kaplin Whitney, 1999) is to serve as an alternative to collective problem solving. The aim is to interactively design and implement a future desired and positive state and thereby avoid the imposition of general goals as well as the use of coercion. While the rationale of these and similar approaches may be clear and well defined and may even lead to the desired effects, doubts have been raised as to calling them research. They tend to function as interventions with local benefits – that still need some form of research to recognise their effectiveness.

One way of dealing with this lack of clarity is to look for patterns in the definitions. Two forms can be recognised in what many authors label research (e.g. Cohen et al, 2007). The first is referred to as traditional research. It involves striving to combine a set of observations (or rather a set of reports of what different individuals have observed, preferably individuals who act independently) by mapping them onto one or more

[17] See Leadbeater, C. (2012).

[18] See Lane (2011a). A related approach is Developmental Evaluation (Patton, 2011; 2012). See also literature review section 3.2 in appendix 3.

[19] See http://en.wikipedia.org/wiki/Research for an overview of research approaches and definitions.

statements so there is no incorrect inclusion or exclusion.[20] Once a mapping is accepted by any number of observers (this usually means that acceptance is not changed when a member is admitted to the class of observers)[21], it is considered of high quality.

We use many such mappings in daily life even though they are not of very high quality (but rather of medium quality). Examples are the mapping of canes (or houses, or kettles) onto the term 'cane' (or 'houses' or 'kettles') to recognise the canes (or houses or kettles) that we may come across in the future. Mappings of higher quality are labeled differently, for example 'laws', 'theories' and 'models'. One may think of the observations of falling objects that are mapped onto the term gravity (the 'law of gravity'). These are forms of collective 'knowledge' that function as a new resource that does not require additional investment efforts to find a mapping. This 'knowledge' is independent of its use, which implies that it also doesn't change when it is used to predict - so further predictions remain possible.

Those who have knowledge in this sense are able to predict future observations. Given some elements in the set they can identify others in the set, given the statement onto which they are mapped. For example, given the velocity of objects at some point in time, one can predict when they hit the ground. It also implies that the statements can be used to replace individual reports, thereby improving the latter – i.e. making them less personal, less biased and more immaculate (Nietzsche, 2003). Finding a mapping depends of course on the conditions implied in the above: that identifying the set is independent of the mapping (Rosen, 1991). If it is not, any mapping will depend on personal intentions, i.e. on what any individual wants as knowledge. In other words, in this case the mappings preferred by traditional research are impossible.

The second form of research seems to coincide more or less with research concerning ways of achieving effects.[22] It involves striving to find instructions for addressees to act to achieve some purpose.[23] Action research and appreciative inquiry are examples of sets of such instructions. As indicated, two approaches have not been shown to achieve what is intended. Research to do so takes as its input people's intentions, judgements, valuations, emotions, etc. (rather than their observations). Their implementation is expected to lead to a group of interacting individuals – in the here and now, but extending to the future – who contribute to the group being sustained by its own combination of activities. This means that no collective objective needs to be defined. The actions of the group may not be identified as a form of research, but this may happen, for example when members aim to contribute and perform research (but not when research methods are imposed; see the work of Arrow (1952), referred to above). Implementing the instructions is

[20] Statements usually include concepts like variables over the set of reports that may be combined, for example, into differential and integral equations. In physics and similar disciplines the set of observations is linked to a set of events, and a high quality link is referred to as 'objective'. Such research thus is said to aim for 'objective knowledge' (Popper, 1992; Rosen, 1991).
[21] Methods of statistical inference help in this case (Wilcox, 2010). Processes of identifying high quality statements may be organised in other ways as well, however (Popper, 1992).
[22] Examples include the instructions of statistics ('if you wish to empirically support statements about populations, you should start by taking a random sample') and of traditional research ('test whether a hypothetical statement fits the available data').
[23] Synonyms include recommendations, advice, adhortations, plans, manuals, suggestions as well as stories and anecdotes

expected to lead to a collective that maintains itself and hence can be mapped onto some statement (as in the first form of research). In other words, the collective links what its members do and what it itself is doing.[24]

The term collective is being used in the above in a general sense. There are special cases as when a collective consists of the same person at different times, for example someone talking to him- or herself, or someone suggesting future constraints on him- or herself. An example is someone using a cane, with the objective of improving his or her walking. The cane prepares the next step in which it can again be used to improve that person's walking. What remains undefined (as in the more general case) is what walking achieves as a collective of steps. One cannot see or know where a person using a cane is going. It is possible, however, to search for canes that provide an efficient interaction between the person in the past and in the future. If successful such canes can be said to have high quality: they make it possible to create collectives that are able to maintain themselves, i.e. as persons that continue to walk even when obstructed by stones or hills - and hence can be researched in the way of the more general type of collectives.

The research performed to deal with the difficulty of the present study (see § 2.1) is of the second kind. It is intended to instruct individuals to innovate as part of some specific context. It is intended to create or identify what narratives (i.e. instructions) are needed to initiate and maintain social innovation in the future.

2.2.4 Design of the study

As indicated in § 1.1, this study focuses on the process of Dynamic Evaluation (DE) as explored in the Education Pioneers 2012-2013 programme. Its aim is, firstly, to implement this kind of DE. In addition and secondly, DE is to be evaluated. In terms of the above, the implementation of DE is taken as the evaluand. It includes the activities in the Education Pioneers projects as well as the activities of the Dynamic Evaluator. It is maintained by the interactions among these activities. They allow for changes in contributions that help social innovation to appear. The value to be assigned to the evaluand is whether the latter happens (e.g. 'successful'). The results of the study (see § 2.2.3) should provide an answer to the question, therefore, what form of coordination (see § 2.2.2) facilitates social innovation (see § 2.2.1).

To answer this question one will wish to study how each Education Pioneer project develops. To do so one might try to observe its development and map the resulting set of observations onto some statement (as in traditional research). If the latter would be of high quality it would constitute knowledge on how various actions (by teachers, pupils, the DE-r and possibly others) result in social innovation. The difficulty with this type of approach is that the set of such observations would not be closed, as defined (see § 2.2.3), but would be undefined – as it is the result of choosing an objective (i.e. a statement about the task of social innovation) and implementing it as a form of practice.[25]

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[24]An example of an instruction is found in the trams in Amsterdam. It states the following: "Would you like to sit down, I can stand up?" It is a suggestion to travellers that requires an interpretation of the present situation (is it busy, could it be considered as an appropriate action), and to make an adjustment of their own intention (I want to sit) without those of everyone else. It addresses those who wish or choose to be addressed and invites interaction among those affected or deemed affected.

25 Fischhoff (1992) followed this approach to help women prevent rape. He couldn't find any set of instructions to

This means that the traditional form of research is not appropriate to achieve the aim of the present study. While there have been many attempts to approximate results by continuing to restrict inputs to observations, the design here focuses on the way the participants in the evaluand interact and thereby mutually support each other in achieving their own objectives and preferences – which thus serve as inputs to what supports social innovation.[26] The resulting collective is sometimes referred to as a practice[27] – a group of people that have proved able and competent to interact and modify individual contributions to the point where it can maintain itself as well as achieve what benefits all members.[28]

Two properties stand out that characterise this approach. The first is that cooperation does not require agreement on a collective objective: what is achieved is the result of individual contributions. Hence, if collective objectives have been introduced from the outside of the collective, no social innovation may take place. The second is that cooperation makes it possible to anticipate and recognise what resources may become available in the future (Reynolds, 1987).

2.3 Overview

The starting point of the Education Pioneers Case Study has been the assumption that it is possible to achieve some form of social innovation. The crucial concept in its implementation is that of the Dynamic Evaluator (DE-r). It refers to one or more persons who support the initiation and implementation of social innovation as part of some organisation. Such person or persons instruct employees or staff members (of a DIPO and its surrounding networks) on how to proceed, introduce exercises and strategies to reflect on what is happening. Examples include helping to create a 'rich picture' that can be useful on two levels: to respond / contribute to other projects as well as to help start collaboration with staff members. Other examples are that participants in a social innovation project share their 'most exciting moment' or undertake 'speed dating' at its start. The Dynamic Evaluator records what participants do when meeting with obstacles and resistance.[29] The DE-r does not serve as a memory, but helps to recognise what resources may be needed in the future. The DE-r thus serves as a storyteller: someone who engages others and helps to choose new directions. In the context of this study we need to consider how the DE-r practice can be sustained (improved or replaced) once the programme has finished. As indicated the result may take the form of stories or of a specific form of story (see § 3.1).

map onto a statement. The best he could do was to identify a preferred advice: 'be alert'.

[26] Lane & Maxfield (2005: 11) propose "an alternative theory of action in which narrative replaces analysis of future consequences in orienting individual actors towards the future. [...]: actors [...] must act in terms of stories whose structure is familiar from their past experience, and then they follow narrative logic, enacting their role in the story."

[27] Alternatively, the development of the evaluand may be seen as the result of an approach that is modelled on research, and may constitute a form of research itself (see § 4).

[28] See Vahl (1998) for a study that led to a large number of instructions in support of a small number of quickly evolving practices. The form of the intended instructions was 'if (observation x), do (action y)'. Some instructions were double and addressed the same person: 'if you do (action x), you also do (action y).

[29] Recording is the process of capturing data or translating information to a recording format stored on some storage medium, visual or auditory.

Chapter 3: Implementation

3.1 Projects

The study was set up as a series of experiments in which participants, in this case teachers who had ideas to innovate in their schools, were asked to start a form of social innovation that they deemed necessary in the school in which they were working. As explained in § 2.2, the aim of the study was to identify what 20 teachers in 20 schools would be doing if they were able to initiate a social innovation. Social innovation therefore is something that people can learn and become competent in – even though there may be some gifted individuals that know what to do by instinct and without learning. This meant that it would be advantageous to identify what people can do to achieve social innovation as well as how they may become better at it.

To achieve this, it was explored what teachers might do to introduce the benefits of innovation as well as how they might improve that activity. They were invited and instructed to explore leaving the 'old order' and preparing for the 'new', but were not told what form of 'new' was envisioned. The aim was to challenge them to initiate a search (see § 3.3). Usually one or two teachers responded who then set out to link to people (colleagues, directors, neighbours, pupils, parents and others) who might help. In this way collectives developed practices in which the members tried to identify what they might contribute and thereby develop one or more self-set tasks. Participants reported that their experiences changed towards feelings of ability and satisfaction during the time the study took place (Schreurs et al., 2014: 1).

Their stories were later analysed in terms of how the activities of the innovators contributed to the schools. This analysis might take different forms: one does not need to be an (external) expert. After examining the experiences of those satisfying the task of the innovators it was decided to explore the relation between the narratives the participants in the study could identify and their effect when participants were asked to use them. When the form in which the narratives would be documented was explored, it seemed that they might serve best in the form of anecdotes. Anecdotes are stories in that they identify sequences of activities and do so by giving them a particular form. They differ from other stories in that they describe how seemingly ordinary events and things became special to those involved in that particular situation. They specify what changes in the narratives are explored, but also refer to important parts – for example available experience as well as what might improve them. The comments collected this way were used to improve the stories, i.e. the anecdotes.

While anecdotes are stories, they emphasise some important experiences. In their first part a situation is sketched that appears to be lacking in some vital ingredient. In the second part what is missing is specified. In the third a change is specified that, when implemented, would introduce a new activity that helps to remove the missing part. In the fourth the advantages of the change are specified. These four points were deemed important as elements of an innovation. They were assumed to remove blockades to the innovation process. It was noted that many anecdotes appear to have a surprising and humorous effect.

In this chapter it is described how the study was set up, i.e. how participants were invited to contribute, what they were asked to do and what anecdote was constructed given their experiences. The anecdotes are considered to have a certain quality, having been developed as part of an innovation process. It was tested by asking a number of respondents how they would contribute to the process of social innovation.

3.2 Rounds

The experimental situation was designed to consist of three rounds, with different activities.

Round 1
In the first round DE was performed so data could be generated and analysed to construct anecdotes (and create possibilities to ensure that they have high quality; these require that the data are ordered and reordered).

Round 2
The quality of the anecdotes was tested with the help of (reported) experiences from the Education Pioneer programme. In addition this quality was checked by education innovators other than Education Pioneers (as part of the Dutch Innovation Impulse Education Scheme, IIO, another KL-project).[30]

Round 3
The activities identified in the previous two rounds were evaluated as to their success, as part of process of Dynamic Evaluation as well as the research to identify any such success. In addition efforts are made to test that policy makers understand the use of the DE so any negative side effects are minimised.

3.3 Dynamic Evaluation procedure

3.3.1 Generating and collecting data in Dynamic Evaluation

The process of Dynamic Evaluation (DE) involves exploring how to channel the activities of the collectives in the projects to help them implement the proposals for social innovation (as part of the research to improve the evaluands). It is attempted to strive to satisfy criteria such as that the results stimulate participants to 'jump out' (in new ways); that the projects lead to wider impacts (cascades) and to new networks that have the potential for creating further innovations; that opportunities are opened (and maintained) to initiate future innovation. To support such striving the Dynamic Evaluator aims to raise awareness (where a project is going), to challenge (inviting comments and presentations by participants) and to identify difficulties.

The role of the DE-r involves organizing a feed*forward* structure, for example together with a project manager of an innovation programme. The structure offers opportunities for feed*forward* (i.e. positive feedback) to change or improve behaviour of relevant actors in an innovation collective while the development of the innovation is ongoing, to help

[30] The number of anecdotes does not match the number of projects, because not all the projects were finished by the end of the EP-year, we have also merged several project stories into one anecdote.

participants remember what they were asked to do and to keep them engaged. In practice, a feed*forward* structure is established between innovators (people who initiate an innovation, i.e. teachers), their innovation community (people who are affected by the outcomes of an innovation, i.e. pupils, parents, school director) and, if there is one, its support structure (a school policy, a government policy, or a programme like Education Pioneers) (see figure 1).

The DE-r helps the participants to archive materials used as well as record activities. The material collected included face to face discussions, e-mail, online communications, workshops, presentations, newsletters, interviews, emails, videos, Facebook and Twitter, etc. During the analysis some further material was added: data from other case studies in the MD programme, and a research report from LOOK (Schreurs et al., 2014).

Box 2. How to organize and structure feed*forward* in such a way that it becomes a learning infrastructure for a group of innovators? In our practice we have found three guiding principles that were helpful in designing a supportive feedback structure:

1. Keep the evaluation process of valuation within the innovation community
2. Generate feed*forward* that stimulates to jump out of existing boundaries to move forward
3. Organize opportunities in which feed*forward* of a collective of innovators can be exchanged

The various activities of the DE-r are pictured in the following figure.

Figure 1: DE Feedforward structure

In this feed*forward* structure, stories are generated. One can do so in many ways, for example through assignments. An assignment in EP needed to be an insightful learning experience in itself while the product could be used to share the stories with others, either in the school, in the innovation peer group, or both. The analysis of the data was anticipated by asking participants for interpretations of their contributions. We have experimented with the following ways to generate stories:

- write your idea in a project proposal
- draw a rich story picture of your innovation environment
- construct a storyline of your innovation process and reason about how you got from depths to heights
- brag about your future aspirations in a story on stage
- interview a peer and publish it online
- shoot a video about your challenge and share it online and in your school
- write a newsletter about your accomplishments and your needs
- use a pinboard in your school to share your developments with your colleagues
- make a cartoon of the most exciting moment in the past 2 months of your innovation
- organize an open space session around a topic of your current challenge

3.3.2 Ordering data into anecdotes

When analysing the data it was attempted to leave out details so eventually *narratives* would remain that participants in the projects are willing to accept as linking what they did when developing their innovative practices. These narratives were designed as instructions, i.e. as identifying constraints to channel participants' contributions to those practices. To bring the narratives in line with the aim of supporting future innovators, the

analysis focused on the formulation of anecdotes (see § 3.1): instructions addressed to individuals to act in the context of some (usually) fuzzy situation by creating a collective so members would become able and competent to recognise resources to deal with those situations to the advantage of all concerned.

3.3.3 Quality of the anecdotes

Anecdotes have a special form.[31] We have found that they consist of four parts that help to support social innovation. They should be coherent and follow a basic structure: a difficulty, a challenging or worrying initial situation, an idea to proceed, its implementation and a surprising result and appreciation (see § 4.3).[32] They should stimulate readers to think 'out of the box' and thereby achieve their own type of innovation in a new situation. They should function like descriptive statements and hence should not include sentences like 'most participants like the idea', 'we applied for funding'. Improvements to anecdotes may include experiences that stem from sources outside of the experiments, i.e. if they can be shown to increase the quality of one or more of the anecdotes.

3.3.4 Recognising narratives

The approach followed separates the identification of stories from that of constructing anecdotes. Some suggestions may be derived that help abstract (or recognise) stories from the reported experiences. They are derived from the case study (Education Pioneers) and are meant to systematise the construction process. One characteristic is that one identifies the value that is added when a narrative is abstracted. Another is that one combines experiences according to the four categories of the anecdotes. Primarily one should ensure that the narratives increase inventiveness and that anecdotes clearly identify the epiphany (second part of the anecdote), the moment of stepping out of the situation in which the addressees operate. Reformulations are to continue until the quality of the anecdotes no longer is considered to increase.

3.3.5 Testing anecdotes

While as much care is taken as possible that the quality of the anecdotes is as high as possible, the quality that is achieved may be less than desired. This is why further testing and improvement is always necessary. What is tested (and if accepted should contribute to the quality of the anecdote) is whether their use helps persons to undertake an innovation. The anecdotes should be formulated such that the probability of something new happening (the ability to jump out) is increased.

The anecdotes and their use were discussed in user groups to acquire feedback, engage in discussion and provide suggestions for improvement. Participants in workshops play

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[31] There are up to five elements distinguished in an anecdotal structure: an abstract, an orientation, a crisis, a reaction and a coda (or evaluation/reflection). See http://www.slideshare.net/edisamsuri/anecdote-11522973. Or three elements: a beginning - orientation, a middle - a remarkable event, and the end - reaction, See www.decd.sa.gov.au/literacy/files/links/link_127309.doc

[32] We found that when a negative result or problem was reported at the end of an anecdote, participants started to focus on 'solving' the problem of the person in the anecdote, instead of looking at their own challenges, and what the content of the anecdote could mean for their future actions.

an active role in this and help to identify the governing ideas (constraints) and the quality in example innovations.

3.4 Designing the test

Testing whether the use of some tool, like anecdotes, is effective and efficient involves a full-scale repeat use of the tool. What follows from the above is that the testing involves as much as possible organisations with many members. Such testing clearly is not some form of a randomised control trial (RCT): not the persons and their contributions are compared, but rather the way they contribute to the quality of the use of the offered results: the anecdotes. This means that one tests whether a group of people who interact are able to achieve sustainability, i.e. become able to deal with threats to the group's continuation. One possibility to do so is to split up the group and ask them to use the anecdotes as a way to design social innovation in their own context.

If the collective converges to achieve competence in initiating social innovation is successful we can claim that the Dynamic Evaluation process not only constitutes a 'proof of concept' but also is empirically supported.

3.5 Test groups and timing

There is no need to use the same material when dealing with different groups. The resulting anecdotes are tested in three settings: one with KL participants, one with EP participants and one with Innovation Impulse Education (IIO). See Table 1.

Table 1: time scheme testing anecdotes

	KL – April 2014	EP June/July 2014	IIO October 2014[33]
a) the difference between the use of the anecdotes and having access to an evaluator	X		
b) the quality of anecdotes		X	X
c) the effectiveness of anecdotes	X		X

3.6 Limitations of the study

The results of the study have been interpreted as having to consist of instructions that have high quality in supporting social innovation. The main feature is that participants have to 'jump out' of their local context. Resources need to be created to continue to develop activities. This does not necessarily imply that the results cannot be used in other contexts than social innovation, but this has to be tested further.

The description of the case study and the results of the data analysis and testing are reported in Chapter 4.

[33] IIO: this testing included three additional anecdotes constructed of data from IIO.

Chapter 4. Analysis and results

4.1 Introduction

During the course of the Education Pioneers programme many data were collected. These include the recordings and reports made during the days that participants met. See Appendix 1 for the EP programme specification. Figure 2 provides an overview of the various data sources.

Figure 2: Data produced by EP participants

1. Project proposals, written by teachers (text)
2. Typed notes by coaches of phone conversations with pioneers, filed in personal text files (text) (by Dynamic Evaluator)
3. Twitter #onderwijspioniers, captured in Storify during the year (text)
4. Facebook group > data in Facebook group (text, shared online media)
5. Typed notes (by project manager / Dynamic Evaluator) (text)
6. Movies made by teachers (media)
7. Notes of oral presentations (by Dynamic Evaluator, text)
8. Rich Pictures (photos of Rich Pictures)
9. Pin Boards (photos of pin boards)
10. Cartoons (text, photos, videos)
11. Speed dates + Marketplace assignment (notes + photos)
12. Group coaching session: scene analysis (audio)
13. Newsletters (text, visuals)

14. List of topics on posters (photos)
15. Peer-interviews (text)
16. Time Line Assignment (video)
17. Bragging Stories Exercise (video)
18. Research exercise on quadrants, coaching session, posters, presentations (audio, photos, text, video)
19. Preparing end presentation (PowerPoints, video)
20. End presentations (audio, photos)
21. End conversations on site visits (audio +transcripts)
22. Dynamic Evaluator Observations in notes (text)
23. EP Intervention suggestions (text)*

*OP = EP in the figure

The data that were collected were stored in a database. The documents and contributions are stored per project, using the following categories (some of them combining categories from the above).

Figure 3: data categories

To prepare for the analysis of the data, for each project the data were drawn from the database and placed into an anecdote folder.

Figure 4: Example of anecdote folder per EP-project

4.2 Construction of anecdotes

The data (see § 4.1) relate to the interaction of two elements: the activities that the participants in the Education Pioneer Programme contribute as well as the Dynamic Evaluator and the constraints they generate for each other (for example only being allowed to brag about their projects). This interaction may converge to something stable, e.g. a way to interact such that all participants are willing to sustain even when this means that they have to change their contribution. Using the appropriate form of research should facilitate this convergence. It involves supporting the interaction and the collective that follows from it. Initially the interaction is based on instructions such as to identify the proposals on which the projects are based and to explore what for instance participants might wish to 'brag' about (see Appendix 1). As part of the analysis the data that were gathered during the implementation of the instructions are interpreted either as supporting the instructions in the direction of social innovation or as leading participants astray. This means that they can be used to improve these instructions, i.e. remove what does not lead to social innovation and select what does.

According to the conceptual scheme introduced in Chapter 2, such instructions are of higher quality (i.e. improved) if they are clearly addressed (i.e. to people who wish to initiate one or more social innovations), facilitate achieving and competently maintaining social innovations and, where possible, help to minimise the costs involved. They should not define the nature of such innovation – as this will depend on the organisational context. It was argued, in addition, that identifying the form of the final results, i.e. the form of the improved instructions, might facilitate the analysis. This is the form of anecdotes, i.e. stories that identify important narrative events that can be expected to facilitate social innovation. They should combine the original instructions and add elements that make the role of the Dynamic Evaluator superfluous – in new projects in the educational sphere as well as possibly in quite different fields. As described in chapter 3, in a next step the anecdotes that were developed using the data were tested as to their ability to transfer the competence achieved in the original projects.

The analysis consisted of going through the data per EP project and ascribing labels to reported experiences such as context, issue, insight, feelings, (inter) action, outcome, clue – as well as what aspect of the anecdotes they would link to. This made it possible to construct the anecdotes – in a process of recursive abstraction (a way to summarise experiences not based on similarities and differences – i.e. going backwards and forwards in using the labels and ordering them in the way of anecdotes).

The research plan separates the identification of stories (part A) from that of constructing anecdotes (part B).

The following suggestions have helped in abstracting or recognising stories (part A) from the reported experiences.

1. Ascribe labels to reported experiences: context, issue, insight, feelings, (inter) action, outcome, clue.

1. **Context**: What context may be referred to? This refers to the circumstances in which an event occurs, i.e. a setting.
2. **Issue**: What issue is addressed? This is the problem that offers the possibility for change.
3. **Interaction**: What (inter)action is referred to? This concerns what individuals do and how others respond.
4. **Actions**: What effects of actions are described? Actions lead to effects that lead to actions – so the reported effects are contextualised.
5. **Value**: What is a value added when a narrative is abstracted? An effect may be recognised as leading to an action that actors appear to wish to maintain. This means that the effect has added value.
6. **Insight**: What insight is acquired? Is there a report that identifies whether an idea is used to structure some series of actions (e.g. an objective or a metaphor)?
7. **Feelings**: What feelings are reported? Emotions that drive actions include loyalty, love, revenge, etc.

2. Combine reported experiences (using the labels) to identify 'jumps' out of an existing situation not only 'to achieve what' but also 'to do what'. Describe the combinations by categorising reports in terms of the parts of anecdote.

The process of *constructing anecdotes* (part B) consists of two steps.

1. Compare the narratives and combine them (if necessary). The combinations should contribute to:

1. increasing inventiveness
2. acting in different contexts
3. suggesting surprising choices in response in a situation
4. increasing the reader's array of options
5. enabling future actions that step 'out of the box'

2. Reformulate the narratives as anecdotes using the conditions defined under 3.3.3.

Box 3. The following checklist may help to reformulate narratives as anecdotes

1. Use literal quotes, in active present tense (by someone saying something crucial for the narrative/anecdote for instance), but don't be descriptive (e.g. 'the teacher disagreed with the idea' versus 'the teacher introduced a new plan').
2. Use/show feelings, in order to evoke feelings, for the reader to empathise with or dissociate from
3. Choose a situation that is recognizable to the reader (e.g. a story in a school for a teacher, a story about missing books for a librarian)
4. Choose elements that tickle one's phantasy (e.g. open claims) and that are replaceable in different contexts
5. Aim at evoking the reader to think of his or her own contributions, ideas, solutions that contribute positively to the outcome of the story
6. The outcome of the narrated values should be ascribed a value ('I tried X and it worked great/crap').
7. Make no errors in language or spelling (i.e. minimise!).
8. Do not included reports that distract the reader (e.g. long sub-stories)
9. Use a logical time line so there is continuity.

4.3 An example

Anecdotes tend to consist of four parts[34]:

1. A sketch of a situation (the old order); it includes the experience of one or more person that something is right, usually without anyone being able to identify what is missing;
2. The experience of a sudden insight, pointing to a way to clarify what is missing and how that might be added;
3. A description of how the insight is implemented (this implies that a new order is added to the old one, as a form of 'doubling', for example someone who walks home does the walking (the act) but also checks that he or she is still going in the direction of home; [35]
4. A summary of the effects of the implementation, i.e. that feelings of what is missing have disappeared, but that new innovation might be needed to continue on the improvement indicated in part 3.

To be recognised as an anecdote the insight achieved in part 3 should be experienced as sudden and unexpected. This means that it cannot be predicted, by definition – and

[34] See footnote 30

[35] On a more general level the 'doubling' is the contribution of an individual to the collective walking home, and through the interaction with the collective the (right) direction home is being checked.

hence that it cannot be part of a theory or model as produced via traditional research. The research method is designed to consider the four parts of the anecdotes as steps where the results of one step is used in the next – and where the steps may be repeated if the quality of the resulting anecdote is not deemed sufficient.

To demonstrate the type of analysis two examples may help. The first example is taken from the 'Smashing work place' project, where the insight was that a 'very special room' was needed. The data for this project can be found in the following parts of the data base.

Figure 5: database 'smashing work place'

The analysis leads to the anecdote described in Table 2. In the left hand column a number of the elements are mentioned that seemed to describe the events in the project. In the right hand column the result of the translation into an anecdote is presented.

Table 2: From narrative to anecdote 5: 'A very special room'

Narrative	**Anecdote 5: A very special room**

Our pupils have many questions and ideas that we can't incorporate into our teaching. It would be really nice if we were able to accommodate that, so they can learn in their own manner, as this is more enjoyable, easier and more memorable. For example if it is about weights, for instance one kilo, it is better to experience one kilo (like a pack of sugar). Or do an experiment with boiling water. I would like to set up a special space to store equipment and materials that can be used by the pupils in their quest to answer their questions or test their ideas. We have a storeroom and a teachers' common room that could be joined together. It would be fabulous to turn that into this special space. To organise and adapt the space did take its time, but we are now ready to use the space. Everybody is enthusiastic about it and together with colleagues and parents we have spend many an hour in creating the space. It will be a 'smashing workplace' for all of us.	-- a) a sketch of the situation -- Our pupils have a lot of questions and ideas which we can't always discuss during class, but which would be good to consider as it it's always better when pupils learn by themselves; its more fun, easier, and will stick. When I teach a class about weights and my pupils ask me 'miss, how much does a rabbit weigh?' I think it would be more effective to let them experience themselves how much a kg weighs. --b) what might be changed -- Because of this, the idea came to me to fill a special room with objects that can be used by children to help with their ideas or answer their questions. But how do I do this? I've talked a lot with colleagues and changed my plan a lot. I've only really started when I was convinced I had come up with the perfect plan. --c) what action has been undertaken -- Together with my colleagues I've decided that it would be great to join a storage room and the teacher's room together in order to create a special working space for children. Organising the room required some time and effort but we've managed to clean the room entirely, adjust and decorate it. Everyone is enthusiastic and together with parents and colleagues we've invested many hours in the room. --d) result description and (e)valuation -- It's a smashing workplace for every one of us; a bit like a lab. My boss really appreciates what I've managed to accomplish. My colleagues helped eventually to decorate the room, and the children now use the room independently if they want to know something due to my or my colleagues' classes.

The second example is taken from the project 'Biblioplus, more than just reading'. In the right hand column one finds the narrative that was constructed as part of the MD-midterm review (in 2013); it was chosen as an emblematic story of the EP innovation projects. On the right hand side one finds the translation into an anecdote.

Table 3: From narrative to anecdote 1: Reading? Reading!

Narrative	**Anecdote 1: Reading? Reading!**

It's a Wednesday afternoon in early 2012, and teachers Suzan and Anna have just finished their school day. The kids have almost all left the building and the school becomes dead quiet. Suzan feels a bit lonely in her own quiet classroom and decides to walks over to Anna's classroom to work separately together on their computers. This time to finish up all the reports they have to write about each child before Spring break. They like working together, or at least be in each others company. There's not much time in their regular week, to exchange ideas, methods, enthusiasm or troubles. Because most of their time is filled with prefab orders: things that need to be done because school leaders, direction, or in general Dutch education policy has said so. Examples are: writing weekly individual child development reports, practicing with children's tests to boost the schools test scores (and public image ...), following pre-designed courses for their professional development. Besides this, the school is multicultural and is not situated in the easiest neighbourhood: it has higher crime- and school dropout- rates than other neighbourhoods.

All together it leaves *little time* for the teachers themselves to design projects they feel are necessary, or in another way valuable to their own development, or improvement of the educational environment. It leaves *little room* to think and practice for and by themselves, and develop ideas and create real projects that assist their children, colleagues or others (parents, the neighbourhood) to improve the quality of their education, profession or living environment surrounding the school.

Back to Wednesday afternoon. Suzan is distracted and scrolls through Twitter. Suddenly her eye is caught by an unusual tweet. 'Anna, did you see this tweet about a programme called Education Pioneers? Go read it, I think we should give it a go. Finally realize our dream to set up a new library for our school!'. Anna reads it and looks up from the computer. 'Let's do it!'.

By August 2012 they receive the exciting news that they are selected to participate in the Education Pioneers programme (EP). Anna and Suzan feel excited to be part of a community of people who also want to change something in their schools. Something for the better. Something they would organize themselves!

--a) Many pupils in my school have a language deficit and it is not easy to bring them up to speed in the regular classes. As a teacher I hope that my pupils get some help with reading at home, for instance with parents who read a book with them aloud. As I do not know if the parents do this, or aware of the reading skills of their children I got the idea to do something in the school to make reading of books more enjoyable for children and parents alike.

--b) I got together with my colleague Jeannette and we came up with the idea to get a load of books and convert a central space in the school for reading, with books in colourful bookshelves and comfy sofa's and chairs. But how do we get hold of the books, what books, and all the furniture?

--c) Dreaming up this idea was only the beginning, so we started to a media campaign on Facebook and Twitter to ask people to nominate their favourite children's books and explain our idea. We did get quite a few responses and ended up with a growing list of titles and suggestions for resources. We also asked the children in the school about their favourite titles, of which there were quite a few. We held a meeting with the parents to explain the idea and got a good response, with many offering their support to help with the cataloguing of the books and the registration of lending.

Anna and Suzan want a modern, interactive library within their school. The existing library in the vicinity of their school has just closed its doors due to dropping visitors numbers and dwindling income. The majority of the pupils have reading difficulties as their parents' first language is non-Dutch. How to stimulate the children's reading skills without books?

Suzan and Anna did not think much at first. They thought they would just build a new library in their school, and have fun. But having access to a small budget, personal coaches, and a community of other teachers who also want to self-organize their innovation in their schools, they start to experience that much more beyond their imagined future is possible. Their idea started to shake and move their surrounding world. Their idea started to cascade. How?

Suzan and Anna took the story told by the EP project team (offered at the start of Education Pioneers) at heart: Dare to Share. Many hurdles had to be taken: creating time to do your project, motivating colleagues, making best use of the budget, and so on. But they started to see every hurdle as a new opportunity to apply their new, optimistic motto Dare (to ask) to Share (the story). And things started happening...

First they shared their story by shooting a video and starting an infectious social media campaign. They ventured out to a neighbouring school and asked the apprentice students to build the bookshelves, who then offered a more sustainable partnership with the school to build other furniture. Suzan and Anna printed flyers to ask people to donate their favourite books. This act prompted famous persons to also donate their books, who then offered their ambassadorship to the school. This has generated more visibility. The news spread to Erasmus university, who is now engaging their students to research the growing reading skills of the children. And the volunteer organisation 'Reading Express' has approached Suzan and Ellen to assist them and the parents in reading to the children.

We approached a famous furniture chain to donate furniture, and a nearby technical college promised to make the bookshelves with the help of their students. More donors were giving small amounts of money to buy the books and materials for lamination. A nearby University took the initiative to set up a research study into the effects of our reading space on the pupils' language deficit.

As the opening day approached us fast we asked our colleagues to chip in and help with preparing the books and painting the shelves, which they did with great enthusiasm. Everything was ready just in time....!!

The community of other teachers (through EP) offered great ideas to try out. Some were successful (write a newsletter; by spreading the word engaged parents, who are now coming up with other ideas to stimulate reading with their children, like lunch readings; engage your colleagues by organizing Friday afternoon drinks, who then start to offer their help and brainpower, and even started to look at new ideas for their school), others less so (using a physical pin board in your school to share your story). Writing up and visualizing their story has also helped in finding new sponsorships. Suzan and Anna have become very articulate in sharing and showing their story. Ikea has sponsored part of the furniture, they won the Samsung Innovation Fund which will offer them extra funds and a traineeship on how to be social entrepreneurs. Suzan and Anna are closing their Pioneer year. But as they say themselves: "This is not the end, this was just the prototype, the beginning. We are going to grow. What we have learned? Dare to ask! Dare to share! With a positive attitude, loads of energy, you can make anything happen." In the future Suzan and Anna would like to make the library into a self-managed, sustainable unit. They have already taken a first step by securing new innovation money from private funds and their own school fund, and hired a library manager. In this way Anna and Suzan can start focussing on a new innovation in their school.	--d) Now the space is regularly used by children and their parents and other volunteers. One of the children reported that reading to her had been something boring, but that she now has to be stopped reading. She just finished a whole series of books on the "Life of a looser"...

4.4 The next step in the analysis

Having identified stories for all the projects, they were compared per project as a way to strengthen them, where possible. Parts strengthened are in red. Green indicates the original wordings. Story 1 has been used to strengthen story 2. The final anecdotes are presented in Appendix 2.

Table 4: Examples to strengthen anecdotes

Anecdote 1: Reading? Reading!	**Anecdote 2: A very strange bird**
Many pupils in my school have a language deficit and it is not easy to bring them up to speed in the regular classes. As a teacher I hope that my pupils get some help with	Many pupils in my school have a language deficit. (they do not enjoy reading). This appeared to us not to be due to intellectual ability, but to the fact that they do not have

reading at home, for instance with parents who read a book with them aloud. As I do not know if the parents do this, or aware of the reading skills of their children I got the idea to do something in the school to make reading of books more enjoyable for children and parents alike. I got together with my colleague Jeannette and we came up with the idea to get a load of books and convert a central space in the school for reading, with books in colourful bookshelves and comfy sofa's and chairs. But how do we get hold of the books, what books, and all the furniture? Dreaming up this idea was only the beginning, so we started to a media campaign on Facebook and Twitter to ask people to nominate their favourite children's books and explain our idea. We did get quite a few responses and ended up with a growing list of titles and suggestions for resources. We also asked the children in the school about their favourite titles, of which there were quite a few. We held a meeting with the parents to explain the idea and got a good response, with many offering their support to help with the cataloguing of the books and the registration of lending. We approached a famous furniture chain to donate furniture, and a nearby technical college promised to make the bookshelves with the help of their students. More donors were giving small amounts of money to buy the books and materials for lamination. A nearby University took the initiative to set up a research study into the effects of our reading space on the pupils language deficit. As the opening day approached us fast we asked our colleagues to chip in and help with preparing the books and painting the shelves, which they did with great enthusiasm. Everything was ready just in time...!! Now the space is regularly used by children and their parents and other volunteers. One of the children reported that reading to her had been something boring, but that she now has to be stopped reading. She just	sufficient opportunities to discuss their affairs with verbally active persons or even to 'converse' about them. This led us to the question how we might provide those opportunities? A colleague and I (I had the idea) got together and we came up with the idea of a special kind of bird: a reading titmouse. The bird (a hand puppet) (made by an artist) lives in a nest, not just a normal nest with twigs, but a nest made of books, on top of one of the bookcases, with books, cartoons and strips around it. The bird does not sing however, it has a rare peculiarity as it can read books! It also likes to have people around it who read books and some beanbags and comfy seats. But people are asked to leave comments on what they have read for the bird. The bird comes to life during the literacy classes, when its home is wheeled into the classroom, and is used by the teachers and the children to read aloud, to further discuss the topic of a particular book, or just simply as a reward (children can choose to sit with the bird) for children to choose their favourite book or cartoons and or do any other 'literary' thing. At one time a parent did ring a teacher to apologise for his child not being able to read with the bird on that occasion! Various writers, poets and others who wish to discuss their work with the children visit the bird regularly. The children prepare questions for the visitor, but may also improvise. The visitor usually leaves a present (not in original wordings) for them so they may continue with reading...

finished a whole series of books on the "Life of a looser"...	

See for the resulting anecdotes (Appendix 2)

4.5 Testing within EP

Testing something may lead to the assignment of the value 'high quality' or 'low quality'. It may also result in suggestions to improve from 'low' to 'high'. It was attempted to test the anecdotes in cooperation with people who had participated in one of the Education Pioneer Projects. It involved distributing a document with the anecdotes to all EP participants with the request to identify the anecdote of their project and make suggestions on how to improve it. Participants might prefer also to select one of the anecdotes of other projects and make suggestions, or make a new one. The next request was to list new ideas for innovation and how others can help with developing that idea.

Although only 5 participants (from 4 projects) responded, they did so freely. The relative lack of response can be partly blamed on the timing (summer holidays) in that a suitable workshop time, place and date could not be organised. The anecdotes were emailed with the question to respond. The answers include:

1. 'nice rounded story, ready to be used.'
2. 'I will be asking for a budget for next year to allow teachers to use the tool.'
3. 'I will respond if I can, but at this moment with the preparation for the new school year it is a bit busy.'
4. 'The anecdote is not correct, the issue was not a lack of literacy but to improve the enjoyment of reading, and the idea was invented by myself and not with a colleague. The bird's nest was not built by us, but by an artist. Pupils do not necessarily need to show good results or behaviours to visit the bird, and can do so as they please. Unfortunately guests do not leave presents with the bird (although I wish they would do so!)'

The contact with the participants of one of the projects led to a further workshop with Kennisland staff and others to boost attempts to innovate further in their school (see § 4.6).

4.6 Testing outside EP

To perform a test where participants would not have the experience of an Education Pioneer Project, a workshop was organised. It included a number of KL employees (not involved in the study) and some invited partners (a total of 12). The aim was to explore whether the anecdotes (§ 4.4 and Appendix 2) would invite additional instructions. Such instructions would help to improve the implementation of the anecdotes – and hence are called their 'lore': what additional instructions may make the original ones stronger. The fewer the additions, the higher the quality of the anecdotes might seem.

Participants were divided into two groups, who were given three example anecdotes (2, 3, 4, see Appendix 2) to read and to respond to (on paper and in the plenary discussion). The first group was asked to provide their reactions to the anecdotes in relation to the practices, e.g. new ideas, and also what issues could be expected to arise if these ideas

were to be developed, and how others could support the development. The second group was asked to respond to a number of questions from the Dynamic Evaluator, asking participants to populate the empty anecdotal structure with their ideas, and probing where contributions might fit. The responses were to be ordered and incorporated, where necessary, in the structure of a new anecdote or anecdotes.[36]

The responses in the second group indicated that participants were not yet equipped to work with anecdotes. There were mixed reactions. The responses indicate that a proposal for a social innovation project could not be formulated. There was a tendency to re-translate the anecdotes to problems that would have to be solved following a traditional solution structure (what are the objectives, what is the problem space, what is the trajectory through it, what is the quality of the solution). The participants' world seemed oriented towards external goals, those that become part of top-down and context-poor problems – for example reorganising the school, getting a higher salary.

This experience suggests the need for a 'lore': additional instructions how to make use of anecdotes. The main difficulty that seemed to be experienced was that social life does not seem to be based on internally and individually defined objectives and goals – contrary to what often seems to be assumed. Rather amazingly, when an anecdote was about how the initial idea was changed to a more interesting one (as Anecdote 4), some participants interpreted this as the report of a failed project.

No such interpretation was needed in the first group. Participants appeared to understand what was required (thus demonstrating the value of the 'lore'), but also highlighted the need for this kind of additional instruction when working with anecdotes. Social innovation is still something outside most people's experience. Using the anecdotes would mean a mind switch: becoming less prescriptive than usual and more willing to work with constraints on the interaction and on creating resources (people sharing experiences) as support. It would especially help to act on an opportunity basis (using resources for new purposes, recognising resources when available).

While anecdotes are well known for suggesting ways for people to channel their interactions and thereby make something work, this channelling or constraining aspect of anecdotes was not recognised by participants in the second group. This is somewhat surprising as this aspect is directly based on what those developing the anecdote did generate. The other missing element in the result of this workshop is a clarification of the role of the collective. Working together does not mean developing a team that is doing something complex. It helps to achieve an empirically justified increase in participants' competence in social innovation.

4.7 Testing in Innovation Impulse Education (IIO)

The Innovation Impulse Education Project (IIO) is another project that staff of Kennisland are presently working on. As part of the process of testing the anecdotes, the Dynamic Evaluator invited its participants for a workshop in September 2014. The anecdotes that were considered consisted of 14 anecdotes from the EP project and 3 that were constructed by the Dynamic Evaluator on the basis of experiences in the IIO project. Twelve participants took part. The workshop was the last of a series of IIO meetings with

[36] The transcripts of this session are available in Dutch upon request

the group (the IIO Brigade). Participants were asked to read the material individually and answer the following questions on a form. This was followed by a plenary discussion. The questions were:

1. What new ideas do the anecdotes provoke? What could you use in your practice?
2. What would you do/develop with these new ideas. What will be your first step?
3. What will be your role?

Some do's and don'ts were included in the task (as part of the anecdote's 'lore'):

- ➔ Prepare yourself to be surprised by the anecdote, wonderful things are possible and of your own creation
- ➔ Seemingly ordinary things become special through the collaboration with others
- ➔ Anecdotes are not project reports with stated aims and objectives and measurable outputs.

For a summary of the responses see table 5.[37] The responses are categorised in terms of what new ideas and new uses they appear to introduce (summarised over all participants) and in terms of what steps might be taken as suggested by the anecdotes.

The responses suggest the following comments.

A. Starting local

Ideas appear to be mainly local, and the examples are all small-scale ideas in a particular situation. This is what is intended: social innovations start somewhere and become amplified and generalised (or not). They are not top-down. Participant raised the issue of one-off ideas that maybe great for now, but may lose their value quickly.

B. Individual and collective

In an anecdote individuals (pupils, teachers, parents, management) are connected to what they achieve together. The connection is central. That is something that does not appear to be taken advantage of sufficiently. There are examples of reading birds and smashing workplaces (or 'study squares'; reading tables, weekly newspapers), but somehow some of these don't work. This might be due to a lack of coherence and directed engagement (people expected being imposed upon, not being engaged).

C. Action orientation

Participants emphasise the 'doing' and 'action' orientation of their practices. One has to face one's 'demons' rather than run away). It was noted that the role one plays in an organisation, like a manager/director or a teacher, might determine the way one interprets an anecdote. This is as it should be – but whoever intends to innovate, must be willing to be engaged. One cannot stand aside and order others about.

D. Form of the anecdotes

Anecdotes emphasise not only the local social innovation, but also show the variety generated in different situations and ideas. The reader does not need to take the anecdotes as prescriptive models. They can use them to create or inspire their own ideas for social innovation, inspired by their own experiences while guided by the anecdotes.

[37] In the table 'A' refers to an anecdote, followed by its project number.

Table 5: responses to anecdotes in IIO experiment

New ideas and use	**Next step/role**
A1 - The world around you can mean more to you than you realise - community group idea: why is it always left to the usual suspects – frustration	A1 - What can you do if you want to realise something for which there is no money - example - stimulate someone to pick it up
A2 - Make it vivid - special (contact, content, owner)---> general (copy attitude; contentless; a 'method') from small to 'too big'	A2 - You can leave the initiative with the children - proclaim/copy
A3 - Invent an exchange programme (circuit or workshop or...) - Sharing of talent. Use for example students from the University to set up projects Collaboration with Higher Education. - create movies with assignments	A3 - Ask pupils during mentor or classroom moments about their 'life' outside the school. Show more interest in their interests - organisation - connect; Show the bigger picture/transport to the ideal world, discuss own shared vision
A4 - See A1. And: take the world inside (this is 'fitting' education) - Seek collaboration with a care organisation in the neighbourhood of the school	A4 - organisation
A5 - In equipping a school (space, materials) = starting situation: The school belongs to the children! - Differentiate in teaching materials. Create space to specialise. Replace 'wet' practices with 'dry' digital simulations.	A5 - Starting from an experiment (a smashing workplace) take experiences to the whole - collect material that pupils can work through on their own. Combine also with digital didactics. Discuss with colleagues, to also offer materials from other subjects. - Do the experiences fit the vision? What is success in this? What does this mean for the whole (building, functionality), or for the facilitation of this process - Collaborate, share own material and be criticised. Make quality improvement.
A7 - QR code use it (more) often	
A10 - 'do' Don't talk about a new structure but create the experience of it.	
A11 - 'Do' under the guidance of an enthusiastic	

teacher--> gives them wings and they can fly further	
A12 - Peer-teaching: The instrument!!	
A14 - no deep seated change; get acquainted and experimenting is enough - Stimulate the use of devices: connect parents, pupils and teachers; teachers like to do things; embedding in the organisation	
A15, 16 & 17 IIO anecdotes A15 - Visible actions!! Leave on the agenda! Keep on coming back to it - for whom is this the solution? A16. - celebrate! - Pay attention: everything what gets attention grows; captain needed for ordering and guide route (see 17) - It may develop 'different', go 'astray', but needs some correction A17. - growing and learning is in the doing - 'captain' is needed to bring order/decide the route, shoot bears - Attitude 'it' ok, how is it going; do guard the main route however - don't stay in the game playing mode when difficulties emerged (the impasse became apparent) but face it. Next: Energy!	- Inventors, innovators take others with them. This is how they get 'action'! Action, experiencing is important! Teacher learn often though experiencing. - Do it - what do you want? do you deviate? check if ... - The story 'I have a dream' call it 'to put a dot on the horizon. The inventors, innovators should engage with the operational level. They can help to realise the 'dream' through my questions, stimuli, etc. I guard the process, connect routes (such that they continue in the direction of the goal), celebrate success, use talents, give attention and space to individual people, communicate about the project, call meetings, evaluate.

Chapter 5. Conclusions

5.1 Introduction

Kennisland (KL) performed the case study reported here in the context of the Education Pioneers 2012-2013 Programme and as part of the FP7 Emergence by Design (MD) consortium's work package 3. It was undertaken based on a general belief that in the present era there is a need not only for technological innovation (as demonstrated by the surprisingly fast change in ways to communicate), but also for social innovation (see Chapter 1). At present the term still appears to have as many meanings as authors writing about it. Some of these can be interpreted as part of the Innovation Society ideology, where 'innovation has become a project of innovation itself', 'reified as a goal in its own right' (Andersson and Lane, 2014: 5). This does not imply that one cannot identify some core aspects; it means that in doing so it is not claimed that these meanings have started to converge. These core aspects support the case study's interpretation of the objectives of WP3, as listed below.

The objectives of WP 3 are:

A. The evaluation problem: design a process of Dynamic Evaluation for social innovation based on experiences in the Education Pioneers programme.

It was decided to take into consideration two further issues:

B. The scaffolding problem: How can innovation processes be organized, in such a way that innovation cascades can be guided in sustainability and socially positive directions?
C. A social innovation narrative: What kind of narratives can social innovators use that engages citizens to construct an innovative, but sustainable future for themselves?

To realise these objectives, it obviously would be helpful to clarify what these core aspects are. Unfortunately, this is not as straightforward as one might wish. As a first step it actually seems preferable to look for what social innovation is *not*, as there is a tendency to confuse what it is with what it is not. It does not refer to solving some collective problem, or analysing some collective needs (at least not in the context of research, but in daily life people might). The reason is that in both cases it seems to be assumed that when the problem is solved or the needs fulfilled the problems and needs of the individuals involved are dealt with as well. This does not prove to be the case, as Arrow (1952) has demonstrated.

The possibility of replacing individual behaviour by the collective behaviour only holds in the case of traditional research where the focus is on observations. Nobody seems to doubt that models such as Bohr's model of the atom and Leydesdorff's triple helix model of organisations (Leydesdorff, 2006) have sufficient evidential support for them to replace the individual ones. In contrast, there does not seem to be a (scientific, i.e collectively acceptable) model of social innovation – at least not yet and not in the traditional sense (based on observations). This is in line with Andersson's en Lane's (2014: 9) suggestion that social innovation is linked to a complex type of situation where the individual and

collective are sufficiently connected to prevent either level of behaviour from replacing the other.[38]

It would seem that if the authors would be wrong, traditional forms of research should have been successful already since a long time in building a model of social innovation. This would have involved identifying a set of examples and ways to partition that set ('find parts' in the authors' terminology), i.e. describe the set in terms of some variables.[39] If this would have been possible it should have helped to build a model and acquire knowledge of social innovation in that it can be recognised and modified or controlled through the variables. Unfortunately, this would require that the set and its partitions are independent – but following the author's argument (and the apparent and continued lack of a proper model) suggests that both are dependent.[40] This means that building any such model requires a choice by the researcher (see § 4.1).[41]

This form of subjectivity is not usually considered acceptable in research – but some choices of this kind may clarify more than others. An example would be to prefer a change in the way people do things, like building ships, worshipping their gods, taking care of social ills, such that value accrues to those involved (see § 2.1). This kind of change might require an investment in terms of effort or money, but the expectation would be that the benefits surpass the costs. It consists of breaking a habit or a rule and hence involves a stepping out of what happened before – without this leading to chaos. The order in social innovation is not the order of the collective (as it would be in the case of dealing with problems or needs). It is the order of people preferring to *self-change* their world, in lieu of the researcher.

This kind of order does indeed appear to be the type that Lane and Maxfield (2005: 11) refer to.[42] They recognise that it is not a collective goal that individuals are after. It is the realisation of their personal wish to change the constraints on what they do and hence the way their activities are channelled via their local or societal rules and regulations. The authors conclude that what is needed is 'an alternative theory of action in which narrative replaces analysis of future consequences in orienting individual actors towards the future. [...]: actors [...] must act in terms of stories whose structure is familiar from their past experience, and then they follow narrative logic, enacting their role in the story.' The authors' theory refers to action, i.e. to something that is purposeful and does not satisfy the independence requirement – so finding the theory has to be newly designed.

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38 Andersson and Lane (2014: 9) call situations where this is the case 'wicked'. They refer to situations where people behave 'wickedly' in that they resist the replacement of the collective by the individual and vice versa.

39 Andersson and Lane (2014: 10) refer to the development of formal approaches to understand complex systems as a major methodological challenge. Most formal models do not include interactions between elements that have preferences and objectives – another core aspect of social innovation.

40 A first attempt to deal with this type of dependence is embodied in the approach of systems thinking (Bertalanffy, 1968).

41 This lack of decidability has been interpreted as an indication that innovation involves intangibles (for example when measurement is mentioned (SI live 2014 conference). This interpretation appears flawed in two ways. What is involved are future oriented experiences like objectives, preferences, purposes and other emotions. They are not intangible. To measure them a representation is required as well as a 'scientific object' onto which the representation is mapped uniquely, given a set of modifiers. Such an object was conceived (in chapter 2) as a collective that is maintained by its interactions (Suppes and Zinnes, 1963). See § 5 below.

42 The paper is part of the references of the INSITE program of which the present study forms part. It is managed by Prof. dr. D. A. Lane.

5.2 Collecting and analysing data

The present study was designed to do so. It was decided first to allow for the development of a set of self-chosen and self-constructed examples and then to search for properties in the way of traditional research, as such a set would have made this possible. The examples consist of 20 projects, part of the Education Pioneer programme, that aimed to initiate social innovation in primary schools. In each project a Dynamic Evaluator was appointed who supported the developments via some form of 'nudging' such as letting participants know the constraints on what they were doing (and steering them away from solving 'a' problem). Some of this took place in the form of exercises, some in the form of questions and answers, some as part of discussions, e.g. to identify special experiences by 'bragging stories' (see Chapter 3). The activities of the Dynamic Evaluator provide support as feed*forward*, i.e. as summaries of what had been done and might be avoided in the future, given the constraints. The aim was to help develop of a collective that would self-organise to pursue its self-chosen activity.

In each project a change was implemented via relatively clearly defined phases. The first was the formulation (proposal) of an idea, usually by one or more teachers in the schools. Such a proposal had to benefit the pupils in some way, *without* a specific problem being specified. Secondly, other teachers and supporters would be invited to cooperate in implementing the proposal. Thirdly, it was attempted to maintain the changes and keep them vibrant. Fourthly, a meeting was organised to compare the experiences. Taking these steps required motivation as well as a strong personal interest in helping pupils to become active and maintain the change. The procedure made it possible to represent the steps as an anecdote, based on the experiences of the participants (archived as data). This representation is explicitly intended to guide people, sequentially, to think of something different as well as one to improve on the implementation of each project.[43]

The anecdotes were constructed in such a way that their quality could be expected to be high, i.e. support future innovators to innovate as well. This implied taking account of all the data, including 'tips' and combining them into a narrative. It was argued that if a project led to the desired outcome (a change in the direction of a social innovation as judged by the participants) its underlying anecdote would have to have high quality. This did not guarantee, of course, that the anecdotes derived from the data would also have high quality – so a number of attempts were made to test and improve the anecdotes afterwards (see chapter 4. 4). Firstly, the anecdotes were presented to the project participants. Second the anecdotes were discussed with non-participants. And third some additional anecdotes were formulated that were discussed and commented upon by members of another innovation project, part of the portfolio of Kennisland. These activities did not lead to changes in the anecdotes, but added a number of instructions to 'ease' their use.

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[43] MD website (http://www.insiteproject.org/activities/research-lines/dynamic-evaluation/): '[d]iscovering new patterns of interaction, and the generative relationships to which they give rise, emerging potentials, unforeseen transformations in social organization and values, and similar unpredictable innovations must be a primary goal of evaluation – as they are a primary goal of such projects – and no a priori choice of measurement parameters can capture these emergent features.'

5.3 What the study achieved

It has been noted that it is possible to make certain social changes appear, including those that can be labelled social innovation. When it is attempted to acquire knowledge that identifies what needs to be done to achieve them, difficulties arise. In fact, where such acquisition is attempted a number of difficulties appear (see § 5.1), as Andersson and Lane (2014) emphasise. The main difficulty appears to be to identify a 'scientific object', something that is independent of its partitions or properties. The breakthrough of the study is the way a collective of actors is constructed (the analogue of the set of observations) who interact and thereby contribute to its maintenance.[44] Via their interactions such a collective may achieve independence from its environment and thereby become recognisable. This makes it possible to find a representation onto which that collective can be mapped uniquely – and hence to identify and quantify some of the properties of the collective. The property that is at the core of the type of collective is the way the actors in the collective interact.

Implementing the aim of the MD programme involved identifying whether a narrative would allow for a unique representation of that interaction in the above sense (and hence serve as the 'alternative theory', see § 5.1 and Lane and Maxfield (2005: 11)). More in particular it was explored whether a type of narrative, i.e. an anecdote, would serve as such a representation. It proved possible to construct an anecdote for each of the projects. It summarised the constraints suggested by the Dynamic Evaluator during the course of the project as well as those that appeared to maintain the social innovations. Via additional testing the anecdotes could be shown to suggest how to initiate, develop and maintain a social innovation. In this sense one can say that the study achieved its purpose. *It proved possible to acquire something (the anecdote) with sufficient quality to help teachers become competent in initiating social innovation in their schools.*[45]

In addition to achieving its purpose, one may appreciate some other advantages of the breakthrough. This is that the notion of a policy can be clarified or what a government might do or not do to improve the way its population is able to act. It should not ask for problems to be solved or needs to be analysed. Doing so will prevent further innovation. It should not demand particular changes, either in products or in forms of organisation. Doing so will prevent further innovation. It should ask researchers and their likes to continue to help develop examples of social innovation and construct representations, i.e. anecdotes.[46] It should help distribute the latter as well as invite users to contribute to a national database. This may serve to develop the 'lore' of the anecdotes by making supportive instructions explicit. Such a database obviously has political as well as

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[44] The idea of an alternative type of 'scientific object' appears to solve the 'scaffolding problem' as identified in Lane (Lane, 2011a). It allows for collectives to be members of other collectives and hence for cascades of innovations – when one has an effect on a collective on another level.

[45] Competent teachers are considered the analogue of people who have practical knowledge.

[46] Epstein et al. (2012) are proposing a typology of narratives in support of public policy, based on data collected in a socio-technical civic engagement system. The issue that is discussed is that policy makers have no access to 'situated knowledge'. However, the typology has not been tested, and there is no indication or discussion how this 'operationalizes the non-quantifiable contributions of lay commenters' or in what sense this represents 'situated knowledge'. Both concepts (operationalisation and knowledge) are highly technical concepts. One cannot say: 'and the rest is easy'.

economic value.[47]

5.4 Limitations to the study

It cannot be claimed, of course, that the study was perfect. Among its main limitations is of course that the anecdotes have to be appreciated in the context of the activities of the Dynamic Evaluator: helping potential innovators to recognise what might lead to a social innovation, helping them to deal with emotions (for example via an exercise with story bragging), bringing advantages to their organisations (in the Education Pioneers programme, these consisted of an engaging series of collaborative workshops). The anecdotes summarise this kind of support as well as the way the results of each step facilitate the next step. This limits their quality – but also identifies how they can be improved.

Although it seems relatively safe to conclude that the study does introduce a breakthrough, this does not mean that social innovation does not hold any secrets anymore. For example, it did prove difficult for all teachers to be full-time attentive to its possibilities. Some found it difficult to spend time to engage in social innovation. Some needed more training to recognise the value of social innovation – and, most surprisingly, others interpreted the lack of predefined results and hence not achieving them a form of failure that should be avoided (see Chapter 4.4). More work is clearly needed to make social innovation something that is natural, something that one can do even without much free time. Even we ourselves, the researchers, found it difficult to construct the anecdotes without being seduced to look for 'problems to solve' and 'needs to satisfy'!

In addition, the study is limited in the usual ways. It was restricted to what may be done in an educational setting, where the 'product' (education of children) and the 'methods' (teaching) are relatively clear. The setting includes a strong tendency to work with rules and traditions as a way to provide a safe environment for education. This means that there may be little reason to resist relatively small changes – as long as major innovations are avoided. It is known for example that teachers often reject innovations such as changes in examining, in loosening classroom discipline, and the like. Another limitation is of course that what has been called the 'lore' of the anecdotes has not been fully explored yet (see Chapter 4). In the analysis only those data were used that were collected.

5.5. ICT-tool

One of the tasks of the EU funded project 'Emergence by Design' is the development of tools to support any process of social innovation, i.e. by providing advice to help guide that process to make the results stronger, less dependent on disturbing influences and more responsive to opportunities.

The description of our (analogue) implementation and analysis process of Dynamic Evaluation (see chapter 3 and 4) holds clues for a pattern that digitally supports DE in future social innovation efforts. Dynamic Evaluation consists of an instruction that helps facilitate people getting together and initiating some form of social innovation – in a process of self-organisation. In this the DE-r serves as a storyteller: someone who

[47] It is interesting to note that one of the first collections of anecdotes to 'move up' and innovate themselves was published in Britain (e.g. Smiles, 1859/1866).

engages others and helps to choose new directions when participants meet with obstacles and resistance. In the context of this study we considered how the DE-r practice can be sustained (improved or replaced) once the programme has finished. As indicated the result took the form of stories, or of a specific form of story: an anecdote.

Thus the aim of ICT-support is to support users (social innovators) in developing and sustaining their social innovations by helping users (social innovators, DE-r's) to analyse and evaluate the generated data and to create high quality anecdotes. Such effort was undertaken in building the ICT-tool Feed Forward.[48] The tool is an online platform that connects individuals and groups of social innovators to support peer-learning and generate collaboration and supportive behaviour to move practices of social innovation.

The tool has the following functionalities:

- providing a feed*forward* structure in the form of an anecdotal story-template (to stimulate users to give structured, positive feedback)
- creating open access to user-generated knowledge on innovation processes (to inspire other innovators)

Users are not yet helped with a research function (e.g. clipping) to clip posted resources and re-construct stories on the platform into new anecdotes. A more elaborate description of the tool and a review is available in MD-deliverable 3.4.1.

5.6 Future work

The breakthrough in studying effects that are considered 'intangible' by some authors but can be identified via the notion of 'self-constructed scientific objects' (see § 5.3), will have value in other areas than education.[49] The issue of the inclusion of personal objectives and purposes in research is repeatedly raised in many areas of society, where traditional forms of research time and again prove to be insufficient. These include areas as diverse as crime prevention, marketing, providing support to the disabled, etc. The challenge this provides has already been taken up in projects of Kennisland such as 'School leaders for better education', 'Innovation Impulse Education' and 'Social Innovation Labs', eg. the one just recently finished in Amsteldorp, Amsterdam. A project that is being considered is a crash course for teachers to develop innovations in the way of the Education Pioneers.

Further diversification and study is also necessary to identify, for example, what aspects of the anecdotes were most effective. This will make it possible to speed up the study of how to summarise examples of social innovation. Some level of international organisation may help in this. This includes the adoption of the approach via interactions by other DIPO's, for example Social+ in Denmark who was early in adopting the mindset of DE and was able to use it in a different phase of innovation processes (prototyping). Other countries where there is an interest in Dynamic Evaluation are Australia and Indonesia where the MAMPU Program is being developed (Indonesian Women's Movement for Poverty Reduction, a joint initiative of the Australian and Indonesian government). Nationally efforts are under way in Dutch research institutes like LOOK and the Kohnstamm Institute.

[48] http://feedforward.me/
[49] The approach appears to have value in many areas where research often appears to stall. Applications can be envisioned in areas such as childcare, safety and food control come to mind. The same applies to the notion of instructions as 'alternative' theories.

5.7 To conclude

Social innovation is a highly desired development, but its nature and its initiation remain somewhat ephemeral. At its best what has been achieved is incorporated in the way things are and have always been (although once full of promise and liberating). At its worst it is confused with other approaches to social change such as needs analyses and problem solving (including problem formulation). Even so it is considered important and even necessary for economic survival. In the recent past there have been many attempts, therefore, to support social innovation. These appear to have run into a wide range of difficulties. Some of the reasons for this have been identified in the present study. By dealing with these it became possible to develop a breakthrough – a way to systematically help improve (small or large) numbers of actors who interact such that each serves as a resource to what others want to achieve.

This approach is characterised by a number of issues that belong to the core aspects of what can be found in the literature on social innovation. For example, it is not a replacement of the usual top down values by other top down values – those called 'alternative' values. It rather makes use of participants' own wishes to identify what is to be achieved and in what type of actor constellation they choose to do so. It combines a number of activities. The first is that anyone wishing to socially innovate has to evaluate what activities might be required. The second is that any such evaluation has to be evaluated itself, i.e. guided by some narrative, or more particularly an anecdote. The third is that both forms of evaluation are to be made part of a process of improvement that takes objectives and preferences as its input. This process has been explored in the present study and constitutes its breakthrough.

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Appendix 1: Education Pioneers programme specification

Table 6: 20 EP-Projects[50]

Project title	**Idea**	**School**
1. Analysis through serious gaming	Playful tailored education	De Zonnewijzer, Dronten, Flevoland
2. An apple a day...	Using tablets as tools to renew education and increase parent engagement	De Vendelier, Helmond, Noord-Brabant
3. Workshop Special	Better visual special education through involving creative parents in workshops	Olivijn, Almere, Flevoland
4.Re-experience Zuidbroek	Increased interaction between pupils and environment through creating an experience space	De Zonnehoek, Apeldoorn, Gelderland
5. The ideal weekly task	A tool to create a weekly task will help to efficiently accommodate level differences between pupils	De Tarissing, Oudewoude, Friesland
6. Biblioplus, more than just reading	An interactive school library to stimulate reading and engage parents as well	De Globetrotter and Toermalijn, Rotterdam, Zuid-Holland
7. The reading titmouse	The reading titmouse is a hand puppet that turns reading into an experience and whom book industry celebrities visit.	Tarcisiusschool, Rotterdam, Zuid-Holland

[50] The numbers of EP-projects do not correlate with the numbers of the anecdotes. We were not able to collect enough data from projects 18, 19, 20 as some projects did not generated enough data to produce an anecdote (due to personal circumstances of innovators)

8. The outside world within easy reach	Subject teaching: search yourself for information, instead of learning guided by a text book	Jan Bluyssen, Uden, Noord-Brabant
9. I see, I see....	Using current images to challenge pupils to ask the right questions and to answer these whilst researching	Sint Jan School, Amsterdam, Noord-Holland
10. Creating interactive movies during class	Use Movietrader tool with pupils of group 8 as its final activity	Parkschool, Utrecht, Utrecht
11. It Conex-Us	Through (digital) knowledge exchange between schools develop education from the inside	Prins Clausschool, Nijmegen, Gelderland
12. QR codes in education	Offer contemporary and creative educational information	De Wissel, Zuidland, Zuid-Holland
13. Smashing workplace	A multifunctional workplace where pupils can learn following their own interests	De Globetrotter, Rotterdam, Zuid-Holland
14. Talent teaches Talent	Utilising talent from secondary education to stimulate talent in primary education	De Zonnebloem, Den Haag, Zuid-Holland
15. Teamblogger	Learn from your colleagues with and through social media	De Liaan, Helden, Limburg
16. Responsible societal collaboration between primary and secondary education	To offer pupils extra educational opportunities through intensive contacts between primary and secondary education	Heuvellaan, Apeldoorn, Gelderland
17. Investigate!	Create wider access to the expertise of teacher through the clever use of IT and multi-media	De Fontein, Alphen aan de Rijn, Zuid-Holland
18. Guides guide	To create a digital guide that helps to identify guides, talented people, businesses and interesting places	Kindcentrum De Ontdekking, Oosterhout, Noord-Brabant
19. Not a very bad day, but a language day	To organise an annual event around language, reading and fun, with the pupils and their families and neighbours	De Hinkstap, Wanroij, Noord-Brabant
20. Roald Dahl children's workshop	The pupils are stimulated to learn by exploring and discovering. They are going to	Roald Dahl Kinderatelier, Zwaag, Noord-Holland

	construct something with the help of artists, using creative techniques.	

The Organisation

The Education Pioneers programme structure allows for a number of phases and activities. It is summarised in Table 2.

Figure 6: Education Pioneers programme structure

In September 2012 a designated coach started the first individual conversations with the participating teachers in their schools (preferably within the presence of the school director) to discuss and sharpen the selected project proposals. Four meetings were scheduled in which project members meet with those of the other projects (see § 4.4.1 – 4.4.4). The helpdesk and internet-based communication (for example a website, Facebook, Twitter etc.) are designed to support functions around this structure, initially for the duration of the project.The teachers participated in exercises, the results of which are discussed and shared. In the structure at least three levels of 'learning activity' are stimulated:

1. On the level of the individual Pioneers (project): what change is desired and what should members experience or 'see' changing, what are the next steps and how can the change be sustained?
2. On the level of the school organization: what (transferable) principles and concepts are developed through which a can become innovative and sustainable through self organisation?
3. On the individual school/engaged environment: what change can be initiated that is 'contagious' and sustainable (as a variety generating example)?

Topic Pioneers day 1: Research and design (10 October 2012)

The Education Pioneers were given a number of assignments.

1. Each project presents the main elements of its proposal through a 2 minute video and a 3 minute presentation;
2. Each project presents a 'rich picture' of the idea, e.g. on that indicates who is affected by the idea, what is the main issue, what is the way forward;
3. Each project organises that the rich pictures are discussed in groups to reflect and share challenges.

Participants received tools to support interventions in their practices. For example the EPs were given a 'notice pin board' to share their new idea in their own school environment. They could pin up questions, updates, etc., as a way to improve the project idea, e.g. sharpen it, make it more precise, create interest and start collaboration.

The Dynamic Evaluator helped to develop ideas to support each innovative project. Making a video and creating a 'rich picture' or initial story are elements that can stimulate the interaction and can be useful on two levels: to know the other projects and to respond / contribute to them, but also to start the storytelling and collaboration on site. The project thus served as a tool to start coordination between individuals, school organization and outside world.

A number of tools were used to support collaboration

1. Facebook group (closed, to build trust), blog with monthly contributions, a video about the project, a website, a hash tag for twitter: #onderwijspioniers;
2. A notice board in the school, newsletters, flyers;
3. Evaluative conversations about what change is envisaged, how to organize this, what is needed, how to sustain the change through the rich picture assignment.

The data that were collected include fragments or story snippets, from videos, presentations, notes, emails, coaching activities, and rich pictures.

Topic Pioneers Day 2: Experimenting and learning (November 2012)

Between day 1 and 2, Pioneers were consulted via coaching conversations regarding their experiences with the project. This was partly to create an individual and project learning history (which was kept in files to be accessed by the EP project team), and to examine the important or valuable learning experiences in relation to positive social change and innovation in the school.

In response to comments from the EPs, the second day programme was designed to first respond to and share individual questions on the projects. This was set up as an open-space type speed date, without instructions on which questions to ask or answer. The questions that still needed feedback from others were put on an market place board, which were later also shared on Facebook to receive more feedback if needed.

Based on feedbacks from coaching telephone calls, twitter, Facebook responses and other data the EP team designed an assignments:

1. Scenes in the Life of a Pioneer.The pioneers are asked to send in their contributions in the form of a cartoon or of a story that is visualized. It had to

describe an 'exciting moment' (positive and negative) and show what the strategy was used to overcome that moment.

The second part of the Pioneers day consisted in analysing and learning from the 'most exciting moments' and in sharing working principles and strategies on the encountered experiences.

The tools to support collaboration included cartoons, market space, speed date, ICT-book: a discussion on a book on ICT tools used in the classroom that was to be shared with colleagues at school.

The Dynamic Evaluator monitored the pre-submitted visual documents of pioneers sharing their 'most exciting moment'. They provided records on what participants do when met with obstacles or resistance and the impact of their solutions. The data that were collected include answers to questions, reports on feedbacks, story fragments and potential collective narrative strategies (in response to a challenge 'dare to share').

Next the Pioneers were asked to organize some activity in their school that would widen the project to a bigger issue or audience. The main aim was to create 'movement' and some positive impact in the form of unusual positive experiences.

Topic of Pioneers day 3: Up-scaling of project experiment (January 2013)
Participants were asked to implement their improvements through small experiments and to prepare to report on this for the next Pioneers' day. They summarized their projects in terms of advice or suggestions that they think would be worthwhile for other projects to consider and thus have to reflect on what they have learned from the experiment.

The Education Pioneers were given a further assignment.

1. The participants were asked to write a newsletter for a specific audience that could be of help to your project and use the newsletter as a vehicle to get your environment to move with you in the desired direction. This assignment was based on feedbacks from various data from the EP team as well as inspired by an education pioneer who had already made and shared a newsletter.

The tools that were used were, firstly, the sharing of open stories (as on the first day). It was referred to the *open space methodology*. Pioneers were asked to promote their own idea or question and gather feedbacks from the other pioneers. Eight open spaces developed where questions were asked like: 'how to receive further funding', 'how to motivate my colleagues', 'how to engage my colleagues in using ICT tools'. In addition the skills of the individual pioneer were focused upon by applying the appreciative inquiry methodology. Next Appreciative Inquiry was used to explore discovery, dreaming, designing and destiny to get further ideas on how to improve the EP Project. The aim was to focus on previous successes in life and figure out what were the ingredients of those successes, and how they could be applied to the individual projects.

The Dynamic Evaluator collected the materials preceding Pioneers' day 3 and commented on the story fragments and on the narrative strategies participants were proposing to use

to improve their projects and its impact. The data the were collected included open space posters, newsletters, shared stories and various types of notes.

Topic of Pioneers' day 4: Conceptualization and sustainable transfer (March 2013)
The participants were invited to present the results of their projects. They were also asked to provide advice to other projects. Such advice is made more precise via group discussions (who is the addressee, where are the resources coming from, what are the benefits, objectives, etc.)

The Education Pioneers were given a further assignment.

1. The participants are linked to a peer pioneer who interviews them on three levels: the pioneer, the project, and the environment. The pioneer will fine tune his report on their needs and wants, to be shared on Pioneers' day 4.

The Dynamic Evaluator referred to the narrative strategies that have been identified from the interview fragments, e.g. 'dare to share'. She asks the participants to order the advices such that a hierarchy is created (where all is put in a logical order, e.g. if one advice states that a budget should be obtained it must be clear where this fits and what the main features are of this advice (if you get it ... you... or if you don't...., you do....).

The tools that were used were threefold.

1. The first part of the day is spent on 'bragging' about the key elements of the pioneer story, to arrive at the strategy on how the pioneer got to that point of success. In bragging, the pioneer gets to a point of the story where they say: "... So,... If I were you... Then...".
2. The second part of the day is spent on sharing sustainable strategies that are already being developed on the individual, project and environment level.
3. The list of those strategies forms a set of instructions to consider further improving the sustainability and impact of the projects and to prepare for the final presentation in front of the jury on the last day of the EP projects. These set instructions are to be serve to transfer the results to new or existing projects looking for support and further improvements.

The data that were collected include the bragging stories, assignment outcomes, and the recorded peer-interviews.

Final EP event and jury selection for trophy (May 2013)
On the fifth and final day the participants who initiated the projects presented their results to the jury and to the other project participants. The winning innovation was first pre-selected by the Education Pioneers themselves, and then selected by an expert-committee consisting of a teacher, a policy maker, a civil servant and a representative of the labour union. The winning innovation project was: "Investigate"!

The Dynamic Evaluator presented the instructions and stories to participants in the form of the self-written reports from assignment 4, including the experiences and advices derived from Pioneers' day 4. The reports were shared online (Pioneers website). The results were archived and made available for future projects, possibly also for other contexts than education.

The tools that were used are the presentation of the instructions and the voting procedure procedure. The data that were collected are presentations, and data from the voting procedure. Furthermore a concluding interview was recorded with each pioneer after the final event.

Appendix 2: Anecdotes

Anecdote 1: Reading? Reading!

Many pupils in my school have a language deficit and it is not easy to bring them up to speed in the regular classes. As a teacher I hope that my pupils get some help with reading at home, for instance with parents who read a book with them aloud. As I do not know if the parents do this, or aware of the reading skills of their children I got the idea to do something in the school to make reading of books more enjoyable for children and parents alike.

I got together with my colleague Jeannette and we came up with the idea to get a load of books and convert a central space in the school for reading, with books in colourful bookshelves and comfy sofa's and chairs. But how do we get hold of the books, what books, and all the furniture?

Dreaming up this idea was only the beginning, so we started to a media campaign on Facebook and Twitter to ask people to nominate their favourite children's books and explain our idea. We did get quite a few responses and ended up with a growing list of titles and suggestions for resources. We also asked the children in the school about their favourite titles, of which there were quite a few. We held a meeting with the parents to explain the idea and got a good response, with many offering their support to help with the cataloguing of the books and the registration of lending.

We approached a famous furniture chain to donate furniture, and a nearby technical college promised to make the bookshelves with the help of their students. More donors were giving small amounts of money to buy the books and materials for lamination. A nearby University took the initiative to set up a research study into the effects of our reading space on the pupils' language deficit.

As the opening day approached us fast we asked our colleagues to chip in and help with preparing the books and painting the shelves, which they did with great enthusiasm. Everything was ready just in time....!! Now children

and their parents and other volunteers regularly use the space. One of the children reported that reading to her had been something boring, but that she now has to be stopped reading. She just finished a whole series of books on the “Life of a looser”...

Anecdote 2: A very strange bird

Many pupils in my school have a language deficit. This appeared to us not to be due to intellectual ability, but to the fact that they do not have sufficient opportunities to discuss their affairs with verbally active persons or even to ‘converse’ about them. This led us to the question how we might provide those opportunities?

A colleague and I got together and we came up with the idea of a special kind of bird: a reading titmouse. The bird (a hand puppet) lives in a nest, not just a normal nest with twigs, but a nest made of books, on top of one of the bookcases, with books, cartoons and strips around it. The bird does not sing however, it has a rare peculiarity as it can read books! It also likes to have people around it who read books and some beanbags and comfy seats. But people are asked to leave comments on what they have read for the bird.

The bird comes to live during the literacy classes, when its home is wheeled into the classroom, and is used by the teachers and the children to read aloud, to further discuss the topic of a particular book, or just simply as a reward for children to choose their favourite book or cartoons and or do any other ‘literary’ thing. At one time a parent did ring a teacher to apologise for his child not being able to read with the bird on that occasion!

Various writers, poets and others who wish to discuss their work with the children visit the bird regularly. The children prepare questions for the visitor, but may also improvise. The visitor usually leaves a present for them so they may continue with reading...

Anecdote 3: Sharing talents

It strikes us that there are many colleagues at our school who have interesting hobbies or skills that they do not use in the classroom. The same appears to be the case for many pupils, parents and people in the neighbourhood. An example is Jan, a teacher at our school; he is a passionate bird watcher, knows a lot about birds, which type of species they are, where and how they live and where you can find them. Next to that we have Michiel; who loves baking cakes in his spare time for birthday parties and events. Both of them need little incentive to talk communicatively about their favourite subject.

It should be possible to share their passions and knowledge with the pupils at school, but how do we make this work? Teachers can't easily just go from one class to another to tell their story or show what they can do; this would result in an organisational mess.

Suddenly we came up with the idea to allow these teachers to make a small movie about their favourite subject. This shouldn't be too hard with the current technological developments. These movies are an ideal way to express their passion. In the classroom they can be shown as, for instance, an introduction to a biology class. We proposed our idea to colleagues who expressed interest in the idea, but wanted to link it to a practical assignment. We asked them for ideas and concepts on which they would like to work themselves. An example is one colleague who just moved into his new house that still needed new windows. How much glass do you need to order for new windows? The pupils were asked to make a movie about their inventarisation for new windows, as part of a mathematical class at school. The technical side of the assignment was a bit difficult (which cameras to use, how to record the sound effectively) but two alumni pupils who started their own film production company assisted us. Ever since we have been making a lot of movies, and some of them are even to be found outside the school, for instance on YouTube.

Through these movies the teachers receive more publicity and attention at school. This strengthens the involvement and enthusiasm of the teachers, and the pupils are easier to involve through these short movies and assignments. We would've liked to make more movies, but Lydia has an IT-position, which Joyce hasn't. This results in more work pressure for Joyce.

Anecdote 4: Experiencing music

Our school is part of a new compound with two 'ordinary' primary schools, two schools for special education and four apartment complexes for the elderly and people who need care. It is our challenge to build a community together, starting with an exhibition which can function as an 'experience room'. How do you do this?

Pupils can work with parents and produce something from that: for instance photos, interviews, objects and exhibit those in the room. Pupils who receive special education could produce something with sound that could be exhibited. But when we organised the first music classes for these pupils we realised that this didn't suit the goal of the presentation. It occurred to us that being involved with music is a whole new experience for these pupils and this is regarded much more important. We also realised that it would never make it to the exhibition as the children are unable to do this.

We discussed with the other partners of the compound, the parents and the regional organisations. The idea to organise an exhibit was cancelled. It was very helpful that the coach from Education Pioneers gave us the space to adjust our plan. We came up with the idea to organise a 'music day' for the whole compound as part of 'doe-NL', a national campaign for volunteers. Everyone would be involved with music for the whole day, including the pupils from special education.

The day itself was very successful. Pupils from special education received an individual programme with a variety of musical activities that suited their interests. Experiencing music was the main focus and this was very appreciated. As a wrap-up, this day a foundation was initiated which will raise funds for the incorporation of more music into special education. This way, collaboration with nearby schools and institutions can be collected and guaranteed for the future. And you know what? We still have the whole budget on our account, as the initiative worked as a strong incentive to request other subsidies.

Anecdote 5: a very special room

Our pupils have a lot of questions and ideas which we can't always discuss during class, but which would be good to consider as it it's always better when pupils learn by themselves; its more fun, easier, and will stick. When I

teach a class about weights and my pupils ask me ‘miss, how much does a rabbit weigh?’ I think it would be more effective to let them experience themselves how much a kg weighs.

Because of this, the idea came to me to fill a special room with objects that can be used by children to help with their ideas or answer their questions. But how do I do this? I’ve talked a lot with colleagues and changed my plan a lot. I’ve only really started when I was convinced I had come up with the perfect plan.

Together with my colleagues I’ve decided that it would be great to join a storage room and the teacher’s room together in order to create a special working space for children. Organising the room required some time and effort but we’ve managed to clean the room entirely, adjust and decorate it. Everyone is enthusiastic and together with parents and colleagues we’ve invested many hours in the room.

It’s a smashing workplace for everyone of us; a bit like a lab. My boss really appreciates what I’ve managed to accomplish. My colleagues helped eventually to decorate the room, and the children now use the room independently if they want to know something due to my or my colleagues’ classes.

Anecdote 6: At your own pace

Children learn in different ways and at different paces. It can prove difficult to anticipate these differences with standard teaching programme. Some pupils get bored when things go too slow, for others the programme is too fast. How could you ensure that everyone learns at their own pace, but still learn the same?

At our school I’ve developed a system where children are divided in three groups according to their learning speed and level. The assignments are different per group, but the subject stays the same. I’ve tested this system in my class and the classes of my colleagues; they were very enthusiastic. They think it’s a clear and useful system and help me with improving it.

As it seems to work very well, I’ve started to introduce this system in other schools. I receive a lot of questions from teachers about a lot of subjects and I can ask them advice because I have a lot of experience in education. For

me, it's a chance to start my own business in order to share my experience with others. For instance, I got invited to give a workshop at a regional meeting of teaching in primary education. I've visited a couple of schools and after that I gave presentations on the ideal weekly task.

It's an incredible widening of my work and my own business is going to be a challenge. I will still continue to teach, as this is the kind of work that you cannot do without experiencing how things happen in real life.

Anecdote 7: Bottom-up IT

Developing a vision and a plan for IT at school is no frivolous luxury. We already did something with computers and software, but this usually concerned software which teachers purchased for their own classes. This resulted in each teacher doing their own thing and a lack of coherence in our IT policy. But how do you combine a plan, vision and practice?

I decided to discuss the use of IT in their practice with my colleagues. Next to that it seemed to be of interest to me to explore how iPads could support our education. Unfortunately these iPads do not use Flash Player so we had to look for something else. This is why we came up with the idea to use Quick Response Codes in order to 'hide' a particular content. A QR code is some sort of barcode made from blocks that is linked to information that is activated when scanned by an iPad.

We have made a lot of our teaching material available through these QR codes and it is still adding up. It takes a lot of time but the results are satisfactory. The pupils are also making their own instruction movies, in which they explain or show something, which is available to use by others.

This way, pupils can access the teaching materials more on their own pace and choose their own assignments and explanations. Parents can use the QR codes to take a virtual tour through the school and soon to request progress information about their children. In brief, bottom-up IT stimulates the curiosity of children and my colleagues, and this is how they can undertake an independent quest for information.

Anecdote 8: Crossing borders

At our school we have a lot of children with higher-educated parents with international interests. Some of these pupils are gifted. How do you develop a concept that ensures a better connection between our education and the parents and pupils?

As a first attempt to work more on an international level we wanted to organise a regularly exchange with a Canadian school. This wasn't easy as our pupils don't all speak English very well. Next to that, it would costs a lot of time and money. We were looking for a solution for this. English classes were the most logical solution, but this would have to happen outside of regular hours as it requires a lot of time to learn how to speak in conversation, try to buy something in a shop etc.

We were still in contact with alumni pupils who were now in high school and together with them and my colleagues we came up with the idea that they would probably like to teach English to primary school children. This was the start of community service at our school for high school students. Next to English, other subjects were developed on which students could share their knowledge, i.e. 'learning to learn', Spanish and maths. We promoted this initiative by communicating that this initiative prepares the primary school pupils in a better way for the transition to high school.

The pupils are really enjoying the project, and the educational organisations now have a better cooperation and network to organise and coordinate activities.

Anecdote 9: An exciting game

The process of learning does not only take place in educational settings; this is common sense. We asked ourselves whether it is possible to find something outside the system that we could apply to the educational learning process. When you listen well to the children you can see that 'gaming' is a popular activity in which children invest a lot of time and energy as they find in exciting and fun.

We believe that learning is more fun and easy for children when they are motivated. Next to that, by using a game, it is easier to track the educational

progress of the pupils. This results in the best of both worlds. How can we enrich the educational system with gaming?

I found two games on the Internet: the Numbers Garden and the Language Sea. Pupils can increase their mathematical skills through social gaming. The programme adjusts to the level of the pupil who will be rewarded for progress, like in every other game. Every week the teachers will assess the pupils' progress and will plan the activities according to their levels. This takes time, so it would be best to be assisted by a class assistant.

It's much easier for the teachers to track the progress of their students this way. Next to that, the pupils are satisfied and positive about the programme; they can learn according to their own pace. We are now discussing the further embedment of these games into the IT policies of our school with the director. We are also talking with the municipality about the IT policy of our school to see whether there is more space for these kind of aids. We hope we get more support.

Anecdote 10: Teachers learn from teachers

Our school has four different locations. A lot of people work part time which makes it hard to combine our efforts effectively; most teachers do not know each other, or only superficially. Meetings often take place at one location (which results in only half of the teachers attending), a lot of things are discussed multiple times and decisions are made without everyone knowing about them. How can we improve this?

First of all, the exchange of information should change, and it should not become dictating or compelling. When teachers exchange information with each other they can not only learn from each other, but also get stimulated in the way they teach (based on a cooperative learning strategy).

Through Facebook teachers are invited to share experiences, while at the same time a new didactic structure is proposed during the meetings that can be used in education. These structures limit the communication and stimulate people to cooperate. Teachers can get their inspiration from a 'material bank'.

Through a closed Facebook group the exchange is initiated. The topics in this group are very varied and don't focus on education only. It's very nice to be

informed about the experiences and knowledge of our colleagues, they agree. It's much easier to get into contact with each other now. We also communicate better with the parents to promote our new practice. They think it's great that their children don't only learn from their own teacher, but also from other teachers.

Anecdote 11: A digital quest

There's so much more to know and teach about subjects than what's written in the textbooks. The Internet is filled with information, and it's a challenge to incorporate that information into the educational system. But how do you do this?

My colleagues and I considered this and tried to come up with ideas to become more 'digital'. We came up with 'quests'. Pupils receive quest topics from my colleagues and I (for instance, 'water') and are expected to consult the Internet for information. They will have to organise the information and summarise it in a digital presentation. This information is shared and published on a Wordpress website.

The pupils are extremely excited. Visitors from here and abroad hear about the work of the pupils on the website and leave complimenting comments.

Anecdote 12: Catchy standouts

Some pupils are better in some tasks than others. What stands out is that the tasks they excel in are usually driven by passion or talent. Shouldn't every pupil be able to access their personal talent? The way this generates energy for learning and doing is fantastic! But how can you design this?

At some point, Michiel came by. He used to attend our school but is now attending high school. Enthusiastically he told us about the drawing classes at his new school. Finally, the penny dropped. We need students like Michiel who can use his enthusiasm for drawing to motivate our pupils.

We came up with the idea of a societal internship. High school students with a particular (creative) passion can participate in primary school classes; sometimes giving a lecture on their own chosen topic, other times just to talk to the pupils in primary school.

We conducted a questionnaire to figure out who has a certain passion / talent and discussed this idea at school. It was received very well, and we even received immediate support for the coordination of the idea. It was difficult to integrate it in regular school hours so we had to conduct the project after school, but everyone was willing to do so.

Anecdote 14: A bite from the apple

The new IT technology offers a lot of new opportunities for our educational sector, our pupils, our teachers and parents. It is increasingly used on more areas. The educational sector cannot stay behind in this development.

It doesn't suit us to be primarily consumers. We will have to find out for ourselves what we can do (or what we would like) in the field of IT, and how we can make it entertaining for ourselves.

Our first challenge is to enrich the educational sector, our classes, with IT. We offered five iPads mini to our teachers over a period of two months. We allowed the teachers to use these iPads freely. Next to that, we created Facebook-pages and Twitter-accounts so teachers could share their experiences with iPads in their classes. We provided access for the parents to the grouppage their child.

We are experimenting a lot, and finding out the differences between, for instance, a Lego app (to built something) and a CupaSoup app (to consume something). We also use the competitive / gaming element of apps a lot.

Anecdote 15: From two to one (IIO)

I manage two schools, in different locations. I believe that both schools can benefit more when there is more cooperation - for example, by uniting the two schools in one building we can accommodate teachers to better benefit from each others experience and knowledge.

I first took the initiative to organise our meetings jointly, but I kept the agenda for each school to be treated separately. In addition, I introduced a deadline in order to start a new organization structure.

Then other things happened, as in a domino game! After organising a learning seminar, a group of 'innovation teachers' started to form itself. They came up with all sorts of new innovations in both schools. They asked the help of an external coach and organised a study day. A pupil council was set up, as well as a focus group with parents. Of course it helped that a school inspection took place, and we didn't score high. This helped to feel a sense of urgency to move forward.

Especially the study day led to better mutual understanding between the teachers of both schools, and also to a better understanding of why we could benefit of combining the schools. My two teams of teachers spontaneously formulated the new organizational structure to enable more positive experiences and new interactions in the future.

Anecdote 16: Dynamic process, vulnerable results

I started at a new school and wanted to challenge myself and my new team to move from a normal, ordinary school to a 'slimfit-school', a Dutch innovative concept I regard as positive movement towards a better education of our pupils. But how could I go about?

I did not want my team to come up to me and say: that concept is forced upon me, or: it had to happen because of you. I've once experienced that before at another school, that does not work.

So I began to work from a concept I call "collective willingness and availability". I set up an innovation team, who organized many informational and consultation meetings. I wanted everyone to be part of this new story, and stimulate their intrinsic motivation. I did not want to push people over the edge. If I saw they were not happy I asked: "You might want to move to another school? If so, I will help you." By working with this concept, people felt personally involved in a collective ambition.

We celebrated our milestones collectively, this helped to feel we had really achieved something together. But a tight organisational configuration also helped us. We decided to base ourselves on four pilars: content, organization, personnel and ICT. Especially the introduction of a new digital calculation methodology worked as an amazing catalyst.

We are now a 'slimfit school'. What remains is a creative tension in the relationship between processes and outcomes. The slim-fit process is especially seen from teaching and coaching approach to children, a responsive approach, in which the children are given autonomy and control. But the results are vulnerable... It remains an exciting discussion between whether to just train their cognitive skills or to look at the complete child at all times.

Anecdote 17: Bears out of the way

We were already quite an innovative school, and we were already doing group-breaking work. So when we quickly wanted to become a 'slim-fit school', I as a director wanted to address our approach to mathematics because many pupils were falling wayside. How could my teachers address this challenge in our new slim-fit concept?

The team came up with the idea itself: they wanted a methodology called 'phased mathematical education'. Their first step was to gain knowledge, deepen knowledge, share knowledge by visiting other schools who already have it. We went to reflect on our own organization, how we could implement this by ourselves, as a kind of blueprint. Well, there were all of a sudden all obstacles on the road! I did not expect it, because my team was so innovative! What to do? At the time I had hired an external 'guru' and I wanted to discuss what to do with the bears on the road. Were we going to shoot them, walk away from them, scare them away, play with them in the woods? But that expert did not do a thing! And I thought ... errr .... and now? I'm not a hero with bears! I was so disappointed. I trusted her in taking this adventure with me, and now that people see bears she's screaming: "iieeu help, bears!". It was an all time low, and I thought, forget it! I'm going to do something completely different.

I said goodbye to the charming lady. And I myself proceeded with the team. I explored the bears, which were actually very practical, basic bears. But diverse! Yes, one was a grizzly bear, the other a cute teddy bear. We therefore took a step back, we appointed the problem openly, and on the basis of Slimfit we started redesigning. I said to my teachers: you look at

that school, and you at that school! What helped was to make the change visible in the school: we purchased tangible things like calculators and an ict-programme. And soon enough the energetic "YES-feeling" really came back up! We started up the mathematics coordination group and we stumbled on tools like YouTeach. Everyone came back in the ok- mood!

I came to understand that it is important for a team not to focus on one goal, or one organisational model, but that it worked better to diversify and work in different groups to find out for themselves. The catch is just WOW! Ultimately, it is not bad that this happened at all. Sometimes you just want to really focus on that goal and sometimes it was adapted to our new insights, and I saw that other wonderful things happen too. How bad can it be, that some things just happen.

Appendix 3: Literature Review: Social Innovation, Evaluation and Stories: where do they meet?[51]

Abstract

The European Union as well as many governmental and political organisations appear increasingly interested in social innovation and are funding relevant projects. The results are expected to help countries like those in Western Europe improve the quality of life for their citizens and maintain a competitive edge on world markets. Kennisland, a small research organisation in the Netherlands is participating in two projects aiming to provide such results: 'Educational Pioneers' and 'Emergence by Design', respectively.

A first step in any projects is to review the literature. The present contribution is the result of such an effort. Originally the task was expected to be straightforward: one checks the Internet and the Library, summarises what has been done and designs a way to fill the gap of what hasn't been done. Social innovation did not appear to differ from many similar gaps in our knowledge of social life. Unfortunately, identifying the gap proved more difficult than expected. No convergence in terms of what is meant or of how one might proceed could be found.

This is not due to a dearth of publications. Their distribution appears a bit skewed, however. While one would expect the study of a social phenomenon always to invite two

[51] This literature review was delivered by the authors in February 2014 as part of the preparation for this case study.

types of results, studies from the outside appeared to dominate. Part of the gap proved to be a lack of information about what guides people to socially innovate from the inside. There were more complex difficulties as well. To be able to build on what has gone before one needs to access definitions and preliminary theories. Their variety without a clear pattern suggested a deeper problem.

What seemed to be especially relevant in terms of a gap were insights on how to initiate and support social innovation – not as something accidental, but systematically. This led to an exploration of the type of research that might be needed: if the study of a certain area does not seem to go forward, it may be that the approach taken is misguided. It was argued that traditional forms of research require that the data set can be closed, i.e. the set of reports about some events or series of events. This makes it possible to model that set and to use the model to guide the events, whichever way.

It also is argued that no closed set of reports can be found if the events one studies concern a change from old to new. This implies that the set of reports is frequently updated and hence cannot be closed. Two ways to deal with this problem were identified and explored. One is to approximate closure by some form of evaluation – for example comparing intended and actual effects or providing feedback to social innovators and thereby support them. The other is to focus on what research may support the construction of social innovation.

The literature concerning both approaches was reviewed. It was attempted to identify the advantages and disadvantages of a form of evaluation that aims to minimise closure via the external evaluator. An example is a form of evaluation called Dynamic Evaluation (developed in one of the projects). It was noted, however, that innovation requires that no external closure be attempted. This led to the identification of a form of research aiming to improve the link between instructions and the set of reports. The result would consist of double instructions.

It was concluded that double instructions help to structure activities in the same way that stories and narratives do. This implies identifying high quality stories in support of innovation as the result of the improvement of underlying double instructions. More generally, it is argued that the analysis that had to be undertaken given the state of the field of social innovation helped to resolve some of the confusions pertaining to efforts in its support – in particular concerning the role of evaluation and of the type of study needed to deal with open sets of reports or data.

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Section 1 Introduction

1.1 Background

The topic of social innovation is receiving increasing attention on the level of politicians, universities, individuals and many others[52]. It is touted as a major new objective to resolve social ills as well as a way to 'stay ahead' of other countries economically and politically (Moulaert, 2013) [53]. This raises the issue how to contribute to it. Some authors point to a problem of external control (can one 'make' others act innovatively?), others emphasise internal changes of organisational structures (Glänzel, 2013; Design Council, 2013)[54]. All appear to share an interest in guiding these changes such that the effect/cost ratio of doing so systematically is positive (Lane, 2013; Fowler, 2013)[55] – as many are reported to arise accidentally (Mulgan and Leadbeater, 2013).

We report here the results of our own attempts to participate in this quest for an approach to support and understand social innovation, based on our exploration of the relevant literature. The source of our attempts is a social innovation project called 'Educational Pioneers' (EP), which is run by Kennisland.[56] It has been designed as an

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52 See Handbook of Social Innovation (2013), conferences (Social Frontiers, 2013) and research projects, such as (TEPSIE), FP 7 Emergence by Design), practical projects (Lab and Lab2), HIVOS (international aid and development organisation) and organisations like NESTA.

53 Social exclusion is one of the ills mentioned by Moulaert and Van Dijck (2013). According to Lane (2013), the Innovation Society has reached a meta-crisis due to the problem-solution-problem ideology that focuses too much on individual activities and characteristics (like creativity) and does not cater for mutual coordination, cascades and the direction of social innovation.

54 Fowler (2013) suggests 'changing the rules or changing the game'. See also the European Commission DG Regional and Urban Policy Guide to Social Innovation (2013).

55 One possibility is to think of 'functional differentiation', e.g. where one person takes part in many different networks with different roles. Experiences from one area can be used in another and vice versa, although usually linguistically rather than literally (e.g. as metaphor).

56 Funding is provided by Arbeidsmarktplatform Primair Onderwijs (an Employment Platform for Primary Education) supported by CAOP (http://www.caop.nl/storage/nav-menu-top/english.html).

informational source to another project, called 'Emergence by Design' (MD, funded through the European FP7, 2012-1014). Its aim is to find ways to purposefully support social innovation. Kennisland is a research organisation operating in the Netherlands and focusing on making Dutch organisations and public services 'better, smarter and more enjoyable' – preferably bottom up.

When it is attempted to study a social phenomenon systematically, two approaches tend to be recognised. In the first the aim is to delineate what is of interest and what its features are as observed from the outside (The Young Foundation, 2012).[57] In the second the focus is on the actors who contribute to the development of what is of interest, i.e. on what happens inside. Both approaches face the problem of identifying what the objectives of the developments are and who defines them. Dealing with this problem has led to a characterisation of the two approaches in terms of who benefits, who contributes, what resources are used and how their results impact on other social processes (which is what identifies innovations as social).

Research would seem the obvious choice when one wishes to deal with social innovation systematically as it is systematic by intention. Unfortunately it is also designed to deal only with observations and ignore all other experiences. What is studied is only what people see from the outside. It excludes objectives and in this sense presents a serious difficulty. Objectives are at the heart of social innovation so ignoring them is contra-productive. This suggests that a modified form of research or an alternative like evaluation is needed to achieve what is wanted. Attempts to fill this need are presented in this contribution; they are part of the two projects, EP and MD[58].

The initial aim of the paper was to summarise what the literature contributes about social innovation and how it may be linked to evaluation and research. The result was intended to provide a context to a report of the results of the two projects. During the literature review much confusion was encountered concerning the difference between evaluation and research. It seemed that simply reporting these confusions would not be satisfactory. This suggested attempting to try and cut through the Gordian knot that the literature appeared to present and to provide additionally a review of the issues involved, i.e. when to evaluate and when to do research.

1.2 Structure of the paper

The paper consists of five sections, of which the present section is the first. The next section (Section 2) contains a review of the literature. Various definitions of social innovation are presented and compared. No definitive operational definition appears to have been agreed upon yet as authors still struggle to decide what it should include. Terms such as 'need' and 'social' and 'cooperation' are popular, but they and their use still appear fuzzy – as fuzzy as that of social innovation itself. Still, a number of attempts can

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57 'Measuring' social events depends on the possibility of finding their unique representations and hence on being able to identify boundaries that are independent of them (Suppes and Zinnes, 1963). Normative concepts help to create boundaries and hence only allow for purposeful approximations to measurement (Section 1.3).

58 Attempts to deal with the values involved tend to focus only on the outside view, like research. It has been attempted, for example, to fixate the objective of social innovation, e.g. by some outside authority, and to derive the implications for those who wish to contribute (Maskin, 2009).

be reported to improve recognition of social innovation as well as identify its objectives and what benefits attract those who implement it.

In the third section (Section 3) social innovation is interpreted as a two-part activity. This interpretation dates back to Greek antiquity but has been re-formulated a number of times (Reichenbach, 1935; Lakatos, 1978). The first part refers to the act of construction. The aim of the second part is to justify and evaluate the results of the construction. Both parts obviously need to be explored together to study social innovation. It is suggested, however, to focus on one part if the other proves difficult. In this section the evaluation part is emphasised. The section includes a discussion of 'Dynamic Evaluation', an approach introduced especially for the two projects.

In the fourth section (Section 4) the complementary path is explored to identify what internal support individuals require to contribute to social innovation – i.e. in a process like research (not as research, as this focuses on the external). The individual objectives will differ if no outside external authority dominates. They constrain or 'bracket'[59] those of others, therefore, rather than determine them. Next, what is bracketed may stabilise to become a resource. This suggests searching for combinations of constraints or instructions that support social innovation. Certain forms of instruction are identified as stories.

In the fifth section (Section 5) the results of the previous sections are compared. Helping to achieve changes that are recognised as social innovation and that prove beneficial beyond the interests of those contributing to its implementation remains difficult – more difficult, in fact, than helping to achieve technical innovation (Van der Leeuw, 2012). Still, the present review appears to have contributed new insights into how to systematically support social innovation. This appears less of a mystery than before – even though its magic (i.e. its less than systematic appearance) continues to pop up.

Section 2 Social innovation

2.1 Introduction

In November 2013 NESTA (a UK based charity whose mission is to 'help people and organisation to bring great ideas to life'[60]) and partners organised a 'Social Frontiers' conference to bring together workers in social innovation as well as researchers. While various lines of study were opened up, links between them remain unclear – including whether a single definition might actually help develop the field. It was advised to organise additional meetings to discuss such fundamental issues as well as improve support to social innovation and identify a research agenda (Mulgan, 2013).[61] Creating a research community often seems to help speed up developments.

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59 The term 'bracket' is inspired by Hegel (1807) and borrowed from Husserl (1973). It is strongly linked to the notion of operator as used by Von Foerster (see Müller & Müller, eds. 2014) and hence to the notion of 'eigenvalue', something approaching Hegel's 'absolute knowledge'.

60 http://www.nesta.org.uk.

61 http://www.nesta.org.uk/event/social-frontiers.

The potential for such a research community is highlighted by the fact that a Google search returns about 488,000,000 results for 'social innovation' and 25,000,000 for 'technological innovation' (on 23 December 2013). Returns for books total 179,000,000 and 7,700,000, respectively. While these numbers may be explained in various ways, it is tempting to interpret them as signs of development, i.e. larger numbers suggest more discussions and less agreement. While one hesitates to add to the numbers, therefore, one also is challenged to help developments forward. The latter is attempted in this section, starting from some of the available information[62].

2.2 Definitions

A quick search of the literature shows that definitions of 'social innovation' abound, but that they have their own flavour and focus dependent on what field the authors are in or what background they have. This suggests exploring a selection of definitions, by answering the question: what forms of social innovation are discussed in what areas? Two main areas are relevant to the present contribution.

a) Business and social enterprises

In 2013, a trans-European consortium for social innovation incubators (BENISI, funded through FP7) was formed which intends to contribute to social innovation through social enterprises; it 'expects the transfer and scaling of many innovative social enterprises to address one of Europe's most pressing needs: to enhance economic growth and create new and meaningful jobs for a new generation of young people, who are in need of employment.'[63]

This definition relates to a possible reason for an interest in social innovation. It focuses on economic issues. In another quote BENISI emphasises more general social issues, i.e. ways to improve on the ability to perform certain actions (including innovation):
A social innovation can be defined as a new idea, product, service or model that simultaneously meets social needs and creates new social relationships or collaborations. Social innovations are not only important for the new specific solutions to societal needs, but they can furthermore impact on society's capacity to innovate.'

Both quotes lack in clarity. The notion of 'new' has already initiated many serious debates. What is 'new' may be just as important on a local level ('new' here and now) as on a global level ('new' in the history of this nation or of the world). Apart from this fuzziness, the quotes also show an important similarity. They are oriented towards the future – in terms of new tools or ideas but, most importantly, in terms of the capacity of organisations to change their actions. The former may be called short-term, as what is 'new' before an innovation soon will be 'old'. The latter is long-term, as it refers to changes relatively far into the future.

While new ideas and new tools may be the product of individuals, the reference to organisations takes innovation to a collective level. This is reflected in the way BENISI intends to achieve its objective. It will target organisations by identifying the 300 most promising projects where jobs are created and to offer a 'scaling up' network to support

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62 http://en.wikipedia.org/wiki/Social_innovation
63 http://www.benisi.eu/project-summary

others, i.e.: ... to provide the tools and create the conditions for the social innovations to be transferred and adopted in other European localities. This will expand their reach and impact, and simultaneously generate positive cascading effects across Europe on many key social and environmental challenges the European Union is facing today.'[64]

Both the intention (increase the capacity) and the method (provide examples) are interesting. If the examples are to have the intended effect, one might expect them to have been analysed in terms of their shared elements – so the latter would be more important than the examples and would suggest some form of theory. This would be rather worrisome, however, as it implies that the direction of the intended innovations is taken to be independent of examples and hence that the latter are seen as mechanisms that work. The possibility of failure is not discussed. Paraphrasing Fowler (2013), the BENISI does not intend to 'change the game, but maybe the rules'.

It seems useful to contrast this approach with one where directions and values are taken to matter, called 'connecting values' (Regeer, Mager and Van Oorsouw, 2011). The aim is to provide the means for growth as well as a 'licence to grow'. Those involved are instructed to search for alternative value perspectives, and in particular to pay ample attention to intangible values as they are indispensable for tangible output and structural change (Regeer et al, 2011, p. 27). Innovation is conceived in terms of a space of possibilities that depends on participants' values and objectives. Its dynamics help the process of innovation unfold. This method is argued to be superior to the use of the traditional control model (Regeer et al., 2011, p. 28).

b) Policy, governance and social orientation

The relation of social innovation to values (or objectives, or non-observational experiences) tends to be emphasised even more in areas other than business and enterprises. This may be a collective 'need'. One aims for what is considered 'good for society' – presumably defined in terms of what political parties want or of cultural orientations.

1."Social innovations are new solutions (products, services, models, markets, processes etc.) that simultaneously meet a social need (more effectively than existing solutions) and lead to new or improved capabilities and relationships and better use of assets and resources. In other words, social innovations are both good for society and enhance society's capability to act."[65]

It is also claimed that the result of a particular method ('meeting social needs', etc.) is 'better' than the results of other approaches (the 'philanthropic approach'). This type of comparison does not necessarily depend on effect-measures. It may also be based on means-measures, i.e. on whether the resources can be reduced to achieve the same result (e.g. preventing 'social exclusion').

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64 http://www.benisi.eu/project-summary.

65 The Young Foundation (2012) Social Innovation Overview: A deliverable of the project: "The theoretical, empirical and policy foundations for building social innovation in Europe" (TEPSIE), European Commission – 7th Framework Programme, Brussels: European Commission, DG Research, p.18)

2. "Social innovation refers to innovation in meeting social needs of, or delivering social benefits to, communities – the creation of new products, services, organizational structures or activities that are 'better' or 'more effective' than traditional public sector, philanthropic or market-reliant approaches in responding to social exclusion."[66]

Some authors prefer to interpret the notion of 'capacity to act' on an individual rather than on a collective level - but the link to the latter is still emphasised. Individuals are expected to help themselves by answering to social demands (achieve 'social ends') and to do so socially ('social means').

3. "Social innovation can be defined as the development and implementation of new ideas (products, services and models) to meet social needs and create new social relationships or collaborations. It represents new responses to pressing social demands, which affect the process of social interactions. It is aimed at improving human wellbeing. Social innovations are innovations that are social in both their ends and their means. They are innovations that are not only good for society but also enhance individuals' capacity to act."[67]

It is also emphasised that the aim of social innovation is not that individuals contribute to the realisation of an externally defined collective goal. The latter should be co-determined, not determined by powerful individuals or cultural traditions. The focus should be on individuals, collective goals support individuals to identify or create the resources that are needed to avoid personal losses. Such mutual support depends on interaction, i.e. on moves and countermoves. It may develop accidentally, as in the past, but the main problem is to find ways to develop such moves systematically.

4 .'...social innovations as original or inventive individually or collectively driven initiatives – intended to alter the rules of the game, or the game itself – that are played out in the institutions that co-determine not only a society's trajectory and sustainability, but also its winners and losers.[68]
... '[S]ystemic innovation is an interconnected set of innovations, where each influences the other, with innovation both in the parts of the system and in the ways in which they interconnect (p7) .[69] *...*
'Systemic change [...] is the ultimate goal of social innovation. Systemic change usually involves the interaction of many elements: social movements, business models, laws and regulations, data and infrastructures, and entirely new ways of thinking and doing. Systemic change generally involves new frameworks or architectures made up of many smaller innovations. Social innovations commonly come up against the barriers and hostility of an old order. Pioneers may sidestep these barriers, but the extent to which they can grow will often depend on the creation of new conditions to make the innovations economically viable. These conditions include new technologies, supply chains, institutional forms, skills, and regulatory and fiscal frameworks. Systemic innovation commonly involves changes in the public sector, private sector, grant economy and household sector, usually over long periods of time."[70]

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66 The International Handbook on Social Innovation, Moulaert, 2013, p. 1.
67 Guide to Social Innovation, European Commission DG Regional and Urban Policy, 2013, p. 6.
68 Fowler, 2013.
69 Mulgan, 2013 Systems Innovation discussion paper.
70 NESTA (2010).

The aim of social innovation is defined as groups or collectives of people getting constructed that support each other in contributing to some task. This means that the effects of the support remain local, i.e. part of the world of the individuals involved. They cannot be generalised to others elsewhere, i.e. to anybody, as in the case of research. If individuals increase their capacity to act, this becomes part of the actions of a collective – but this does not necessarily impact on a wider level ('innovation cascade'). For that to happen a second process is needed ('adoption').

5. By innovation, we refer to the processes through which new artefacts are conceived, designed, produced and integrated into patterns of use. These processes necessarily involve the construction of new patterns of interaction among agents, and hence transformations in the organization of what we may call agent space.[71]
"At the micro level, social innovation consists of projects, each initiated by a group of social innovators. Projects, if they lead to anything, induce an innovation cascade. As the cascade evolves, it will induce a series of transformations in social organization – new patterns of interaction among social agents.
... What makes the innovation "social" is that social innovators' primary aim is to generate positive social effects through the adoption of their innovations."[72]

It has been noted that the difference between the roles of the first and the second process (or any additional process) is not due to a difference in content. Ideas and artefacts that develop in art may 'impact' on the role of the military; changes in religious organisations may impact on notions of social work (e.g. social helping and adult education).

'[I]nnovations from within the 'social' are not exclusively driven by new ideas and products to satisfy unmet 'needs'. Exploration of human imagination and potential seen in the arts and cultural expressions are also drivers of people challenging and changing society with systemic outcomes. By 'inventing' and spreading Afrobeat and its lyrics, deceased Nigerian musician Fela Kuti is credited with a political impact that abetted the end of the country's military rule. Innovation through social entrepreneurship of belief – such as Ron L. Hubbard's founding of the Church of Scientology – has, in many countries, constitutionally challenged what is understood as a legitimate religion, leading to interpretations with systemic consequences. Here, social innovation did not stem from need, per se, for a new musical genre or for an additional belief system.'[73]

c) Research and social innovation

The literature on social innovation differs in terms of content (see the previous points a and b), but also in terms of the role of research. The latter usually is considered rich enough to provide a clear understanding as well as ways to support social innovation. Interestingly, if this is correct, one wonders why studies of social innovation have not been successful enough not to require projects like the present one. This difficulty merits some reflection, as it seems due to the difference between what social innovations

[71] Lane et al, Emergence by Design Full Proposal (MD B ed.) 2011.
[72] Lane (2013).
[73] Fowler (2013).

require and what research is able to offer. It is exacerbated by the fact that one can find many definitions of research (as well as of innovation) – ranging from those of physics to forms like action research, statistics and grounded theory[74].

Not all definitions are alike, however, as most have been developed to serve a specific purpose. Still, when one focuses on empirical research, sufficient similarities can be found to constitute a class (named research). Each element refers to sense data in the form of reports – of what individuals have seen or have experienced. It is attempted next to find statements that link to the reports. All persons may prefer a different link. If sufficient[75] numbers of people accept some link as replacement for their personal links, it is considered high quality. High quality is possible only if the set of reports is closed. If it includes reports of present future events it supports prediction.

These similarities may seem unfamiliar, but they easily translate into familiar ones. Statements are also referred to as 'theories' or 'models'. Differences between the links of individuals before they accept a high quality link are called 'biases'. The aim of research is to 'reduce' them. A necessary condition for finding a 'high quality' link is that the set of reports is closed, i.e. it has a boundary that is independent of any statement. If it is closed, one may find 'causal chains', i.e. links of sufficient quality to 'know' what to change to initiate preferred changes. The many discussions in the literature on social innovation suggest that no boundary has been found yet.

Indeed, in the case of social innovation no such boundary may ever be found – as has been argued for all cases where preferences are involved[76]. This may be unavoidable: to produce something new, one has to step out of the old, i.e. out of anything that has a boundary that appears to need modification. Modifications obviously may change the set of reports at any time therefore and hence makes it impossible to find high quality links. Few people seem indeed willing to replace their personal taste by a general or common taste[77]. To study innovation it seems best to assume that the set of reports has no boundary, but is open (Bertalanffy, 1968).

The literature contains many proposals to deal with such open sets of reports, which their authors hope also belong to the class of research. Instead of linking to 'statements', they link to linguistic forms like preferences, stories or commands[78]. Instead of 'sets of reports of observations', one considers 'sets of reports of preferences', etc. An example is 'action research'[79]. Its set is open in that it often refers to the individual experiences of being disadvantaged. To find a high quality link, it is attempted to close that set by linking it to a general preference like 'empowerment'. This often proves difficult to achieve, however. Those involved tend to accept only a temporary and approximate replacement of their personal preferences.

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[74] See http://en.wikipedia.org/wiki/Research for an overview of research approaches and definitions.

[75] Methods of statistical inference help in this case (Wilcox, 2010).

[76] Arrow (1950) has shown that, under quite general conditions, when preferences and objectives are involved *no* general preference or objective (i.e. statements) can be found that links with high quality to individual preferences. See also Maskin (2009).

[77] Paraphrasing a Roman saying: 'One can convince others of facts, but not of tastes'.

[78] For stories see (Van den Berge et al, 1980); for commands see (Von Wright, 1963).

[79] See Handbook of Action Research: Participative Inquiry and Practice (Reason & Bradbury-Huang, 2013)

2.3 Assessment

It would seem, looking back over the reviewed literature, that social innovation starts with events that usually are recognised only later as the introduction of a new artefact, idea, product, service, process, skill, market or model. A sizable amount of interpretation is usually added, for example that the event is linked to frameworks like a problem, a need, demand or national advantage. The process of construction starts individually, when someone is not satisfied by what he or she can do and hence wishes to jump out of the 'old order' and initiate new activities. Help consists of engaging and modifying other people's experience – not of agreeing on collective goals.

The core objective is that an individual's capacity increases via the construction of a collective within which the exercise of that capacity leads to new resources. In other words, changes in such capacity are not meant to go beyond that group; the latter is the horizon of the change. A second process has to be initiated, therefore, to ensure that the expression of the increased capacity reaches or 'impacts' a wider audience. Responsibility for the management of that process may be left to the members of the group, or may be taken over by others, for example policy makers. Only if the second and next processes are successful will innovations become 'game changers'.

It seems difficult to overestimate how devastating the lack of a closed set of reports is to research. It implies that one cannot find high quality links to statements, but only links like those in daily life. An example is a concept like liberation (often part of innovation). It is relatively easy to use that concept to name reports of events. It is difficult to identify what reports should not be named. The boundary between the named and not named is open as it tends to change dependent on who is studying it and when. Still, many authors seem tempted to deal with open sets as if they are closed. This means that the possibility of bias is increased rather than reduced.

Attempts to avoid this difficulty take two paths. In the case of evaluation one tries to bypass the use of open sets by closing them temporarily, for example by referring to moments in time such as an end or intermediate state or by accepting that some sets can relate only to some preference (see Section 3). Following the other path one will try to close the set of relevant reports as part of the process of research, i.e. via the constraints imposed by the organisation in which innovations take place. To take this context into account, narratives and instructions are considered rather than statements. This path is referred to as the acquisition of knowledge (see Section 4).

Section 3 Evaluation

3.1 Introduction

Our review of the literature on social innovation and on research leads to two conclusions. The first is that since the 1960s[80] the term 'social innovation' has become popular as referring to something valuable. The term is used loosely, however – and ranges from new artefacts (computers) to life-changing new ideas (participation). The

[80] Precursors include Robert Owen (1813), who emphasized social cooperation and Schumpeter (1942), who focused on the economic role of innovation.

second is that it still proves difficult to deal with innovation systematically, i.e. such that one knows when an event is or is not a social innovation. One reason appears to be that the sets of reports of individual experiences in innovation are open. Dealing with such sets is not part of the forms of research that tend to be used to study them.

This difficulty has led many authors to focus on the evaluation of social innovation rather than on its study. The basis of the 'logic of evaluation', following Owen (2007), is to approximate the open set of reports concerning the construction by a closed set. This is achieved by restricting attention to such a set, for example the one at the end of an innovative construction (in a summative evaluation). It may also come at other moments (in a formative evaluation). Most authors distinguish two types of approximations. Firstly, one or more individuals are invited to initiate social innovation. Secondly, the resulting activities are monitored via diaries and interviews.

Both types help to select open sets of reports to which a preference or other value is to be assigned. They are referred to as the evaluand[81]. If only reports are included that have been collected at the end of a project, what is assigned may consist of a judgement whether or not participants consider it to be socially innovative or not. This obviously limits the evaluation to the experiences of a particular group and may explain why some authors link the set to the solution of some problem (see § 2.2a), thus reducing social innovation to problem solving. Alternatively one may try to avoid defining what is assigned and evaluate impacts in the next, subsequent process (§ 2.2b).

Another approach would be to identify a number of evaluands, each referring to the reports that are available at a series of moments after the initial invitation. What is to be assigned may consist of a summary or name of the reports up to that moment. If these are communicated to the participants, they may change their activities (and hence their reports). This way the (formative) evaluation becomes a tool to manipulate participants from the outside, for example to structure their project according to what the evaluators define as social innovation or to impose external constraints that restrict innovation to what is economically valuable (Schumpeter, 1942).

The literature dealing with evaluation is quite varied. For example Owen[82] distinguishes 5 forms of evaluation: proactive, clarificative, interactive, monitoring and impact. Each is linked to key approaches to ensure that evaluands approximate closed sets. They include defining roles for the participants of a project. The evaluator may take the role of external judge or facilitator/consultant. There also are roles for stakeholders (those affected by the evaluation), e.g. to define what may be assigned. Owen is careful to emphasise that assignments to open sets of reports must have high quality – just like the links between statements and observations[83].

3.2 Dynamic Evaluation

Patton (2011; 2012) identifies Developmental Evaluation as a suitable form to evaluate social innovation. The evaluator is on site and contributes through standard forms of evaluation feedback for the participants. This form of evaluation does not aim to improve

[81] Saunders (2011); Owen (2007).
[82] Owen (2007); Saunders (2011); Tavecchio (2010, 2012).
[83] Owen, 2007. p. 221-227.

what it evaluates. The approach is considered formative (see § 3.1)[84]. It is frequently advised that the evaluator becomes a member of the process to be evaluated to ensure that he or she shares the same experience. Owen (2007) criticises this approach by comparing it to the role of organisational development consultants, who rather than share tend to restrict assignments to evaluands to their personal values.

Dynamic Evaluation has been designed as a way to include formative improvements into social innovation (MD, 2010). This type of evaluation is related to approaches like 'fourth' generation evaluation – as described by Guba and Lincoln (1989). It is again assumed that the evaluand consists of an open set of reports from the members of a project. An approximation to its closure is achieved by providing participants with feedback about progress towards what they have been invited to do as part of their project. This feedback may refer to changes in the pattern of interaction, observable changes in participants' motivations and aspects of efficiency and effectiveness.

The intended benefit of Dynamic Evaluation lies in accessing the 'generative potential' of people, i.e. increasing the effectiveness of attempts to modify their motivations to engage with others. Of special interest to include in the feedback are visible signs of success such as whether the collective actions lead to effects that participants accept as personally positive. This type of approach derives from the definition by Lane et al. (2011)[85]. These authors emphasise the need to provide feedback on the impact that participants in an invited process of innovation have on second, third and additional processes, i.e. in terms of their contributions to non-participants.

While Dynamic Evaluation clearly extends Developmental Evaluation, it also raises questions as to the nature of the feedback. An innovation process that is being evaluated will differ substantially from another type of change process, for example gardening groups and other forms of collective activity. Such groups provide closure of their set of reports by self-organising meetings and initiating individual changes. The results may not appear innovative by themselves, but by discussing for example whether 'soaking sweet peas in water before sowing is necessary' and other issues, such groups have considerable impact on life styles in the UK[86].

3.3 Assessment

Evaluation has been introduced as a way to deal with the difficulty that sets of reports (or data) are open, in particular when those involved prove able to step out of their 'old order'. There are many cases where it has proved successful, for example when it is possible to assign the difference between what is achieved and what is expected to a set or project. In this case the assignment closes the set. Other forms of evaluation are less static (§ 3.1) and focus on closure via the process of evaluation itself, i.e. by providing feedback on progress – whatever that progress is. This can be expected to help initiate and support increases in capability in collective contexts (see § 2.2b).

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84 Preskil, H. and Beer, T, 2012, p. 6.
85 See Section 2
86 See Leadbeater, C. (2012).The Systems Innovator. In: *Systems Innovation*, Mulgan & Leadbeater, NESTA, 27 & 31.

There are drawbacks to evaluation in support of social innovation. The obvious one is that it is introduced when another approach (research) runs into difficulties. This limitation became especially apparent when closure of the open sets of reports was approximated by attempts to link them to general values, such as 'needs' and 'problems' and hence by restricting innovation to 'need satisfying' and 'problem solving'. Dynamic Evaluation was designed to avoid the use of such general values. It replaces them by feedback about anticipated progress. This implies that such feedback depends partly on (externally defined) aims.

In the case of the Educational Pioneers' project such aims would be part of the invitation extended to the teacher, i.e. the future pioneers. It does not appear to matter whether the Dynamic Evaluator is part of the process or not. What matters is that he or she appears to be able to 'nudge' participants (via feedback) to prefer one type of result to another (John et al, 2013). This implies that innovations may be limited to such a person's imagination and hence that the quality of the links involved depends on an external source. In other words, choosing to evaluate social innovation rather than to study its construction (see Section 4) may restrict its contributions considerably[87].

Section 4 Construction[88]

4.1 Introduction

While evaluation may help to support social innovation (e.g. when sets of reports resist efforts for closure), it also appears easy for it to lose its advantages (§ 3.4). When this happens one may prefer to revert to the study of the process of construction. The Educational Pioneers' project provides a useful clue for this. It started by inviting and instructing potential innovators, e.g. teachers in primary schools. This part seems vital. People were instructed to explore leaving the 'old order' and preparing for the 'new', but were not told what was envisioned. This suggests a form of research that focuses on links with invitations and instructions rather than with statements.

Searches for links to invitations and instructions appear less frequent as well as less well known than searches for links to statements. Reports about them are not absent from the literature, however. The most well known are searches for new methods in research; without them one would have to rely on accidental discoveries. The notion of instructions is also used widely in daily life – wherever values play a role. This includes the creation of art, education, the regulation of traffic, the organisation of social and cultural life. That there is a wide spread interest is shown by the proliferation of synonyms like heuristics, guides, manuals, advices and recommendations[89].

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87 Chess playing comes to mind. Chess players will be both participant and evaluator – but will thereby impose limitations on the quality of the game.

88 MD website (http://www.insiteproject.org/activities/research-lines/dynamic-evaluation/): '[d]iscovering new patterns of interaction, and the generative relationships to which they give rise, emerging potentials, unforeseen transformations in social organization and values, and similar unpredictable innovations must be a primary goal of evaluation – as they are a primary goal of such projects – and no a priori choice of measurement parameters can capture these emergent features.'

89 Collective impact measurement suggests that it is possible for stakeholders to 'agree' on indicators that surpass the individual levels (Kania and Kramer, 2011)

4.2 Instructions and constraints

To explore methods to acquire high(er) quality links to instructions, a simple example may help such as 'take care'. It is frequently used and can be assumed to add something, presumably more than less popular ones. That extra apparently includes an increased ability to recognise and select the resources that help to deal competently with events – preferably threatening ones that cannot be predicted. In this sense instructions contribute the opposite of statements. While the latter are expected to help predict events, it does not advise how to act when they occur – unlike instructions.

The context of instructions is also important. When someone enters a wood to catch butterflies, an instruction like 'take care' may help on a general level: avoid anything that appears to be dangerous. Adding 'there may be bears' suggests what 'things' to bring such as guns, but also what 'experiences' to access as resources such as one's wit – or one's fear, or even one's will to live. The additional instruction to look out for 'bears' stimulates awareness of a possible context to 'taking care'. It is the set of reports of experiences. It is open as it not only includes bears, but possibly also wolves, human gunmen, etc.

These considerations hint at an important result of our search for high(er) quality links to instructions: the instruction 'take care – there may be bears' exemplifies a 'double instruction'. It links the open set of reports of experiences (itself the result of an instruction to look for such reports) to the instruction 'take care'. This allows one to talk about 'high quality instructions' when one means 'high quality links to instructions'. The link in the example may or may not help to recognise what is needed to avoid dangers in the wood. This suggests searching for a link that is of higher quality, for example by interviewing experienced visitors (Fischhoff, 1992), etc.

Some care should apparently be taken when improving double instructions. The above might suggest that one can simply add specifications – for example that snakes are involved, that they can be found only in certain places, etc. This is not sufficient. If it would be possible to add specifications in this way, the contextual set would no longer be open and the instruction 'take care' would reduce to a prediction of threatening events. The direction of 'taking care', given a set of such events, would thus be lost. High quality instructions should focus on what addressees may do, not on predicting what may trigger their actions.

The Educational Pioneers' project may illustrate these comments. A number of teachers were invited and instructed to initiate a social innovation. They set out to link to people who might help. Collectives developed (serving as sets of reports) that tried to implement one or more self-set tasks (serving as the instruction to innovate). Other members of the schools had to deal with the changes. As the changes implied going from the 'old order' to the 'new', they could indeed be interpreted as double instructions. Participants' experiences were reported to change towards feelings of ability and satisfaction given the open set of reports.

When searching for methods to develop and improve double instructions one also has to determine whether such a search can be called a form of research, i.e. a systematic way to increase anyone's ability to deal with unknown (unpredicted) dangers (going into a wood where bears or wolves may roam, etc.). The argument that they do depends on an

equivalence: will the description of research not change when one replaces statements by instructions and vice versa or the closed set of reports of observations by the open set of reports of experiences, links between the set and statements by double instructions, etc. It seems easy to see that this is the case.

One may further argue that, although there are similarities on a general level, the differences on a detailed level must also be developed. It is possible, for example, that implementing a double instruction over- or undershoots, i.e. that more or fewer resources are selected than needed for the implementation. Adding instructions to reduce this kind of deviation helps increase its quality in the same way one deals with biases, albeit with the necessary care[90]. It can also be seen that implementing a high quality double instruction is irreversible. Double instructions have no permanent meaning unlike statements. They get their meaning at this time and at this place[91].

4.3 Narratives

While instructions seem to be ubiquitous in research and in daily life, the form in which they appear is not always easy to recognise. One may consider again the double instruction 'take care – there may be bears'. The contextual part (the link to the set – 'there may be bears') is often left out as something that speaks for itself. When doubled by its directive part ('take care'), the double instruction introduces an extra: it tells a story or narrative, like a hero story. The self-sacrifice of the hero takes place in the context of the imprisoned maiden. It instructs how to perform deeds that can be called heroic even if they have nothing to do with maidens[92].

Typical examples of stories are anecdotes. They usually have four parts. The first sketches a situation (the old order). The second refers to what might be changed, for example someone feeling threatened or unsure about how to escape negative consequences (the new order). The third identifies a way to act (the doubling). The fourth describes and evaluates the effects of the action, i.e. that after the action feelings of being threatened have disappeared or that a problem has been resolved. Many anecdotes appear to be designed to have a surprising or humorous effect. They appear to be effective tools to transfer ideas on how to innovate[93].

This is not to say that stories do not face problems. They may be constructed using the reports of those engaged in one-off social innovation projects, but this may only lead to stories of unknown quality (if one does not consider that they make use of experiences in some actual situation). This implies that to improve their quality, a process separate from their construction is needed, for example interviewing people faced with the need to innovate and using their responses to add and delete parts of the stories. The resulting stories should help readers or listeners to be clear about how to engage others and implement social innovation.

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[90] An example of an evaluation that supported the creation and use of resources effectively and efficiently used linguistic modelling of the type 'if (observation a), do (action b)'. Participant experiences were created, ordered and changed to improve their own practices (Vahl, 1998).

[91] This second constraint has been labelled the 'ethical universal' (Kierkegaard, 1843).

[92] Stories, narratives and double instructions can be said to serve as synonyms in providing 'models for' action – rather than descriptions or 'models of' closed sets of reports.

[93] Van den Berge, F., W. Bossewinkel, S. Groeneveld, M. Muis, H. Wildschut (1980).

4.4 Assessment

The link between double instructions and stories appears to be well recognised. Lane & Maxfield (2005) describe their proposal for ways to support social innovation as, for example, "an alternative theory of action in which narrative replaces analysis of future consequences in orienting individual actors towards the future. [...]: actors [...] must act in terms of stories whose structure is familiar from their past experience, and then they follow narrative logic, enacting their role in the story." (Lane & Maxfield, 2005, p. 11). Stories are expected therefore to identify which parts of the 'old order' experiences one should bracket and link to which parts of those of the 'new order'.

Unfortunately, while the link between stories and instructions appears to be generally accepted, its relevance seems often to be misunderstood or insufficiently recognised. Some authors refer to 'sayings' as a special kind of story, but interpret these as single instructions rather than double ones. An example is the interpretation of a saying like 'you can lead a horse to the water, but can't force it to drink' as 'nudging'[94], i.e. the implementation of step-by-step instructions to achieve externally defined objectives. Previous steps are recognised as starting points, but they are not linked either to open sets of reports or to any directive part

The same can be claimed to hold for 'inscaping'[95], i.e. attempts to engage people's experiences via the experiences of external guides (e.g. the researcher). While the approach is presented as close to a form of research, this suggests confusion. It seems to refer only to the instructions to identify the set of open experiences and hence does not serve as a double instruction or a story. Other authors, who study stories and narratives[96] without necessarily considering their relation to innovation, also focus only on identifying the set of open reports (i.e. the context to the direction of a story).

There also appears to be a high risk of forgetting that the way stories help to close open sets of reports only consist of approximations. Assuming that they completely close such sets would suggest that sequences of events implied by stories are 'causally convincing'[97] and help to suggest acting in certain ways rather than others – even when it appears difficult to accept that a necessary and sufficient cause might be involved. Stories and narratives as forms of double instructions advise or inform or possibly even 'convince', but they are not meant to push addressees to prefer certain acts.

The risk of pushing seems widely felt. It is often claimed that stories refer to the way individuals conceive their activities, without reference to those who share the stories[98]. This may result in ascribing the result of innovation to individual skills, for example to a person's creativity, or to subjective reports of phenomena, in terms of 'events, thoughts [and] feelings'. This refers again to a possible confusion: such reports do not instruct, but only describe. If intended to describe, what is described will be relatively constant. If intended to bring together, they may be conceived as varying drastically over time, and across circumstances[99].

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94 Langlois (2013); John (2013).
95 Nilsson and Paddock (2014).
96 Maxson (2012).
97 See MD website: http://www.insiteproject.org/activities/research-lines/narrative/
98 Andrews et al. (2013).
99 Müler and Müller (2014)

Section 5 Conclusions

5.1 Summary

When starting this literature review on social innovation, it was expected that this would be straightforward: collect references, summarise the major debates in the area and identify the work that needs to be done to move forward. Unfortunately, it soon became clear that there was nothing straightforward in this endeavour. There was and is no convergence as to how to operationalise social innovation. It also proved difficult to identify what models might be best to model with. Nothing seemed to be under development, not even modelling in terms of complex adaptive systems[100].

This meant thinking long and hard about what the papers in the review were about. Why was modelling innovation with NK systems[101] so difficult? Calling this difficult does not mean that the models were difficult, but that there was a problem in the modelling itself. What was to be modelled: the old or the new - the world or the person working in the world? And how would one represent knowledge about innovation: as a recipe or as something subtler, such as hints, tips, instructions, sayings, stories? Answering these questions led to further uncertainties, for example what stories are or how they contribute?

It proved a major struggle to deal with the difference between evaluating some interventions (e.g. instructing people to 'innovate!') and studying what type of knowledge or experience might enable 'future users' to speed up their attempts at social innovation. Proposals like those of 'fourth generation evaluation' (Guba and Lincoln, 1989) include interventions feedback to the innovators and hence raise the question to what extent the process of evaluation itself is sufficient to enable others (policy makers, governments) to control the process of social innovation?

This possibility was deemed a danger. The line between research and evaluation appears to be thin – although clear considered in the light of the above. Evaluation provides an attempt to approximate closure of open sets of reports – via interventions of the evaluator. That implies that only some people determine what goals to realise while others are restricted to their realisation. Evaluations may fail, however. In this case it is necessary to engage in systematic explorations of instructions, i.e. double instructions or stories. This makes it possible to support the implementation of individual goals via goals that develop only through the interaction of the individuals.

A partial solution of the 'problem of values' earned Kenneth Arrow his Nobel Prize. He showed that no interaction between people would make it possible to identify a collective preference, given the members' individual preferences, such that all members would permanently accept that preference over their own – and all that under a very general set of conditions (Arrow, 1952). This result is of course devastating for any choice theory (for example voting systems), but it is also devastating for any attempt to deal with preferences in the same way researchers tend to deal with observations.

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[100] Mitchell (2009).
[101] See: http://en.wikipedia.org/wiki/NK_model

Unfortunately, authors who tried to operationalise social innovation had to include some form of collective preference (what the government suggests or what seems 'best') as well as note that its realisation would depend on individual preferences. If the collective preference was not accepted, resistance might arise. Any model that introduced a general preference or goal would have to gear up to smash such resistance or accept a form of negotiation. This approach would imply, however, that social innovation would be possible, but that it could not be supported through research.

The only option left would be to allow people to innovate, either on their own initiative or through incentives, and to evaluate the results. This might lead to some knowledge for example about what might induce the least resistance. Many authors have expressed serious doubts about the type of innovation this might lead to and considered the result as seriously limited. The saying that 'you can lead a horse to the water, but can't force it to drink' still seems applicable (§ 4.3). One cannot expect the 'best' (in an appropriate sense) to happen when it is forced through a process of formative evaluation.

5.2 Assessment

It seemed appropriate, as part of this contribution, to spend effort and disentangle the difficulties presented by the elucidation of social innovation and identify where the results link to ongoing discussions. This elucidation had to include how social innovation is defined (Section 2), what evaluation has contributed or may contribute (Section 3) and what type of research may help to speed up social innovation. The latter would require that one recognises the difficulties that arise when the focus is on observations and stops continuing along the lines of traditional research (Section 4).

The results of this effort refer to a framework where preferences are not understood as related to individuals but to depend on their interaction. This understanding has been emphasised by many philosophers[102]. Their plea is that traditional forms of research leave out important parts of human experience and hence have to be modified to include the latter. This involves retreating from traditional distinctions between the subjective and the objective and from exploring how individuals relate to environments in which other individuals operate. It also involves operating 'on-line' and retreating from knowledge as 'off-line'.

When one tries to summarise this result it is noted, firstly, that it does not seem too difficult to recognise social innovation historically or in daily life. It often takes some time, however, before one notices that things are no longer done as previously and that those involved in this change tend to consider it advantageous – because impediments in social life have been removed, because one is able to achieve things more efficiently and effectively than before and because the new way seems logical and well thought out. People report feelings of enthusiasm and vibrancy[103].

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[102] Hegel (1807); Husserl (1973, 1900); Merleau-Ponty (2005, 1945) "Nothing determines me from outside, not because nothing acts upon me, but, on the contrary, because I am from the start outside myself and open to the world."

[103] LOOK forthcoming Research Report Onderzoeksverslag Onderwijs pioniers

Where social innovation gets into trouble is, secondly, when it is attempted to emulate successful projects and to learn from the experience. This is where talk becomes replete with terms like 'accidental' and 'lucky'. At the same time it tends to prove difficult for people to identify what they consider enticing. They refer to feelings of freedom and shaking off chains. What they do not talk about (as in the case of the Educational Pioneers' Project) is how others may learn from them. While it does appear possible to provide 'tips' and 'suggestions', there is no 'pattern' to reproduce.

New terms arise, thirdly, when it is attempted to overcome this kind of trouble. Distinctions are being made to disentangle what seems to be entangled in daily life. It is noted that what people experience inside a process is not the same as what they see when outside. It is also noted that experience and observation are not the same. And it is noted that innovation is about going from the past to the future and not about the past and the future. It is about a process for change. It involves much more than just observations – a form of becoming or travelling rather than arriving or starting.

These difficulties suggested, fourthly, that a modified form of research is needed to support social innovation. It was argued that it is possible to improve instructions rather than statements. Doing so would consist of two parts, the first a process of variety-generation or construction: what happens when one brings people together and allows them to interact. The second concerns the selection or evaluation of what happens to interactions that develop in the midst of other interactions and hence impact on them. Both of the latter show that social innovation is like Darwinian evolution.

This may be argued by considering social innovation as a kind of 'species' that produces varieties of individual processes, each geared to a particular context. The species are not invariant, however. Variations may develop and survive, become dominant and replace old species as if new species. Becoming dominant depends on the properties of the species' environment. The changes involved usually take place without external intervention, but some level of support is possible. It is hoped that varieties of social innovation that develop under breeding conditions may survive not only in daily life but also in the 'wild'.

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The research leading to these results has received funding from the European Union Seventh Framework Programme (FP7/2007-2013) under grant agreement n°284625.

About Emergence by Design

This paper forms deliverable 3.2 (Case Study: Education Pioneers) in the project Emergence by Design ("MD", grant agree no: 284625, ICT-2011.9.1)[105]. MD is a spinoff from the EU-funded INSITE project.[106]. Deliverable 3.2. is produced by Kennisland (MD participant number: 5). It reports about the practice and outcomes of an experiment with Dynamic Evaluation in a project with 20 social innovators (teachers) in the field of primary education in the Netherlands. The deliverable is connected to deliverable 3.4.1. (Feed Forward Platform[107]), which constitutes a website to generate narratives to facilitate social innovation practice. The Feed Forward Platform is developed and tested by Factlink (MD participant number: 7) and Kennisland as part of the MD-storyboard tool (all MD-partners).

About Kennisland

Kennisland (Amsterdam, Netherlands) is an independent action-oriented think tank, founded in 1998 with a public mission to make societies smarter. Predominantly focused on the Netherlands and Europe, Kennisland designs and implements innovative interventions to strengthen our knowledge society to provide new approaches for societal challenges. Kennisland connects different levels and sectors to create new strategies, concepts, ideas and structures that work. Kennisland currently works in the fields of educational innovation, smart government, creative economies, cultural heritage and copyright.

[104] http://creativecommons.org/licenses/by/
[105] http://emergencebydesign.org/
[106] http://www.insiteproject.org/
[107] Link to platform: http://feedforward.me/

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