Participatory Design for sustainable social innovation in developing countries

Design experiments towards a model to deploy interventions with marginalised youth

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Abstract

An increasing number of practitioners are engaging in the consideration of Participatory Design (PD) as a strategic modus operandi to attain socially progressive ends among marginalised communities in developing countries. However, the structures, methods and objectives of this type of work constitute an ongoing debate. A scattered body of resources in this area tend to focus on either theory (such as journal papers) or practice (such as design toolkits). To fill this gap, this research develops a model of practice that links these two dimensions through a collection of elements drawn upon contemporary approaches to design and development. The model considers three layers of ethos, methods and outputs to guide the design and undertaking of social-entrepreneurially oriented PD interventions with a focus on problem identification. Two case studies are undertaken with communities of marginalised youth in South Africa to evaluate the model and its inherent flexibility respectively. The evaluation found that the model enabled the researcher to build capacity and empower participants to gain leadership and ownership over the intervention, ultimately developing their sense of activism and aspiration for change. On this basis, a final version of the model is put forward to help prepare and guide design practitioners to deploy PD interventions with marginalised youth in developing countries for responsible and sustainable social innovation. In addition, the research reflects on the various roles that design practitioners take on while deploying the intervention and on the use of a cross-paradigm to undertake the type of design research approached in this thesis.

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List of abbreviations

CE   Closing event

CI   Contextual interviews

CP   Cultural probes

CPUT   Cape Peninsula University of Technology

CS1   Case study 1

CS2   Case study 2

FG   Focus group

I   Intermediary

P   Participant

PARTY   PARTicipatory development with the youth

PD   Participatory Design

PR   Pre-fieldwork arrangements

SASDO   Southern African San Development Organisation

SASI   South African San Institute

WS   Workshop

Chapter 1 Introduction

1.1 Research background

Ever since Victor Papanek published his polemical book *Design for the Real World* in 1972, industry practitioners and scholars have engaged critically in consideration of the role and responsibilities of designers in societies as social change agents. In the last decades, design, and more specifically participatory approaches to design, gained great impetus and are increasingly adopted with the premise to unlock solutions to wicked and complex social problems beyond commercial objectives (Dalsgaard, 2012; Penin et al., 2015). Among its applications, we are witnessing a growth of Participatory Design (PD) to activate processes of social change in community settings (DiSalvo et al., 2013) and more specifically in developing countries (Sabiescu et al., 2014; Ssozi-Mugarura et al., 2017) and in the context of marginalisation (Hussain et al., 2012; Winschiers-Theophilus et al., 2017) to the empowerment of vulnerable groups (Bannon and Ehn, 2013). Recent evidence suggests that despite nearly 50 years of practice and research, however, the very notion of participation within the PD community, or the way it is carried and the impact it has in the design process, constitute an ongoing debate (Iversen et al., 2012; Winschiers-Theophilus et al., 2012; Bratteteig and Wagner, 2016). The challenge is not plainly to find appropriate ways of involving and engaging people in PD activities considering local socio-cultural environments but to identify approaches to renegotiate the Western principles of PD in these contexts (Hussain et al., 2012) that incorporate local understandings and patterns of participation in the design process (Bidwell and Hardy, 2009; Winschiers-Theophilus et al., 2010; Rodil et al., 2012). This matter is critical not merely to generate normatively desirable ends that tackle wicked real-life challenges of populations in need – such is the premise of design (Malan and Campbell, 2014) – but also and most importantly to define the practical elements that enable designers go beyond good intentions and facilitate responsible and ethical sustainable social innovation (Fry, 2005).

1.2 Research questions

This research contributes to the ongoing debate in PD literature by exploring its social change potential in the context of developing countries. More specifically, it advances a model of practice for responsible designers to deploy PD interventions with marginalised youth. The main research question investigated in the study is the following:

> *How can responsible design practitioners employ Participatory Design with marginalised youth in developing countries to contribute in practice to a process of social innovation?*

Three sub-questions are framed to address the main research question:

1. What theoretical and practical elements underpin a PD intervention framed within the development context for social innovation in developing countries?
2. How are tools, methods, approaches, and strategies arranged in a model of practice that assists expert designers to facilitate such intervention?
3. What impact does this model of practice have and what value can it bring to the field of PD for social innovation beyond its specific case studies?

1.3 Research objectives

The following objectives have been outlined to tackle the research problem and find answers to the questions presented above:

1) to critically review the literature on PD for social innovation and approaches to sustainable development in developing countries;
2) to articulate a model of practice made of a selection of tools, methods, approaches, and strategies to deploy PD interventions with communities of marginalised youth in developing countries for social innovation;
3) to undertake case studies aimed at evaluating, critiquing and refining the model;
4) to evaluate the impact and relevance of this research project's contribution beyond its specific case studies.

1.4 Scope, definition and development of the model of practice

This research refers to the *model* as that composition of theoretical and practical elements identified in the literature review to undertake a PD intervention with marginalised youth in developing countries, then evaluated and improved throughout two case studies. The model is constructed with the purpose to facilitate responsible and culturally-sensitive sustainable social innovation. The term *model* is used to differentiate from the broad concept among design practitioners of *toolkit*, which, as expressed in the literature review chapter, refers to collections of (often novel) tools to "cherry-pick" to undertake design work. The model, on the other hand, offers a coherent, practical and strategic modus operandi; it is not a range of novel tools that are being offered, but rather a way to arrange a PD intervention holistically. Models are used in the natural sciences (such as physics, biology, earth science, chemistry), engineering disciplines (such as computer science, electrical engineering), as well as in the social sciences (such as economics, psychology, sociology, political science) to help explain how a real-word set of components work together, as well as to make predictions about potential representations of a hypothetical real-world system for exploratory purposes. Weisberg describes models as "abstract structures or physical structures that can potentially represent real-world phenomena" (2007, p.216). They are idealised and abstract representations of complex elements reduced to the essential details to allow ideas to be explored (Jackson, 1995). Modelling is the process by which a modeller conceptualises, constructs and analyses models. Models are said to serve an analytical role when they are built following an analysis of the real-world; that is when elements of the world are translated and represented in the model. On the contrary, they have an exploratory role when elements of the model and their relationships are built starting from hypothesis (Wei, 2007); this entails the development of a propositional system holding a specific set of elements whose relationship, dynamics and settings are observed. The model aims to achieve such proposition; that is, to compose a set of elements and study the effects of the relationships at the interplay between them, in the way they function in a combined effort to achieve the overall objective.
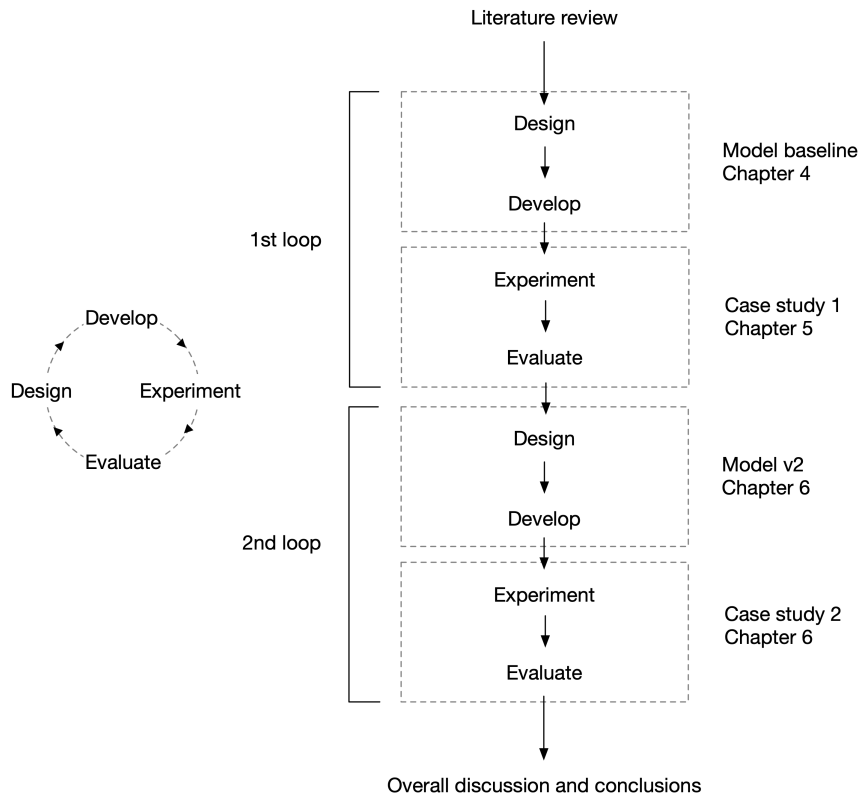
Figure 1.1 The model development process

As shown in Figure 1.1, the model was developed throughout an iterative process divided into four main steps: designing, developing, experimenting, and evaluating. The first version of the model is presented in the following chapter; this is referred to as the baseline model and consists of the main elements used to design and deploy a first design experiment – case study 1 (Chapter 5) – where it is operationalised and evaluated. The insights gathered led to the development of a second version of the model (v2), which included both minor adjustments and significant changes, then evaluated over a second design experiment (described in case study 2, Chapter 6). Drawing upon the evaluation of the two case studies, the entire research study was finally reflected upon, discussing the relevance of the model to advance the practice of PD for social change potential in the context of community empowerment in developing countries (Chapter 7). Finally, Chapter 8 summarises the main contribution to knowledge, limitations and recommendations for future research.

1.5 The practice-led design research approach

This study is grounded in the field of PD, and as such, it makes use of many of its elements and methods to generate knowledge. More specifically, this thesis belongs to a following of dissertations adopting an experimental methodology as described by Binder and Brandt that "interweave[s] theoretical and conceptual exploration with the documentation and reflection of empirical work" (2017, p.106); it features an iterative juxtaposition of making and reflecting, between implicit and explicit practice. Specific characteristics of PD are identified from the literature review to generate a model of practice, which is investigated by undertaking that very model and reflecting upon it. For these reasons this research is best identified as type practice-led. The target audience comprises researchers and practitioners working in the field of social design, in particular those interested in deploying PD with marginalised communities of youth in developing countries for sustainable social innovation. The following paragraph articulates these concepts in detail, providing clarification on why this research is best identified as practice-led and how practice has been carried to generate knowledge.

To understand the work described in this thesis, it is of primary importance to clarify what is meant by design research, and how it was carried out by the researcher to find answers to the questions asked. The Arts and Humanities Research Council (AHRC) defines design research as "research in which the professional and/or creative practices of art, design or architecture play an instrumental part in an inquiry" (Rust et al., 2007, p.11). Research in the field initiated in the 1960s in the attempt to rationalise and optimise the criteria of decision making (Bayazit, 2004). Since then, design research has profoundly evolved. Scholars and practitioners from an interdisciplinary community have contributed to discourses around design research and practice by challenging, critiquing, and providing novel understandings, methods, and positions to look at the connection between design, practice and research; among the most notable contributions are Archer (1965), Rittel and Webber (1973), Schön (1991), Frayling (1993), Simon (1996), Buchanan (2001a), Friedman (2003) and Cross (2006). Today, design research is utilised to inquiry and deal with complex, real-world problems, framing policy and social

change agenda; associated research degrees at both master's and doctoral level are rising in unison, transforming designer-practitioners profoundly to become designer-practitioner-researchers (Vaughan, 2017b; Vaughan, 2017a).

Frayling divided design research into three main types (1993): research *into*, *through* and *for* art and design; the first type refers to research where art or design practice is the object of the study, the second where art or design practice is the vehicle of the research, and the third distinguish the case where the purpose of practice aims to communicate the research embodied in a piece of design. A second widely used description of design research is Cross' (2006), who differentiates design research according to the focus of the investigation rather than on the method of research; he distinguishes between design epistemology, which is the study of designerly ways of knowing; design praxiology when the research is on the practices and processes of design; and finally design phenomenology, when the study is circumscribed to the form and configuration of artefacts. This thesis, however, does not fit neatly into any of these frameworks, as many of the categories as mentioned earlier are being touched. This research matches the definition of being *into* design because the practice of PD is the subject of enquiry; it is also research *through* design because practice and its embodied creative production is understood as the research method; it is partially research *for* design because the research process generated artefacts within which the thinking that led to their making is embodied (though it could be argued this research falls outside this latter category because the artefacts produced are generated as part of the process but are not the end products of the research). As for Cross' distinction, although this research sits predominantly in the area of design praxiology, it also partially falls into the other two categories because, though less of a focus, most of the methods used and studied are *designerly*; also, the artefacts generated are considered in the analysis. A more useful classification is provided by Candy (2006), who differentiates between *practice-based* and *practice-led*; in the former, a creative artefact is the basis of the contribution to knowledge, whereas in the latter the research leads primarily to new understandings about practice. Using Candy's definition, this research situates as type practice-led, for the emphasis is not the project solution, but the knowledge around the practice that

creates the solution. A definition of *practice* in the context of this thesis is now provided to clarify how this research was carried out.

It was stated before that this research concerns the practice of PD, and more specifically, some elements of this practice. PD is an approach to design *for*, *by*, and *with* those affected by a design (Bjögvinsson et al., 2012). PD is understood and practised in a wide range of areas and by a variety of practitioners with different backgrounds and expertise, however one of the shared and core elements of its practice is the moment where people meet to become co-designers and co-producers; this moment is defined by Manzini "collaborative encounters" (2015). This thesis focuses on such element and in the role (and hence practice) of expert designers to facilitate these occasions for exchange and co-creation in design initiatives, which is achieved by blending actions of critical, creative, and dialogic collaboration (Manzini, 2015). More specifically, the primary mode of doing and research method that is used to generate knowledge in this research is the co-creation workshop. Workshops have indeed been central to PD to "enable the participants in the design process to propose, represent, interrogate and reflect on different aspects of the developing design continually throughout that process" (Robertson and Simonsen, 2013, p.9). This research looks specifically at the use of workshops as a form of collaborative encounters through which a PD initiative is deployed and at the role of the designer as facilitator in making such design initiative happening. However, rather than looking at *the* workshop as a form of practice per se, this research investigates the use of workshops in their aggregation to unfold a PD intervention.

The research is carried out by performing elements of practice in first-person in the form of design experiments. The role of the designer-practitioner thus overlaps that of the researcher. Workshops are the arena for both practice *and* research – hence the separation between the two is removed. Co-creation workshops are a means by which the researcher interacts with participants and where data is generated and collected to generate knowledge that has operational significance to the practice investigated (although some other data are captured – more about this in the methodology chapter); they are used both as research instruments and as research

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accounts (Rosner et al., 2016) to generate knowledge that has operational significance to the practice under investigation. It is the workshop that enables the design initiative to exist, the research to take place, the designer-facilitator to facilitate, the researcher to research, and participants to participate. Workshops are carried out in the same way scientific experiments are used in other fields to enable the researcher to explore the research questions. Design experiments, however, differ from most other scientific experiments in that they are composed of series of attempts that open up situations and to which there is no clear end with validated conclusions to either confirm or reject a given hypothesis, but rather a demonstration that new courses of actions are possible (Ehn and Ullmark, 2017). They are characterised by "design work resulting in two or more concepts becoming fused with one another to produce a new understanding that cannot be derived from either concept on its own" (Markussen, 2017, p.93). Experiments are constructed upon a blend of theories "where designers borrow ideas and concepts from other disciplines and apply them to design" (Markussen, 2017, p.90); thus to inspire new designs or articulate existing ones (Gaver, 2012). They primarily consist of new forms of social research that involve different participants with different expertise in actual situations where many variables are out of the researcher's control, carried over a continuous and iterative process of progressive refinement (Collins et al., 2009; Tonkinwise, 2017; Binder and Brandt, 2017). In this process of experimenting, the designer-practitioner-researcher adopted a 'methodological bricolage' approach to research, meaning that methods are constructed combining elements from other methods to offer insight into new forms of rigour and complexity in social research in order to address questions most effectively (Yee and Bremner, 2011).

The main contribution lies in the researcher's reflections *on* and *in* action. The artefacts generated during the design experiments are considered a form of evidence of practice and mainly presented to contextualise the reflections. The voice of participants is also captured; thus, to connect the researcher's standpoint with participants' views and add ethical rigour to the research (Robson and McCartan, 2016). The main contribution, however, focuses on the researcher's reflections and is mostly described in text form, in harmony with Candy's definition of practice-led research (2006). This form of research, as pointed out by Manzini, is creative,

reflective and therefore necessarily subjective; for this reason, the knowledge produced "must be explicit, discussable, transferable, and compoundable" (2015, p.39). The output and main contribution are presented in the form of a model of and for practice, made of a selection of theories, activities and tools to deploy PD interventions with communities of marginalised youth in developing countries for social innovation. It is *design for design*, where the contribution lies in the general knowledge development of design itself. Knowledge is created by challenging and critiquing PD for social innovation, and by bringing forward a new model of practice (Vaughan, 2017b).

1.6 Research context

The research targeted youth of marginalised communities in developing countries. Although specific details of participants and their environments are provided in the relevant chapters, this section contextualises the research by providing general definitions of how it is intended with developing countries, community, marginalisation, and youth. Since the fieldwork took place in South Africa in compliance with the PARTY project (see section 1.7), such contextualisation is presented considering the South African environment.

1.6.1 South Africa as a developing country

An official definition of a developing country does not exist. For many years, the World Bank classified countries for statistical convenience considering primarily economic income thresholds, defining as *developing* those low- and middle-income countries, whereas *developed* the high-income countries (Fantom et al., 2016). Other publications use the two terms considering a variety of different indicators, such as poverty rates, or the best-known scores of the Human Development Index (Khokhar and Serajuddin, 2015). The most recent classification of the United Nations labels South Africa as a developing country (Statistics Division United Nations, 2018). This because Sub-Saharan Africa is home to half of the world's extreme poor (World Bank Group, 2018) and South Africa, due its history of racial segregation and related vertical and horizontal inequalities, has one of the highest rates of inequality in the world (United Nations Development Programme, 2019). As claimed by the South

African Government at the launch of the recent National Development Plan, despite the significant signs of progress, the country "continues to suffer the challenges of poverty, unemployment and inequality that feeds into social discontent" (2019, p.6).

On the other hand, South Africa is an ideal environment for PD because of its strong traditions of community participation and collective decision making (Hussain et al., 2012). This community mindset is most notably expressed in the concept of Ubuntu, a philosophy of humanness translated as "I am, because we are; and since we are, therefore I am" (Mbiti, 1990, p.141). Indeed, South African development agencies recognise the transformative potential and capacity of community development and call for new inclusive and participatory approaches "in which people are active champions of their own development" (National Youth Development Agency, 2015, p.2).

Within this context, South Africa was chosen as exemplary and most promising to undertake a research study looking to co-design social innovation with local communities.

1.6.2 The township community

The Oxford Dictionary of English defines "community" as "a group of people living in the same place or having a particular characteristic in common" as well as "the condition of sharing or having certain attitudes and interests in common" (Stevenson, 2010). Community may be referred to individuals living in a shared geographical place (often referred to in terms of "local community") as well as to small or large social units whose individuals do not live in proximity, but that share something in common such as norms, religion, values, or identity; an example is the community of academics in the field of design, who live all around the globe. Geographical location and human relationships are not mutually exclusive features in communities; while spatial location does matter in that the local context contributes to how people live their everyday lives, as pointed out by Gusfield (1975), geography alone is however not enough – for the relational dimension between individuals constitutes an essential feature for a community to be called such. A comprehensive definition and theory of sense of community is proposed by

McMillan and Chavis, who define it as "a feeling that members have of belonging, a feeling that members matter to one another and the group, and a shared faith that members' needs will be met through their commitment to being together" (1986, p.9). The relationship between communities and spatial polarisation is found, for example, with many neighbourhoods having distinctive social class profiles simply because people wish to live among others similar to them, or also because of economic or political forces that push populations into specific areas. What characterises a community is a sense of belonging of its members, which is the result of the exclusiveness and intensity of the relationships involved between them. It is that perception that individuals have something in common that allows them to make a distinction between "insiders" and "outsiders", or in the case of strongly bonded communities, between "us" and "them" (Ritzer, 2007). South African townships are appropriately addressed to as communities as they do fit the definition – both at a macro and micro level, with all the subcultures and sub-communities that exists within them. Townships in South Africa were created "to keep black people close enough to provide cheap labour and to keep them far enough away to ensure a clear social distance". They are owed to the aftermath of the apartheid and were built following a systematic framework that shaped them as "dormitory town[s] built at a distance from economic activity as well as from white residential areas" (World Bank Group, 2014, p.3-4). Townships are not only geographically circumscribed, but – and most importantly – are delimited by a tragic historical and cultural bond that is the root cause of their very existence; the reason why a strong sense of community and belonging is found among township residents, is demonstrated by the number of community centres and community-led activities.

South African townships, with their physical, cultural and political dimension, dynamics and potential, have therefore been favoured to undertake fieldwork for this research.

1.6.3 Marginalised youth

Marginalisation in the field of social innovation identifies a systematic partial of full denial to rights, opportunities and resources that are generally available to members of a different group, and which are fundamental to social integration within that

particular group (United Nations Development Programme, 2014). To be marginalised is to be powerless – to be left on the margins of social activity and decision-making (Kinyashi, 2006). Those who are marginalised tend to have less or no opportunities or capabilities to empower themselves or improve their position; this typically results in not being treated as equals and being denied access to resources and education. The underdeveloped and underserviced landscape of South African townships that surrounds wealthy central cities provides a remarkable example of marginalisation since the limited (or often just absent) existence of services and infrastructures uphold inequality and disadvantage among residents. According to the World Bank Group, the situation in South Africa is particularly challenging since townships are profoundly disconnected with the spatial, social, and structural urban systems (2014). The World Bank Group country director for South Africa, Asad Alam, described townships as "large, underdeveloped communities with working-age people desperate for economic opportunity, being spatially disconnected from urban centres that offer better economic prospects" (2014). The majority of work opportunities are found in big cities; however, the costs of living in big cities makes it unfeasible for unemployed to relocate there. As a consequence, suburban areas are home to about a third of working-age South Africans and almost half of the unemployed (Mogajane, 2018). On the other hand, the costs for transportation result in large portions of income spent on travel for those who are employed but cannot afford to live in town. Nevertheless, townships are favourable hubs of entrepreneurial activity featuring high entrepreneurial aspirations and values (Preisendörfer et al., 2014), where employing endeavours offer alternatives to precarious low-wage work or unemployment (Hikido, 2018).

Considering such context, full of challenges but also with great potential, the researcher decided to focus on youth and more specifically on those unemployed; thus, to support their agency and leadership as the basis for social change. In this research, youth are considered "every person between the ages of 15 and 35 years" (African Union Youth Division, 2006).

Investing in young people is deemed critical to improving the lives and development of future generations. The African continent is the first in terms of young people,

who represent 60 per cent of the population (United Nations et al., 2017). On the occasion of World Population Day, UN Secretary-General Ban Ki-moon stressed that young people are denied the right to a quality education, a decent job, and participation in the political life of their societies; he called "to prioritize youth in development plans, strengthen partnerships with youth-led organizations, and involve young people in all decisions that affect them", further stating that "By empowering today's youth, we will lay the groundwork for a more sustainable future for generations to come" (United Nations, 2014).

A great variety of programmes emphasise the need to work with youth for they constitute the future of nations and more specifically on skills and entrepreneurship training. Skills training is essential to help youth build a backbone of competences to be ready for the work industry. Entrepreneurship training, on the other hand, provides an opportunity to find ways to generate profit in a hostile and challenging environment such as that found in the townships. As pointed out by the National Development Plan, "Entrepreneurship is also considered a key driver for job creation and economic growth, with the National Development Plan stating that 90% of jobs will be created by small and medium businesses by the year 2030" (2013). Youth service programmes are encouraged to offer young people life-skills training, entrepreneurship training and opportunities to participate in community development programmes (National Youth Development Agency, 2015).

1.7 The PARTY project

This doctoral thesis received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 645743, known as PARTY project.

PARTY is an acronym for PARticipatory development with the Youth. The project was an international and inter-sectoral project focusing on developmental cooperation through research and innovation staff exchanges and sharing of knowledge between researchers, the target group, local actors in Southern Africa and international aid organisations (University of Lapland, 2018). The PARTY project involved a consortium of 6 institutions spread across five countries: The University of Leeds

(United Kingdom), the University of Lapland (Finland), PACO Design Collaborative (Milan), the Namibia University of Science and Technology (Namibia), Cape Peninsula University of Technology (South Africa), and the South African San Institute (South Africa). The project aimed to endorse human development and assist in reducing youth unemployment by increasing the involvement and inclusion of young people in service development in Namibia and South Africa using participatory and explorative service design tools. It targeted the San people in the Omaheke region in Namibia and the Northern Cape Province of South Africa, a community, faced with various social, cultural, economic and political difficulties. The project produced a variety of tools for service designers working in the development context to support the youth's motivation and abilities to participate in the development of their community towards a more comprehensive integration into their national socio-economic system.

1.8 Thesis outline

This thesis is composed of eight chapters. Table 1.1 provides a summary of the structure of the thesis and a description of each chapter.

Chapter	Title	Description
Chapter 1	Introduction	The first chapter sets the context, the main questions and the objectives of this study.
Chapter 2	Literature review	This chapter provides a summary of the literature reviewed to frame the research problem and guide the generation of a model of practice.
Chapter 3	Methodology	Chapter 3 explains the choices made to approach, collect and analyse data.
Chapter 4	The model baseline	The chapter bridges theory and practice presenting the baseline model of practice.
Chapter 5	Case study 1	Chapter 5 refers to the first evaluation of the model over the course of a participatory case study undertook in the Philippi township of Cape Town, South Africa.
Chapter 6	Case study 2	The chapter illustrates the second case study, which was conducted in Platfontein, Kimberley, to evaluate the model's inherent flexibility.
Chapter 7	Discussion	This chapter reflects and discusses the key findings of this investigation, presenting how the research met its aim and objectives and contributed to the PD theory and practice.

| Chapter 8 | Conclusions | The final chapter summarises the main points of the thesis in terms of its limitations and contribution to knowledge. |

Table 1.1 Thesis outline and chapter structure

Chapter 2 Literature review

2.1 Introduction

This chapter aims to review relevant literature in order to inform the direction of the research and frame the research problem. It introduces the field of design and its social dimension, presenting first a brief historical account and then key characteristics of contemporary practice. It then focuses on PD and its application to attain socially progressive ends in the context of developing countries. Building upon the strengths and weaknesses identified, the chapter then introduces the field of development, identifying four areas to inform the practice of PD. The chapter finally focuses on the practical elements adopted by design practitioners to undertake design projects. This review created the basis for the development of a model of practice which is presented and evaluated in the following chapters.

2.2 Design and the social dimension

2.2.1 A brief historical account towards today's design practice

The world *design* is a term used in a wide range of contexts and meanings. Its etymology goes back to the Latin *de + signare*, meaning literally *to mark out*, *to sign* (Terzidis, 2007). Designing is a human act to create *things* (whether tangible and intangible) and *make sense of them* - give them meaning through the very act of creation (Krippendorff, 1989). Design is "the enactment of human instinct and a construct that facilitates the materialisation of our world" (Fuad-Luke, 2009, p.152). In creating artefacts, design acts as the intermediary between people and the construction of their world (Moles, 1986), functioning as a means for society to give meaning to itself (Csikszentmihalyi and Halton, 2002) – since all human-made creations reflect emotions, feelings, and profound psychological and sociocultural reasoning of society (Verganti, 2011).

As claimed by noted academic in social innovation and sustainable design Ezio Manzini, design, first of all, is a process meeting human needs concerned with solving problems and making sense of things; it is about making things happen in "both the physical and biological world (where it resolves problems) and the social

one (where it produces sense)" (Manzini, 2015, p.35). The discipline of design sits between the two poles of science and the humanities and is at the heart of questions related to feasibility, viability and desirability (Boyer et al., 2011), which ultimate purpose is to improve the habitability of the world (Findeli et al., 2008). It is a productive human activity involving decision-making that enables positive action (Margolin, 2015) in the attempt to transform human experiences (Margolin and Margolin, 2002) by devising "courses of action aimed at changing existing situations into preferred ones" (Simon, 1996, p.111). To be human is to design (Fry, 2012). With the aim to balance harmoniously the problem definition, the refinement of the most effective direction by creating and considering multiple options, and finally execution of the best plan of action (Brown and Wyatt, 2010, p.18).

Design scholars interested with the social dimension of design suggest that as a human activity, design is deeply socially orientated and by nature, participatory and emancipatory (Fuad-Luke, 2009). However, design has not always been understood in these terms. During the industrial revolution, when first knew its mass-expansion, the discipline was practised as a form of art to cover "ugly engineered mechanisms with pleasing forms" (Krippendorff, 2006, p.7). Neither users nor designers had any voice in the product development process. Producers oversaw the features and development of a product from beginning to end; their views and technological advancements came first. Local identities were not considered and therefore designers of the time contributed to replace different cultural traditions elsewhere with the expanding Western industrial ideals (Krippendorff, 2006) by reflecting social and personal values in industrially mass-manufactured goods (Sparke, 2004; Walker, 2011). With the transition to a post-industrial society, the emphasis shifted onto users' ability to conceptualise and handle products. Here designers started working closely with individuals to implement user-friendliness and usability in addition to traditional ergonomic and aesthetic features (Krippendorff, 2006). Although the integration of end-users into the development phase of artefacts was gaining importance, at this stage it solely served to test already mature artefacts for further refinement. But user participation swiftly expanded to ascertain the discovery and resolution of errors for the improvement of designs (Norman, 2004). Within this shift, end-users' interests and needs acquired significance. To this followed the

realisation that "THE end-user", to which an artefact should be ascribed to, "is a myth" (Krippendorff, 2006). Designers increasingly acknowledged the necessity to involve the whole network of people who are affected by a design – namely stakeholders – with open and democratic methods across the entirety of the development process to leverage different needs and to make usable and desirable artefacts (Fuad-Luke, 2009; Design Council, 2014).

In response to the expansion of the industry onto the service sector, and building upon the founding talent of designers to understand human needs, the discipline of service design finally emerged as a "hybrid approach entailing the design of experiences, which borrows from product and industrial design but also sociology and business strategy" (Design Council, 2015). Service designers shifted from using creative practices for tangible aesthetic purposes to create intangible socio-material "Things" (Bjögvinsson et al., 2012), looking to trigger transformation processes and create new interactions and experiences (Meroni and Sangiorgi, 2011). This led service designers – and more generally design – to be considered a key driver for service innovation, social innovation and user-centered innovation (Foglieni et al., 2018).

2.2.2 The practice of design

The emergence of design grew in response to the need for smarter approaches to tackle the increasingly complex, ill-defined and large-scale challenges that our society is facing. Design is "our ability to be intuitive, to recognize patterns, to construct ideas that have emotional meaning as well as being functional, and to express ourselves in media other than words or symbols" (Brown and Wyatt, 2010, p.33). At its basis, it consists of a combination of critical sense, creativity and practical sense; three human gifts that allow human beings respectively to identify what can or should be changed, imagine things that do not yet exist and identify how to make this imagined change happen (Manzini, 2015); in other words, design enables us to act as change agents. The idea that design ought to deal with complex challenges was first argued by Rittel and Webber (1973) and developed by Buchanan (1992), who argued that the strength of design lies in its ability to deal with "wicked problems": "indeterminate subject matters waiting to be made specific and

concrete"; this because design does not have a specific subject matter and can be applied to any area of human experience potentially. Problems are "wicked" when the information is confusing, where there are many decision-makers with conflicting values, and where goals and objectives are uncertain (Broadbent, 2003); they are "hard to solve (…) ill-defined, ambiguous, and contested, and also feature multi-layered interdependencies and complex social dynamics" (Brouwer and Woodhill, 2015, p.176). Designers pledge aptitude to tackle complex challenges by offering smarter and more agile approaches to identify problems, frame opportunities, generate solutions, explore ideas and implement them; this, by providing creative means and aids to foster collaboration among people (Boyer et al., 2011; Brouwer and Woodhill, 2015) throughout the whole design process, so that their role and that of the designer blurs and solutions are developed "with" as opposed to "for" individuals (Elizabeth, 2002).

Although on the one hand the very act of involving different subjective points of view does play a part in making problems *wicked* (Rittel and Webber, 1973), on the other aligning the perspectives, understandings, and collective commitment to action of different individuals is critical to conceptualise and respond to complex challenges (Fuad-Luke, 2009; Boyer et al., 2011; Brouwer and Woodhill, 2015). Individuals involved may be subject-matter experts, designers, users or other actors; every point of view is equally subjective and knowledgeable because every individual is expert of their world. These are referred to as *stakeholders* to emphasise they claim interests in a development, are knowledgeable about the stake they claim, are willing to act, and are willing to mobilise the resources they command (Krippendorff, 2006). The focal point stands in the idea that people destined to use an artefact, both directly and indirectly, should be part of its development (Fuad-Luke, 2009). Their involvement may be more or less central depending on whether they are essential to the development of the project, or how much they are affected by it. The multidisciplinarity of thinking that stems from involving such a varied and cross-functional range of individuals contributing to the process, enables a more holistic view (Carlsson et al., 2015; Foglieni et al., 2018; Stickdorn et al., 2018), thus creating an opportunity to better define the problem and improving the chances of a design outcome being effective to solve it (Fuad-Luke, 2009). By actively involving those

people and communities directly concerned with a given problem "at the bottom", design initiatives are referred to as bottom-up; whereas initiatives that are driven by experts, decision-makers, institutions, or political activists are considered top-down (Murray et al., 2010; Manzini, 2014; Manzini, 2015).

In this bottom-up collaborative process, crucial is the act of collective creativity applied across the whole span of the process, which is referred to as co-design (Sanders and Stappers, 2008). Co-design is the modern response to the past design activity that was isolating the process of collecting information and only after producing a product within the office wall (Manzini, 2015). Instead, using co-design, designers and stakeholders cooperate in knowledge development, idea generation and concept development; the work of designers is continuously permeated with the context for the entirety of the process "to explore potential directions and gathers a wide range of perspectives" (Stickdorn and Schneider, 2010). Designers facilitate the complex interactions between people in the creation, articulation, development and evaluation of ideas and visions (Krippendorff, 2006; Robertson and Simonsen, 2013), by "feed[ing] the conversation with visions and ideas (…), listen[ing] to the feedback from other interlocutors (..), and then, in view of the feedback, (…) introduce[ing] new, more mature proposals into the conversation" (Manzini, 2015). Co-design blurs the boundaries between designers and stakeholders, positioning all participants as equal partners and giving them the opportunity not simply to act as informants, but to actively and collaboratively take part in a shared construction of what to do and how – though various degrees and modalities of involvement exist. Stakeholders ought to be involved since the very early stages of the project development process (Stickdorn and Schneider, 2010), because "the earlier people are consulted, listened to, and given a chance to contribute, the more likely they are to be supportive" (Brouwer and Woodhill, 2015, p.31).

Design has also established a core principle of human-centeredness. With this, designers affirm "an ongoing search for what can be done to support and strengthen the dignity of human beings as they act out their lives in varied social, economic, political, and cultural circumstances" (Buchanan, 2001b, p.37). With human-

centeredness, designers aim to identify and explore alternative future opportunities by looking empathically at people in the attempt to meet their needs and desires within the social and economic fabric; it aims to understand why and how specific experiences and situations are meaningful to users (Kouprie and Visser, 2009). Human-centeredness in design is affirmed in the practice of empathy, which is "the capacity to listen to users and to wear users' shoes" (Foglieni et al., 2018, p.105).

Another key feature is the flexibility with which the design process is followed. This flexibility offers an alternative to the step-by-step linear model of thinking which presupposes a first analytic sequence of problem identification towards a secondary synthetic sequence of problem solution (Buchanan, 1992). On the contrary, design realises the need for non-linear adaptive processes made of cycles of exploration, creation, and reflection; each step is shaped from the former and may lead to a reset of the process towards entirely new directions. The continuous learning from experience and failure of previous designs helps frame the problem and find the best possible solution.

2.2.3 The social dimension of design

The social dimension has interested designers since their very early appearance; reformers such as William Morris and John Ruskin were already concerned about public consciousness and social conditions in the Nineteenth century (Armstrong et al., 2014). The notion of design in support to social development, however, grew in the context of post-war reconstruction, in the attempt "to maximize the civic benefits of design alongside the burgeoning commercial potential of design as an emergent profession" (Armstrong et al., 2014, p.17); then, after the social revolutions in the 1960s and the following recession in the 1970s, alternatives to mainstream consumerist living were developed and among these, a noteworthy mention is Victor Papanek's 1971 book *Design for the Real World*, where he called the social and moral responsibility of designers (Margolin and Margolin, 2002). In the last two decades, the social role of design grew in response to the socio-economic situation and the austerity politics resulted from the 2008 financial crisis and recession (Armstrong et al., 2014). According to Margolin, the broad objective of design is "to contribute to the creation of a good society (...) one that is fair and

just" (2015, p.30); the aim is thus one of social quality, defined as "the measure of citizens' capability of participating to the social and economic life of their community in conditions that improve both their individual wealth and the conditions of their community" (De Leonardis, 2002 cited in Morelli, 2007, p.6). Having to do with dialogue and argumentative processes, design is implicitly both a social and political activity (Fuad-Luke, 2009).

Although all design can be understood as social, the discipline of social design most specifically concerns "the concepts and activities enacted within participatory approaches to researching, generating and realising new ways to make change happen towards collective and social ends, rather than predominantly commercial objectives" (Armstrong et al., 2014, p.15). Social design focuses on those socially sensitive issues that are not dealt with by the market or the state and is promoted by the noble ethic and charitable spirit of designers (Manzini, 2015). Pioneers such as Papanek (1985), Whiteley (1994), Simon (1996) and many other luminaries stimulated the work of practitioners and scholars, feeding through the most recent thinking on design for social innovation, which specifically looks at generating social forms and social change towards sustainability across all social stratifications (Manzini, 2015). Social innovations are defined as "new ideas (products, services and models) that simultaneously meet social needs and create new social relationships or collaborations. In other words, they are innovations that are both good for society and enhance society's capacity to act" (Murray et al., 2010, p.3).

The process of innovation as socio-economic development is often linked to an idea of modernisation entailing a necessary convergence on western patterns (Kagitçibasi, 2005). However, although some aspects of change have indeed led to form common "western" patterns at the societal, group and individual level, cultural and cross-cultural research challenged this view; for example, "modernised" Eastern countries have not acquired western ideologies, despite having acquired western technologies, but on the contrary have consolidated eastern worldviews for societal progress (Kagitçibasi, 2005) – "they borrowed from the West, but they did not become Western" (Marsella and Choi, 1993, p.203 cited in Kagitçibasi, 2005, p.234). This leads to the conclusion that the diffusion of innovation in cross-cultural settings

is not to be seen as a continued attempt of Western dominance. Design offers a fertile ground to diffuse social innovation since it concerns "how things ought to be in order to attain desired functions and meanings" (2015, p.54). Design for social innovation is driven by the intention to generate positive changes of social values and behaviours; it occurs through collaborative organisations arranged in hybrid processes of top-down and bottom-up, small-scale and peer-to-peer initiatives (Manzini, 2014). While in its early stages social innovation may be and often is, triggered by bottom-up organisations through local heroic individuals (Mulgan, 2007), it needs proactive support to be amplified and generate sustainable changes on a larger scale. Social innovations are indeed increasingly co-produced by bottom-up creative communities (Meroni, 2007), since the strength of creative communities is that they grow organically and are context-specific (Penin et al., 2009). The role of design for social innovation is thus to make things possible and likely – it is "everything that expert design[ers] can do to activate, sustain, and orient processes of social change toward sustainability" (Manzini, 2015, p.62). The process of design for social innovation embodies the strengths and main features as outlined above, but with a focus on strategically transforming power relationships within society. To do so, designers ought to recognise a problem and identify the resources to solve it; propose organisational and economic structures to activate these resources; and build an overall vision to connect diverse local initiatives and orient them coherently (Manzini, 2014). In this process designers not only facilitate the set-up of social innovations, but they also encourage their nourishment by providing expertise to define new relational and collaborative models across the whole ecosystem over time (Meroni et al., 2017). Ecosystems are made of different forms of collaborative organisations, initiatives and encounters that must be enabled to support sustained community problem solving and development; collaborative organisations are in fact like living organisms that require a favourable environment to start, evolve, last over time, grow and multiply (Manzini, 2015). Among the ways in which collaborative organisation can evolve, PD was identified as the most suited to undertake work in the context of developing countries.

2.3 Participatory Design in developing countries

2.3.1 Introduction to Participatory Design

Practices of collective creativity have been around for nearly 50 years within the field of design (Sanders and Stappers, 2008); among these, the one design practice that most explicitly looked at the notion of power is PD. PD is both a research discipline and field of design practice defined by Robertson and Simonsen as:

> *"a process of investigating, understanding, reflecting upon, establishing, developing, and supporting mutual learning between multiple participants in collective 'reflection-in-action'. The participants typically undertake the two principal roles of users and designers where the designers strive to learn the realities of the users' situation while the users strive to articulate their desired aims and learn appropriate technological means to obtain them"*
> (2013, p.2).

Early work on user participation dates back to the 1970s in northern Europe, where research projects enquired the effect of participation in decision-making in the workplace (Fuad-Luke, 2009). PD originated in Scandinavia to enable workers to have more influence on computer systems in the workplace, but it has now grown and is increasingly advocated and adopted to develop new solutions for economically or socially marginalised people in developing countries (Hussain et al., 2012). It is a bottom-up approach to deal with complex issues that emphasises the direct collaboration of those involved to attain feasible and desirable futures. Issues of power and democracy are the critical concerns in PD, the reason why the approach has moved from being used in organisational settings to supporting democratic processes of change for innovation and empowerment within communities and public spaces (Ehn, 2008; Sangiorgi, 2011). The target of PD typically is socially embedded systems made at its core of three perspectives-components: having a say, mutual learning and co-realisation (Bratteteig et al., 2013).

Having a say encapsulates the idea of participation, which, as argued in section above, is considered essential to drive transformational change (Fuad-Luke, 2009);

this means informing participants of their chance to influence the process and enabling them with the power to do so, including decisions about what problems to solve and how. Robertson (2013) refers to this concept in terms of *genuine participation* to emphasise that in PD, the involvement of participants is legitimated and acknowledged; their interests are fully acknowledged throughout collective discussions and reflections. The term *genuine* in relation to participation will be further explored in the following section concerning other non-design fields; for the moment will suffice to remark that it has been used by design scholars to stress the conditions whereby mutual-learning between designers and users takes place, and where participants are not simply involved as informants in the design process, but are given the right to influence the process (Bødker et al., 2013).

Mutual learning is the necessary basis for shared decision-making (Bratteteig et al., 2013). Participants are the experts of their world, and it is critical for designers to learn and familiarise with them and their world; this is particularly important when undertaking fieldwork, for there may be specific dynamics hindering genuine participation, or taboos that should be addressed mindfully by designers. For example, Hussain et al. (2012) noted how social structures influence group dynamics in participatory activities, and how customs and religious beliefs can impact participants' willingness to share opinions. Mutual learning is the central component in the collective reflection-in-action process that underpins the design process in PD (Robertson and Simonsen, 2012; Bannon and Ehn, 2013).

Co-realisation is that component-perspective stressing the need of collective creativity throughout the process, or co-design techniques, "to enable co-construction and learning through sharing concrete experiences" (Bratteteig et al., 2013, p.133). Being driven by social interactions and acts of shared experimentation and reflection, the term co-design is often referred to interchangeably to PD; the researcher, however, understands PD as a top-level container for co-design, which is seen as a "collective creativity as it is applied across the whole span of a design process" (Sanders and Stappers, 2008, p.2). PD, on the other hand, is a broader and more holistic approach that stretches beyond those collective creative moments; it focuses attention on the political dimension of user empowerment and

democratisation by shifting the position of those involved in the design process from that of mere informants to that of legitimate and acknowledged participants, through which learning and discovery takes place multi-directionally (Robertson and Simonsen, 2013).

2.3.2 Strengths and weaknesses of Participatory Design

PD has grown in popularity among contemporary designers to attain socially progressive ends in international development projects and developing countries and more specifically in community contexts (DiSalvo et al., 2013). Participation is considered a cornerstone for effective development interventions (Brouwer and Woodhill, 2015) and PD, besides the apparent link owing to its participatory root, has also distinguished as a form of practice for its democratic and emancipatory motivations and political commitments to societal concerns and relationships with participating users and communities (Gregory, 2003). Participation in PD "empowers stakeholders and allows them to feel connected to the design process" (Iversen et al., 2012, p.88); it acts as a public square for the on-going negotiation of values (Iversen et al., 2012), which "convey what is important to people in their lives (...) guide perception, goals, attitudes, and behaviour (...) [and] serve as motivators, similarly to needs" (Bardi and Goodwin, 2011, p.271). The close relationship that PD entails enables to establish harmony within a community of practice, leading to mutual learning and alignment of goals (Kapuire et al., 2015).

PD has been applied to a variety of contexts and projects, such as in urban planning to explore how digital technologies transform the life in and of the city (Dalsgaard, 2012); in the health, sector to influence work practice and public policy (Balka, 2013); to support the design and development of grant-making and fundraising databases for supporting women's human rights around the world (Trigg and Ishimaru, 2013); to develop a community-based network for political participation in the neighbourhood (DiSalvo et al., 2012) – to name but a few. More specifically, in the context of developing countries PD has been used to develop software for the public health sector for the Global South (Braa and Sahay, 2013); to build an indigenous knowledge system with the Yolngu Aboriginals in Australia (Verran et al., 2007); to engage with the rural communities in Uganda to support their communal water

management needs and practices (Ssozi-Mugarura et al., 2017); to cope with digital exclusion among the underserved groups in the urban areas of Cape Town, South Africa (Lorini et al., 2015); to develop ideas for a device that enables children who use prosthetic legs to walk in mud in Cambodia (Hussain et al., 2012) – again, among others.

PD in developing countries has been adopted for more than 20 years (Robertson and Simonsen, 2012); yet, work in this arena is particularly contentious and one of the most challenging for several reasons. First and foremost, the achievement of long-term sustainability (Robertson and Simonsen, 2012); although PD strives to enable participants to take on a central position, often when researchers or designers leave, the momentum declines and the initiative fades (Iversen and Dindler, 2014). The fundamental challenge for designers and the design community is indeed to design beyond the specific project staged and move to "infrastructuring" design activities for future appropriation (Bjögvinsson et al., 2012); this echoes Manzini's conception outlined above to create a more favourable enabling ecosystem, that is, so create the conditions for social conversations to take place. Rather than "simply" enable people to take part in the design process, PD must also consider how to foster to new political forms and objectives to extend it beyond its project-case (DiSalvo et al., 2012).

A further challenge is the knowledge and cultural gaps that exist between designers and community members and the implicit or explicit views carried by designers that impact the PD process (Sabiescu et al., 2014). The literature suggests to translate PD to local contexts, thus factoring human, socio-cultural and religious understandings (Hussain et al., 2012) and tailor practical aspects of the methods, principles, and practices – for example, to redefine how to organise and manage projects, invite participants, build local capacity, or deal with language barriers (Dearden et al., 2008). As part of this process, the very meaning of "participation" is also redefined, thus to understand how to appropriately involve and engage local actors in PD activities (Sanders et al., 2010). Despite being at the very core of PD, the way it is carried and the impact it has in the design process constitutes an ongoing debate (Dearden et al., 2008; Winschiers-Theophilus et al., 2012). Although design offers

means to mediate the conflicting interests arising from different perspectives of stakeholders taking part in the process (Fuad-Luke, 2009), a criticism of participative methods is that these are often undertaken without considering the political and cultural context within which they seek to take place (Heeks, 1999). Iversen et al. remark how "having stakeholders participate during the design process does not necessarily qualify it as PD" (2012, p.88); they note that in order to do so, there is a need to identify local values and bring them to the core of the process.

Last but not least, and related to the above, is the fact that PD was developed in a western country context, and therefore the concern that the supposed universalism of participative practices may "may obscure and sustain macro-level inequalities and injustice" (von Busch and Palmås, 2016). Not to mention that participatory methods in developmental cooperation are often framed in order to achieve pre-set objectives that do not look at the overall improvement of people's lives in the long term (Frediani, 2010). As Fry goes on to remark, unless designers begin to focus on notions of development and the development process itself, design for development will simple trade on unquestioned assumptions and subordinate itself to an agenda as a blind functionary" (Fry, 2005, p.2).

2.4 Learning from development studies

2.4.1 Designers as facilitators in genuine participation

In the attempt to understand the conditions under PD may be employed responsibly and effectively to facilitate and encourage sustainable social innovations, the very notion of participation is explored through the lenses of development studies. Although the idea of PD is relatively recent, the concept of participation for social good is not. Approaches to participation originated in the field of rural development (Vettivel, 1999 cited in Kinyashi, 2006) and have been employed to effectively reach poor and marginalised communities to achieve sustainable change before. The field of development advanced to achieve social change and justice by enhancing growth, human rights, welfare, self-esteem, self-respect and, as more recently argued by Sen (1999), the choice, ability and opportunity to pursue desires and aspirations of individuals (Thirlwall, 2014; Potter, 2014; Frediani et al., 2019). Participatory

approaches developed to contrast previous top-down approaches – critiqued as euro-centric, biased and disempowering (Mohan, 2014) – in the acknowledgement that the poor and marginalised are capable of engaging in the process of participation and articulate their interests (Frediani et al., 2019). Participatory approaches have been consistently employed in development studies for the instrumental value and intrinsic benefits brought (Frediani et al., 2019). Among these, Alkire (2002) describes greater success of interventions (because of access to accurate, ground-level information on local conditions); improved sustainability (because the initiative is sustained by the community); effective empowerment (because participants to set their objectives); and higher sensitivity (because local cultural values are held with the people influencing the initiative at all stages).

A precursor in the unpacking of meanings of participation is Arnstein, who in 1969 distinguished eight degrees or *ladders* of participation, described as a succession of involvement starting from *passive* or *manipulative* (when participants are only formally involved in the form of listeners) to *active* or *genuine* (when citizens are in full control of initiations and decisions over a program or institution and are in power of determining the end product) (Osler, 1996; Kinyashi, 2006; Reed, 2008). Genuine participation encapsulates the idea of "self-mobilisation" (Pretty, 1994; Pretty, 1995), which is that form of collective action where people participate by taking initiatives independently of external institutions to change systems. The opposite side of the spectrum has been described in an array of diverse ways, including "manipulated" (Bordenave, 1994), "pseudo participation" (White, 1994), or "tokenism" (Hart, 1992); this end accounts for the minimal type of control in terms of power to make decisions, where participants are passive listeners to what is being planned for them (Kinyashi, 2006). Arnstein (1969) also pointed out the political dimension of participation, remarking that a necessary condition is the redistribution of power among participants. The idea is that in order for participation to be genuine, participants should be fully in charge of initiations and decisions (Osler, 1996); Kinyashi defines *genuine* a participation in which individuals voluntarily participate and are "empowered to retain control at all levels of the development process (...) realizing that they are equal partners in development and are being

recognized by other development partners as subject and not an object to change"
(Kinyashi, 2006, p.3).

This concept of genuine participation as articulated above is useful to embrace in the context of co-design to emphasise the need of expert designers to facilitate, rather than control, the direction of the process. Fuad-Luke argues how co-design "is a commitment regarding inclusion and power, as it contests dominant hierarchically oriented top-down power structures", and is "imbued with political ambitions regarding power and inclusion because it invokes notions of *direct, anticipatory and deep democracy*, whereby the participants have a voice and that voice informs the design process." (Fuad-Luke, 2009). While on the one hand participation in design is still understood only as an attitude towards people, driven by the belief that everyone has something to offer in the design process (Fuad-Luke, 2009), the *ladder* provides a map through which design practitioners can visualise at what level their intervention is positioned in terms of participation at any given time. More importantly, it provides a clear set of implications if one is to achieve sustainable development through PD.

First, the recognition that participation starts before the design process, when potential participants are identified, contacted and invited. This operation is critical because in order for participation to be genuine, people should participate if they want. To achieve this Kinyashi (2006) outlined a procedure made of two main steps: (1) the development actors first needs to get acquainted with the targeting community; and (2) the community then decides internally their willingness to take part in the development process. In this process, the role of local intermediary actors is vital. As pointed out by Hargreaves et al., "intermediary actors can be broadly defined as organisations or individuals engaging in work that involves connecting local projects, with the wider world and, through this, helping to generate a shared institutional infrastructure and to support the development" (2013, p.870). Local intermediaries are useful to broker contacts, comply with language differences, bridge cultural gaps, and provide guidance to implement research activities to fit the cultural context; due to the strong relationships, trust and respect they developed through time with community members, they have a powerful influence and are

extremely helpful to identify and recruit appropriate participants and encourage participation (Ssozi-Mugarura et al., 2017).

The second important point that emerged is the notion of control. Indeed, "participation without empowerment is an untenable proposition" (Kinyashi, 2006). The genuine participatory process suggests that individuals are elevated to the higher end of the ladder; that is where they independently exert power and challenge the status quo. The implication for PD is that participants should gain full control over the design process, for it is during this process that propositions and decisions directly affecting them are made. This is manifested not only through those mechanisms used to exercise power as identified by Borum and Enderud (1981, cited in Bratteteig et al., 2013) such as having control over the agenda, participants, the scope and the resources, but also and most importantly by proactively equipping individuals with the capacity to alter the course of the design process. As for the former, if control over those power mechanisms is not given, participants are essentially led to attaining some predefined agenda, resulting in non-participation; giving the opportunity to provide inputs is also merely symbolic (or tokenistic) if these are ultimately not taken into consideration and do not lead to change to the processes.

On the other hand, the process of learning becomes an additional preliminary or baseline condition to achieve genuine participation. Donaldson (2008, p.36) remarked how "a longer term perspective involves building not just products but also local capacity, skills, knowledge, experience, and expertise that enables societies to meet their own needs", and it has already been highlighted that with the employment of participants directly within design activities, designers can engage in a process that slowly develops skills, knowledge and creative confidence (Brown and Katz, 2009; Kelley and Kelley, 2013). The key difference, however, is that for genuine participation, knowledge development and skills transfer should not happen as a consequence of participating in process – or better, not only as a consequence. Understanding what is happening, and comprehending the tools and methods adopted, alongside the rationale and dynamics underneath them – all need to be

addressed proactively throughout the design process in order to provide the ability with an individual or groups of individuals to act.

This form of participation does not only meet the human ideal of mutual support or altruism as advocated by design activists such as Faud-Luke (2009) but demands a shift of roles between designers and participants so that eventually participants are in full control of the design process so that they can plan, manage and evaluate their activities in a sustainable manner. In this process of assisted but self-initiated change, the role of a facilitator of genuine participation is to assist the organisation of the platform that will govern decision-making processes, ensuring the broadest possible participation of all members, resolving conflicts and power dynamics (Kinyashi, 2006).

2.4.2 Designers as educators to deal with power

Despite the various definitions and interpretations of participation, as well as debates on how it works or can be improved, the fundamental feature of participatory approaches is the emphasis of power as an instrument of both oppression and liberation and at the notion of empowerment between the powerless and the powerful (Gallagher, 2008). Empowerment is defined as "the expansion of assets and capabilities of poor people to participate in, negotiate with, influence, control, and hold accountable institutions that affect their lives" (World Bank, 2002, p.14); it is the recognition that "people are able to help themselves" (Servaes, 2008) – that they can identify the things they value (Frediani, 2010). Empowerment is an optimistic process to "exercise enhanced decision-making and influence over strategic life-choices and barriers to agency and well-being freedom" (Drydyk, 2008, p.231). The contemporary notion of empowerment is concerned with the educative goal to raise the capacity of participants to challenge the status quo and affect their livelihood consciously. The concept is directly related to that of agency, defined as "one's ability to choose" (Frediani, 2010, p.180).

Empowerment and agency are critical for groups and individuals involved in participatory approaches to improve their lives in the way they envision as opposed to achieving pre-set objectives (Frediani et al., 2019). People need access to

knowledge to develop critical consciousness. As expressed by Appadurai (2004), individuals who lack the capability to imagine alternative courses of action cannot aspire to a life different than the one they are experiencing, and this capacity can be developed through education. Among the radicals thinkers that contributed to this stance, Freire (2000) most notably argued about the universal right of people to participate in the production of knowledge to express their needs in development planning and processes in order to achieve development (Mohan, 2014; Frediani et al., 2019). Freire contributed significantly in advancing understandings around active learning in the context of empowerment, laying the foundations of a critical approach that looks at the role of the educator in providing the means to unleash individuals' potential to change their social reality (Freire, 2000). Learners, to Freire, are knowing subjects and the process of learning is one of gaining awareness of both the socio-cultural reality and their power as change-agents; this is achieved by thinking critically of the local problems and then actively engage in pursuing solutions to solve them (Freire, 2000). Rather than transferring knowledge through passive models of teaching – a concept referred to as "banking", a form of education as an instrument for oppression (Freire, 2000) – Freire emphasised that learners should be enabled to become independent thinkers to find their solutions and imagine alternative courses of action (Nussbaum, 2005; Dewey, 2005; Ellerman, 2006). With specific reference to development, Ray points out that this process should be approached carefully because, depending on the gap between "the standard of living that's aspired to and the standard of living that one already has" (Ray, 2006, p.3), individuals may be more or less incentivised to drive self-betterment; by "carefully opening" the "aspiration window", as Ray refers to, people can be motivated to work towards reachable stages of development while avoiding challenging leaps.

Design makes a great candidate to raise the capacity of participants to challenge the status quo and progressively affect their livelihood consciously since design education offers adequate pedagogical opportunities to develop metacognitive creative thinking (Hargrove, 2012) and skills to critically address a range of complex social and political issues (Penin et al., 2015). It is argued that with the employment of participants directly within design activities, designers can engage them in a

process that slowly develops skills, knowledge and creative confidence (Brown and Katz, 2009; Kelley and Kelley, 2013). As pointed out by Manzini, design capabilities are inherited human talents, but it is the task of designers to promote and develop them (2015). This links back and echoes the Freirean call to co-produce of knowledge, which is by nature part co-design. However, a formal approach is critical for the design and management of learning processes and knowledge co-creation that not only "empower design capabilities" (Manzini, 2015), but also achieve transformative, critical and empowering ends in a non-authoritative way.

Kolb's experiential learning model provides a useful normative framework for achieving this. Building upon the work of Freire, Dewey and others, Kolb advanced a theory to explain the learning process holistically. His Experiential Learning Theory (ELT) is based on the principle that the process of knowledge creation is a result of a cycle "driven by the resolution of the dual dialectics of action/reflection and experience/abstraction" (Kolb, 2015, p.51). The cycle generalises four main steps that involve (1) concrete experience followed by (2) observation and experience followed by (3) forming abstract concepts followed by (4) testing in new situations. The four steps synthesise the process of taking in information and transforming experience by interpreting and acting on that information through the four learning modes of experiencing, reflecting, thinking and acting (Kolb et al., 2014; Kolb, 2015). It follows that a critical pedagogical process built on experiential learning has the potential for PD to approach social innovation most ethically, respectfully and effectively. In such a process, participants unleash and train their creative capacity by co-producing the very means that enable them to engage with the social reality; they critique, discuss and renegotiate local understandings and are empowered with the means and understandings to become protagonists of their own development processes.

The work of expert designers in this genuine participatory process to enable participants to self-realise change presents a further challenge, that of working in a variety of cultural contexts with sensitivity.

2.4.3 Designers as mindful travellers across communities and cultures

In order to approach and treat communities with sensitivity and respect, the understanding of cultural differences is critical. The term *culture* has been vastly elaborated and contested in the field of anthropology among scholars (Rapport and Overing, 2000). In the colonial era, the concept was used to describe different systems of education and civilisation to be `modernised' following the Western pattern (Merry, 2006). The term is often used to refer to "ways of doing things that are justified by their roots in the past" that are "unbounded, contested, and connected to relations of power, as the product of historical influences rather than evolutionary change" (Merry, 2006, p.15). In modern anthropological stance, the term "refers to a systematically harmonized whole with each therefore comprising a shared and stable system of beliefs, knowledge, values, or sets of practices" (Rapport and Overing, 2000, p.94). For the last two decades, the idea of culture has been elaborated as a contested, fluid and unbounded concept produced through processes of combinations among individuals (Appadurai, 1986; Merry, 2006). A compelling explication of such concept is advanced by Sperber, who talks about "epidemiology of representations" (1996). In his argument, the experience of the world influences how people make sense of it together, and natural and social events give way to their collective interpretation which in turn influences individual schemas and behaviour. Cultural values are therefore continuously bargained and reconsidered via contamination between different traditions or cultural systems, as well as due to the existence of contradictions among them (Merry, 2006). This view of culture as open and flexible, as opposed to the relativist view that describes local norms as something unchangeable, lays the foundation for a resourceful approach to achieve change (Merry, 2006). The conceptualisation of a culture and embed in everyday social practices plays a fundamental role in determining how social change is imagined (Merry, 2006). Anthropologists have referred to the idea of moving across worlds as a way to acquire consciousness of one other's cultural context and establish a process of multicultural dialogue (Gunning, 1991). Merry (2006) points out how this process requires the exploration of shared values between the *self* and the *other*, directed towards the agreement or consensus on some rights and wrongs. In order to reach this understanding, it is necessary to be aware of transnational

cultural flows and their relationship to local cultural spaces (Hannerz, 1992; Appadurai, 1996; Gupta and Ferguson, 1997; Sassen, 2000; Appadurai, 2001; Merry, 2006). This means that although a cultural relativism approach proves right in determining that culture may only be understood from inside its context, there are also universal standards that can be presented from outside this context and that may be accepted and integrated. Gunning's (1991) methodology for understanding culturally challenging practices provides a good starting point for this process of interaction and mutual learning of people and cultures. First of all, she points out how arrogant and oversimplified perception are the leading causes that distance in a degree of superiority the *self* and the *other*. Secondly, she emphasises the need for *playfulness* expressed in terms of:

1. Suspension of assumptions of given rules or social codes;
2. Willingness to engage in the reconstruction of the self within the new `world';
3. Exploration of behaviours, attitudes, codes and rules and their internal logic;
4. Recognise and respect the other independence and interconnectedness with the personal world.

As for this latter, Gunning further argues the necessity to recognise each other's cultural influences and social pressures involved in determining one's sense of the world.

Within PD, understanding the world as an outsider through the eyes of insiders, and vice versa is critical to give deep insights and build a trustworthy and respectful relationship to achieve an equal participatory process of giving and receiving (Hussain et al., 2012). As expressed by Winschiers-Teophilus et al., multicultural interactions drive the "ability to perceive and integrate the target communities" (2010, p.9) – to re-conceptualise and negotiate the very notion of participation to meet local understandings. Successful PD interactions do not rely on the "right method", but rather on the co-creation of the tools, methods and processes "that provide adequate responses and solutions to the situation at hand" (Sabiescu et al., 2014, p.2). This fundamental re-negotiation in local cultural terms – in other words, vernacularisation – is pivotal also in response to the rising criticism of humanitarian design as a new form of cultural imperialism. Tungstall (2013) points out how design

initiatives often promise transformation change explicitly through Western mindsets that often fails to respect the value systems of target communities; instead, she stresses the importance of decolonised practices of cultural engagement that contributes to the self-definition and self-determination.

The adoption of cultural sensitivity on the one hand, and vernacularisation of PD on the other, aims thus to generate the conception of a PD intervention for development objectives that is respectful of local cultural stances and non-neo imperialistic. A final consideration is made in the following paragraph that considers the long-term goals of such an intervention.

2.4.4 Designers as enablers of sustainable ends

As we have seen, the goal of a development intervention is to achieve sustainability; meaning, to "meet the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Commission, 1987 cited in Fry, 2005). Ellerman suggested that providing solutions or overcontrolling development processes hinders participants' motivations to improve their local reality; instead, an indirect approach that facilitates participants' exploration of local problems and enables them to find possible answers, allows to gain agency of change process thus fostering internal motivation for change, since these changes are meaningful to them (2006; 2007). Empowerment, agency, ownership and accountability are essential ingredients in a sustainable development process among disadvantaged and vulnerable groups (Frediani et al., 2019). The role of pedagogy is critical since it empowers individuals the means to self-help themselves and be the protagonist of their own development; thus increasing their capacity and capability to act as change agents in genuine participatory processes that give them ownership and accountability (Ellerman, 2006). It follows that the outcome of such an intervention is therefore driven by participants, who are given the means "to take leadership, envision their futures and improve their lives" (Frediani et al., 2019, p.9). While this objective, on the one hand, is covered by the discussion presented above on empowering design capabilities through co-design, a further aspect covered in this section more explicitly consider Manzini's conception of creating a more

favourable enabling ecosystem (2015) and the social entrepreneurship orientation of design for social impact (Osburg and Schmidpeter, 2013; Meroni et al., 2017).

Manzini claims that social innovations occur through collaborative organisations; these are "social groups emerging in highly connected environments" (Manzini, 2015, p.83) where creative communities of people give rise to social conversations and actively collaborate to create social, economic, and environmental benefits. To exist they require an enabling ecosystem – "a favorable environment to start, last, evolve into mature solutions, and spread" (Manzini, 2015, p.90). The role of expert designers is thus to find, create and maintain collaborative encounters – which are the places where people meet for this purpose – and promote and develop conceptual and operational co-design tools that enable "to trigger, support, and summarize social conversations" (Manzini, 2015, p.133). An enabling ecosystem favours the growth of small-scale initiatives (Manzini, 2015); this includes facilitating the creation of multidisciplinary collaborative organisations among peers and stakeholders to share experiences, resources, knowledge and result in collective impact (Ray, 2006; Kania and Kramer, 2011; Selloni, 2017). Collaborative organisations necessitate a degree of entrepreneurship to operate (Manzini, 2015). An entrepreneurship mindset concentrates the application of PD and design interventions with the idea of infrastructuring projects in a way that concepts can result in social enterprises (Bjögvinsson et al., 2012).

A social enterprise is "an enterprise whose primary objective is to achieve social impact rather than generate profit for owners and stakeholders" (Schöning, 2013, p.113). The value of fostering local community entrepreneurial activity is to create new and more effective answers to complex challenges (Murray et al., 2010). Providing to people the ability to deal with social issues via entrepreneurship means to put them back in touch with their community – to become able to listen to them at a deeper level (Walker and Beranek, 2013), with a resulting acceleration of innovation and transformation (Biggs et al., 2010; Yang and Sung, 2016). Empowering people to "innovate together" (Meroni et al., 2017, p.164) – to conceive, develop and produce solutions to social needs in a *designerly* way – is pivotal to foster the innovation capability of society to act (Meroni et al., 2017). With

specific reference to the designerly way of intervening into people's lives and role of designers to make initiatives self-sufficient, Meroni et al. indicated the necessity to plan an "exit strategy by creating the condition for the innovators to be autonomous and committed enough to take the initiatives further" (2013, p.4). The term *social innovation* refers to this capacity of people to innovate together; it is now a familiar way of referring to new solutions (ideas, products, services, models, markets, processes) that simultaneously meet a social need (more effectively than existing solutions) and lead to new or improved capabilities and relationships, and to a better use of assets and resources. Strengthening entrepreneurship potential empowers individuals to become active participants in the transformation of their societies (Esque et al., 2013). The opportunity to converge collaborative initiatives whilst stimulating entrepreneurial creativity with design finds a favourable environment more specifically in developing countries, where people often already act as small entrepreneurs to cope with the lack of established service ecosystems (Meroni and Sangiorgi, 2011), and where entrepreneurial activity is seen to be a solution to address youth unemployment (National Planning Commission, 2013; Jenner, 2013).

2.5 Participatory Design in practice

The sections above presented and discussed how PD could address people's diverse needs and aspirations in the development context – from a mainly theoretical perspective. The following section focuses on the practical elements of PD and the design process more explicitly.

2.5.1 The design process to backbone PD interventions

How designers move across research and development, from the exploration of problems to delivery of solutions, is referred to as the design process (Stickdorn et al., 2018). The design process represents the track along which problems are identified and tackled, and sense is made; it expresses the cycles of experiments and evaluation where options are continuously created, weighted and reduced. Although many interpretations and articulations have been proposed by academics and practitioners, these all share the same mindset comprised of two main ideas. First, the design process is not a linear, step-by-step procedure; instead, designers

move between the two sides (beginning and end) by adapting and iterating activities as needed. Second, during such activities, as knowledge and opportunities are identified and explored, designers interplay recurring patterns of divergent and convergent thinking to create and reduce options (Stickdorn et al., 2018). The underlying principle is to identify and understand the problem to tackle before delivering a full solution implementation.
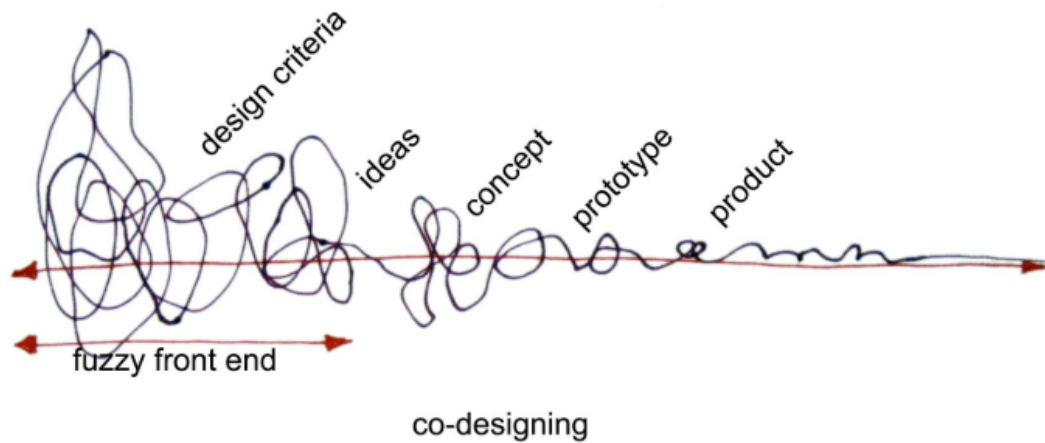
Figure 2.1 The design process (Sanders and Stappers, 2008)

The most acknowledged and accessible visualisation of the design process was developed by the British Design Council (2019) and is best known as the "Double Diamond" (see Figure 2.2).
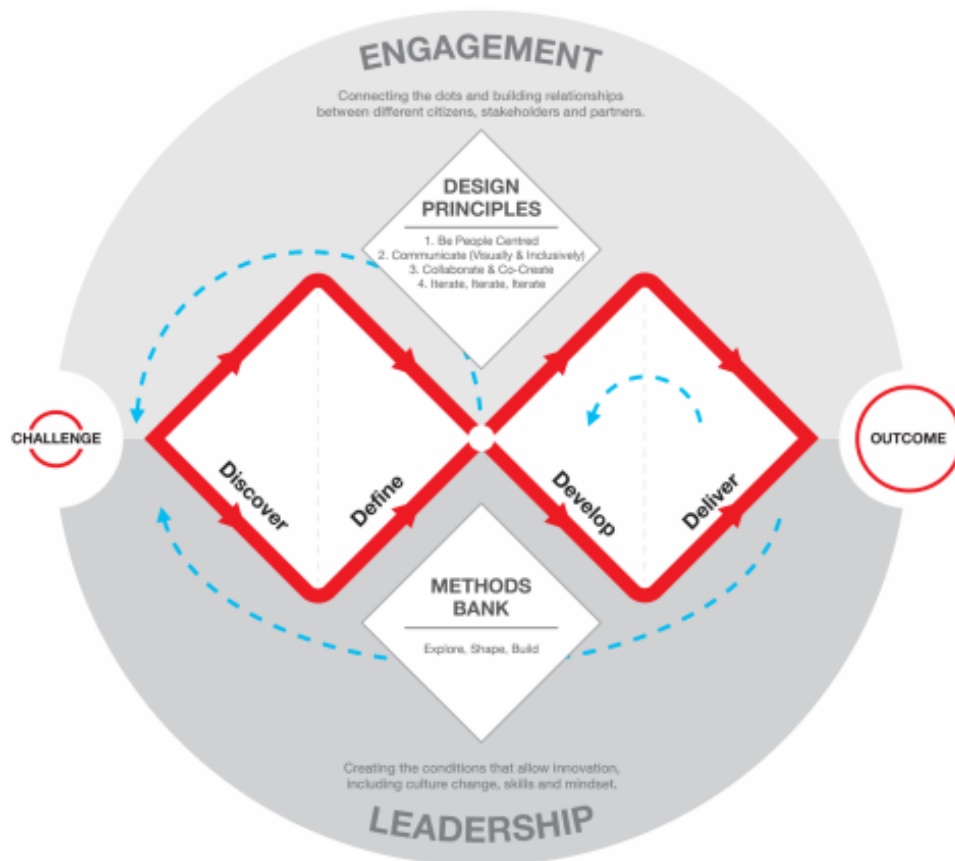
Figure 2.2 Design Council's Double Diamond (Design Council, 2019)

The Double Diamond describes four main stages of a design process: discover; define; develop; deliver. The first two focus on the process of exploration towards problem identification, whereas the last two on solution development. Again, as the arrows on the diagram shows, these are not linear; at any stage, the process may start over. The stages also highlight the two types mentioned above of thinking: divergent and convergent (the red arrows respectively going outwards and inwards). In the first 'discover' phase, designers use divergent thinking; this is the moment where user needs are identified and new ideas are formulated, where the research happens and the insight into the problem is explored. The inspiration may come from market research, user research, managing information and by organising design research groups. In the second phase, the problem gets interpreted and aligned with the organisation's business objectives; the goal is to go through ideas and inspirations to identify and define what the problem is. The approach to the thinking required at this stage is convergent. Once the problem is defined, the 'develop' phase starts. Here the thinking is again divergent because designers need to develop and test different possible solutions. Depending on the results, it may be needed to

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start over to better define the problem at stake. Once the developed solution is reviewed and confirmed, the product or service can finally be finalised and launched in the relevant market (Design Council, 2007; Design Council, 2019).

Regardless to how the design process is described, Stickdorn et al. (2018), with specific reference to service design, summarise four core activities that are always present: research; ideation; prototyping; implementation. Research is used to challenge assumptions, understand the context and empathise with people affected by the problem to solve; it is about looking at a particular topic with new perspectives to gather insights by collecting and analysing information. Ideation describes that critical moment where the topic is explored cognitively and ideas are generated, documented and selected. Prototyping enables to test concepts and solutions to evaluate what works best. Prototyping is an increasingly significant aspect of the design process, as it allows to make an idea tangible from early stages; thus to save resources and minimise risk (Design Council, 2014). What is most important is to realise then and implement these solutions – the *do* phase; this step includes rapid revenue and cost modelling, capability assessment and implementation planning. Implementation describes all those steps beyond testing that result in production and rollout of a product or service.

In addition to these core activities, IDEO's Field Guide to Human-Centered Design (2015) provides a useful list of core mindset to help designers work through the design process: Empathy; Optimism; Iteration; Creative Confidence; Making; Embracing Ambiguity; Learning from Failure. These are summarised in Table 2.1.

Mindset	Definition
Empathy	The capacity to step into other people's shoes to solve problems from their perspectives and understandings
Optimism	Embrace the idea that the answer is out there and can be found
Iteration	Leave behind perfection and explore ideas, approaches and solutions quickly to gather insights
Creative confidence	The belief that everyone is creative and the confidence to make leaps, trust the intuition, and chase creative solutions
Making	Make ideas tangible so that they can be tested
Embracing ambiguity	Start from the place of not knowing the answer to the problem to solve
Learning from failure	Failure is an inherent part of learning; things are done right because they have gone wrong first

In the specific context of social innovation, Corubolo et al. (2016) mapped the design process as a journey to empower individuals and increase the capacity of social innovations to become self-sustainable and create impact (Figure 2.3).

Figure 2.3 Social innovation journey (Corubolo et al., 2016)

Following the design process, the social innovation journey (SIJ) consists of a non-linear set of actions from raising awareness to creating a vision, defining an idea and designing a pre-prototype ready to be tested (Meroni et al., 2017). The SIJ provides a useful starting point and frame of reference for the organisation of PD interventions aiming to attain socially progressive ends. Social innovators in this framework are compared to entrepreneurs since they take risks, work without compensation and respond to user needs (Meroni et al., 2017). The SIJ envisages two circles of incubation and eight main steps pictured as an "external" and an "internal" circle. The former comprises pre-incubation activities (raising awareness, creating a vision, defining an idea and designing a pre-prototype ready to be tested); the latter comprises activities for more formalised social innovations (helping to achieve a more structured and replicable solution). As part of this, Meroni et al.

(2017) stress the importance of human capital and interpersonal relations; collaboration and co-design; multi-stakeholders participation; and explicit aim of achieving equity, participation, democracy and accountability in the absence of strict vertical hierarchies.

2.5.2 Workshops as collaborative encounters and workshop facilitation

As introduced in the previous chapter, section 1.5, this research adopted the workshop as a format to "enable the participants in the design process to propose, represent, interrogate and reflect on different aspects of the developing design continually throughout that process" (Robertson and Simonsen, 2013, p.9). Workshops, and more specifically, co-design workshops, are widely adopted by design practitioners to enable multidisciplinary collaboration with people who are unfamiliar to the practices of co-designing (Akama and Prendiville, 2016). Series of workshops are also sometimes referred to as design charrette, defined as "two or more day intensive design workshops in which a mixed group of participants work collaboratively towards designing future visions for a certain area" (Roggema, 2014, p.19), or as "a time-limited, multiparty design event organised to generate a collaborative produced plan for a sustainable community" (Condon, 2008, p.1). Series of design workshops are also referred to as "jams" (Vezzani and Tang, 2014), or "sprints" (Keijzer-Broers and de Reuver, 2016). While some of these formats focus on achieving short-term business goals – such as, for example, the "sprint" format (Knapp et al., 2016), the common denominator is that they all bring together "the different perspectives, types of information, materials, and interests (…) to produce common design concepts" (Otto and Smith, 2013, p.15) and set a trajectory for the design process (Iversen et al., 2010). This thesis focuses on the more general concept of design workshop as a form of collaborative encounter during the design process, since it is most widely adopted and referred to in the design literature.

Design workshops should be playful experiences (Schuler and Namioka, 1993) and to be most effective interplay combinations of tools and techniques to make, tell and enact (Sanders et al., 2010). Energisers and ice-breakers are employed to draw the attention, stimulate or relax participants and change the dynamics of the workshop as needed (Stickdorn and Schneider, 2010; Schelle et al., 2015); a rich variety is found

in literature, see for example Hyper Island's toolbox (2016) and Gray et al.'s "Gamestorming" (2010). Participatory workshops are used by practitioners with a wide variety in terms of length and number, although separate workshops in succession are most useful to enable participants to reflect of the outputs produced (Winschiers-Theophilus et al., 2017). Co-design workshops tend to focus understanding the problem before seeking to generate ideas to solve the problem to increase the number and breadth of ideas generated, in line with established co-design methodologies (Visser et al., 2005; IDEO.org, 2015; Mitchell et al., 2016).

Designers during workshops take the role of facilitators (Sanders and Stappers, 2008). Designers are defined facilitators in that they do not gain insights and come up with solutions, but instead, they help participants to find their solutions and ways to implement them (Malan and Campbell, 2014). This process is fuelled by creativity, which is an innate characteristic of human beings (Kelley and Kelley, 2013). However, because it is acknowledged that different levels of creativity exist, designers need to facilitate people's expressions of creativity by providing the necessary tools to guide the generation of ideas and expression of creativity (Sanders and Stappers, 2008). In doing so, Fuad-Luke (2009) highlights seven basic principles of a facilitator:

1. inclusion;
2. listening;
3. communicating;
4. allowing adequate time for tasks;
5. applying the most appropriate tools for the tasks;
6. summing up;
7. pointing to the next steps.

Facilitation is vital to address participatory and systemic processes of change (Aguirre et al., 2017). As remarked by Manzini, the role of the expert designer as a facilitator is not simply "to ask other actors for their opinions and wishes, write them on small pieces of paper, and stick them on the wall and then synthesize them, following a more or less formalized process" (Manzini, 2015, p.66). Instead, it is to enable dialogic cooperation: to contribute with visions and ideas; listen to the

feedback; and then, because of the feedback, feed the conversation with new, more mature proposals.

2.5.3 Main design tools and activities

Design practitioners employ a variety of strategies to develop ideas, identify needs and come up with solutions. These are often *packaged* in toolkits, which consist of collections of tools with instructions to *cherry-pick* and use as needed during a design initiative. As the design community started to move away from commercial products, and more general objects, towards socio-material assemblies beyond the economic bottom line (Bjögvinsson et al., 2012), the demand and the production of such toolkits grew. Among the variety of toolkits that have been published so far, some notable examples are: NESTA's "DIY - Development Impact and You: Practical Tools to Trigger and Support Social Innovation" (2014); IDEO.org's "Field Guide to Human-Centered Design" (2015); Frog's "Collective Action Toolkit" (Frog, 2016); Hyper Island's "toolbox" (2016); Corubolo et al.'s "Social innovation journey toolbox" (2016); Stickdorn et al.'s "This is service design doing: applying service design thinking in the real world: a practitioner's handbook" (2018). Only these toolkits mentioned above count more than 300 tools. For simplicity, this research will refer as tools all those "artifacts specifically designed to trigger, support, and summarize social conversations" (Manzini, 2015, p.133) – although each toolkit has its vocabulary to distinguish, for example, tools and methods. With such a great variety of tools, it is no surprise that different categorisations exists to help designers identify which tools and techniques to use, when, and for what purpose. Each toolkit presents different unique categorisation, but also other frameworks exist – such as Sanders et al.'s (2010) and Bratteteig et al.'s (2013). A useful classification of design tools is provided by Corubolo et al., which identify five degrees of interactivity of both the tools and the participation of the designer (see Table 2.2 below).

Category	Example of tools
Ask for auto-reportages	• Design probes • Cultural probes • Empathy probes • Diaries • Photo reportages
Ask for opinions, info and feedbacks	• Surveys

Simulate interactions	• Conceptual maps
	• Stakeholders map
	• Storyboards
	• 3d/2d mock-ups
Simulate roles	• Personas
	• Personifications
	• Role plays
	• Recitations
Create and develop alternatives	• Cards
	• Brainstorming
	• Scenarios
	• Video scenarios

Table 2.2 Tools classification based on types of interactivity (adapted from Corubolo et al., 2016)

The five categories provide a useful framework because they prioritise the human physical-relational aspect and offer an opportunity to interface with different types of interaction, which is considered in line with the sensitive approach to culture as described in section 2.4.3. Based on this categorisation, Table 2.3 presents the design tools identified for this research. These specific tools have been identified since they are most commonly adopted by design practitioners and for which a rich literature exists that enabled to detail key features and best practices.

Category	Tool	Reference
Ask for auto-reportages	Cultural probes	Stickdorn and Schneider (2010)
Ask for opinions, info and feedbacks	Contextual interviews	Stickdorn et al. (2018)
Simulate interactions	3d/2d mock-ups	IDEO.org (2015)
Simulate roles	Role plays	Vaajakallio and Mattelmäki (2014)
Create and develop alternatives	Brainstorming and clustering	IDEO (2012)

Table 2.3 Design tools adopted in this research

Cultural probes consist of playful objects designed to allow users use their senses and provoke inspirational answers (Stickdorn and Schneider, 2010; Stickdorn et al., 2018) to learn about their practices and identifying their needs to inform subsequent more detailed interviews (Gaver et al., 1999; Bratteteig and Wagner, 2010; Bratteteig et al., 2013).

Figure 2.4 An example of cultural probes (Legros, 2018)

Probes are used as a "way to make it possible for designers to share specific, situated user experiences as inspiration for the design work" (Ehn, 2008, p.96). Cultural probes are useful to familiarise with local cultural contexts (Gaver et al., 1999). They require users to perform specific tasks with no direct interaction with designers to seek out inspirational data, such as thoughts, values, dreams, feelings and opinions, as well as to foster self-reflection. Cultural probes are used to instigate dialogue since the creativity surrounding their making promotes a form of discursive and critical collaboration (Broadley, 2012). They are often used in the preliminary phase of the design process to direct the actual data collection and are seen to be effective tools for getting people to think about public problems and inform design interventions (Penin et al., 2015).
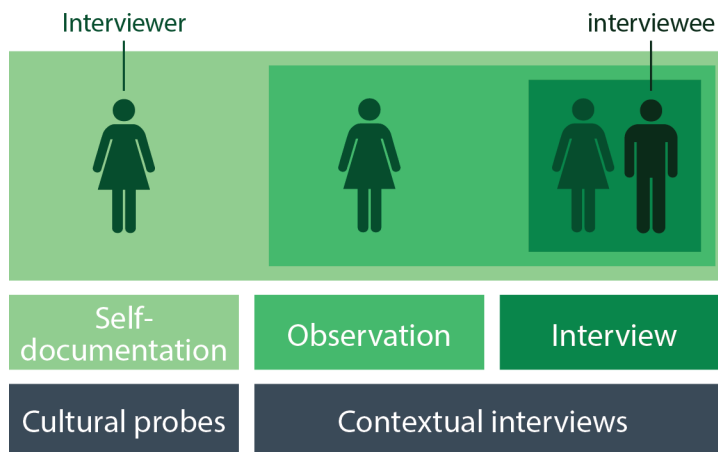
Figure 2.5 Degrees of proximity between interviewer and interviewee with cultural probes and contextual interviews

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Contextual interviews – also known as contextual enquiry – are interviews combined with observation (Schuler and Namioka, 1993). They are widely adopted by design practitioners since it can provide access to information that observation alone might fail to uncover. Contextual interviews are carried out to provide insight into the environment or context of a target behaviour, or the subject of enquiry. Contextual interviews allow designers to interact with users and ask questions to understand subjective reflections at the moment they are engaged in an activity.

Figure 2.6 Participants conducting contextual interviews with youth playing football in CS1

The creation of 2d/3d mock-ups relate to the use of prototyping, which constitutes one of the pillars of design practice (as introduced in section 2.2.2). Brown and Katz (2009) refer to the *power* of prototyping since it enables to shift between the abstract and physical dimensions, unlock imaginary and creative skills, and open the mind to new possibilities. The creation of mock-ups through prototyping enables to make ideas tangible (IDEO.org, 2015); hence to explore them and quickly learn how to improve it (Brouwer and Woodhill, 2015). Prototyping is considered the centrepiece of design dialogues (Sanders et al., 2010); is advocated as an open, informal, rapid, collaborative and iterative practice leading to more realistic understandings (Gregory, 2003; Kumar, 2013; DiSalvo et al., 2013).

Figure 2.7 Participants prototyping 2d/3d mock-ups in CS2

Role plays in design are used as an approach to brainstorming (Kumar, 2013), as well as to "quick and tangible way to test an idea or experience" (IDEO.org, 2015, p.118). Role-playing techniques enable to create empathy and bridge the conceptual leap between what a concept is and what it might be throughout bodily experiences (Brandt et al., 2013). Role-plays and simulations are also employed in participatory workshops as experiential pedagogical methods, by combining first-hand experiences (and therefore self-reflection) with collective discussions (Desai, 2018). Indeed, role-playing has been defined as a vital training tool for cooperative learning (Johnson and Johnson, 2009; Johnson and Johnson, 2014) by making it possible to try situations without suffering any serious consequences (Desai, 2018). Role-playing exercises involves setting up a fictional setting where individuals are asked to perform certain roles. Role-playing activities are particularly useful to teach interpersonal and social skills such as managing working groups and solving conflicts that arise among group members (Tran, 2013).

Figure 2.8 Participants role-playing in CS2

Clustering – also known as theming (IDEO.org, 2015), affinity mapping (Stickdorn et al., 2018), or affinity diagram (Beyer, 2010) – is a widely adopted visual method to make sense of information. Whether the information comes from primary data collection, from secondary sources or is being generated from an informal brainstorming, clustering enables to organise and consolidate information (Meroni and Sangiorgi, 2011). Clustering is essentially a visual tool that consists of listing items of information and moving them to generate categories based on association or relationships (Stickdorn and Schneider, 2010). The method is believed to be particularly useful to elicit abductive thinking – else the logic of what might be (Martin, 2009; Dorst, 2011); hence to take a fresh perspective on the challenge being explored. The method aims to synthesise and make sense of gathered evidence and is particularly useful when adopted in a low-tech environment, where it is easier to recognise patterns (Stickdorn et al., 2018). It combines intuitive nature and personal experience with observation and reflection on empirical evidence to build possible new interpretations and find new, possible conclusions. At its basic, the procedure is 1) summarise data; 2) spread the data out and observe it to "digest" it; 3) interpret it to identify meanings and meaningful patterns. Due to its very nature, clustering

does not aim to find "right" or "definite" answers, but rather to generate novel hypothesis and insights of what might be "probable" or "possible" – which in turn is believed to be "inspirational and energizing, fuelling ideation and paving the way for design and innovation" (Stickdorn et al., 2018, p.160).

Figure 2.9 Participants clustering and brainstorming in CS1

Brainstorming, on the other hand, is often used in conjunction to the clustering to plan follow-up steps and explore new directions, after key patterns and opportunities are identified (or also as the starting point). Brainstorming is a group creativity technique that aims to identify opportunities and explore concepts (Stickdorn et al., 2018); it entails a divergent style of thinking to generate alternative ideas and implications (Kolb, 2015). Brainstorming demands a positive and encouraging environment that defers judgements and aims to generate a high quantity of "wild" ideas that are built upon each other (IDEO.org, 2015).

Finally, considering the social entrepreneurship orientation discussed in section 2.4.4, several project-oriented tools have also been identified by looking at the common areas related to project organisation covered by design toolkits and categorised following the main areas of the social innovation journey toolbox (Corubolo et al., 2016). These are presented in Table 2.4.

SIJ area	Tool	Objective	Reference
Who	Build a team	Identify the talent, skills, resources and availability of participants	IDEO.org (2015)
What	Define your problem	Define the problem your group wants to tackle and establish key questions to answer along the way	Frog (2016)
How	Plan for action	Organise the project tasks	Frog (2016)
Who	Creative workshop planner	Create a clear step-by-step schedule of workshop activities	NESTA (2014)
Who	Stakeholder map	Identify the different individuals and organisations that can influence the project	NESTA (2014)
How	Social business model canvas	Articulate a structured overview of the project, the challenge it aims to tackle and the operational and economic foundations to achieve change	Corubolo et al. (2016)

Table 2.4 Design tools identified to support the social entrepreneurship orientation of this research

2.6 Conclusions

This chapter presented a summary of the key concepts as identified in the literature relevant to PD for social development in developing countries. A brief historical account of design was provided, leading to the identification of the main features of contemporary design practice. The specific socially-progressive dimension of design was then discussed, looking more specifically at the field of PD in the context of developing countries. The identification of strengths and weaknesses of the practice of PD led to a review of development studies; thus, to capture insights and inform the debate surrounding the structures, methods and objectives of social innovation through the practice of PD. Finally, a brief review of the practical tools and methods of PD was conducted, to identify those practical elements to employ on the field. The following chapter builds upon these key theoretical and practical elements, delineating a model of practice to enable designers to undertake PD interventions to attain sustainable socially progressive ends with marginalised youth in developing countries.

Chapter 3 Methodology

The previous chapter provided a review of the relevant literature, identifying a gap within the existing body of knowledge that this thesis aims to address. To do so, a research project was designed; relevant literature was reviewed to evaluate and identify appropriate methods to gather, marshal and present data to address the research objectives outlined in section 1.3. This chapter provides a comprehensive account on the research design and description of the methods employed; assumptions and decisions underpinning the choices taken are also provided, thus to give a thorough understanding and rationale of how the researcher approached this study.

3.1 Introduction

This research aims to fill a gap in PD literature by exploring its social change potential in the context of youth empowerment in developing countries. Although values of altruism, emancipation, empowerment, liberation, and postcolonial aspirations are central to this research and the researcher approach, this study does not attempt to change the power structure of participants' world. Drawing from the work of existing scholars and practitioners, a model of practice was developed, evaluated and refined throughout two case studies; data collected in the first case study informed praxis and led to the refinement of the model, which was evaluated in the second case study. The researcher approached the research from a constructivist-interpretivist paradigm with an exploratory purpose. In order to find answers to the research questions outlined in section 1.2, the researcher looked at the subjective experience of participants as well as his subjective observations and reflections captured during fieldwork. Data is collected using a variety of qualitative methods. Knowledge claims were created and negotiated between the researcher and participants using dialogue as the study unfolded for co-creative workshops. The researcher approached fieldwork with an anthropological design lens, considering quality criteria during the design of the research as well as ethical considerations for the undertaking of the fieldwork.

3.2 Research paradigm

A paradigm is defined as a net containing the researcher's distinctive philosophical assumptions and set of beliefs and feelings about the world, guiding how the world is seen, understood, studied, interpreted and acted upon; these are normally organised in terms of ontology, epistemology, and methodology (Bogdan and Biklen, 1998; Mertens, 2005; Kumar, 2011; Kuhn and Hacking, 2012; Robson and McCartan, 2016; Denzin and Lincoln, 2018). Epistemology "concerns the question of what is (or should be) regarded as acceptable knowledge in a discipline" (Bryman, 2012, p.27); it is about the way we know things, or the science of knowing, and "implies an ethical-moral stance toward the world and the self of the researcher" (Denzin and Lincoln, 2018, p.195). Ontology refers to the systematic description of existence and accounts for the background knowledge and assumptions about how we see reality (Gruber, 1993); it is about what things are, and therefore "the science of being; (...) the construction of a world that is presumed to exist without its observers or constructors" (Krippendorff, 2006, p.22). Ontology concerns questions such as: "What kind of being is the human being? What is the nature of reality?". Epistemology asks: "What is the relationship between the inquirer and the known?". Finally, the methodology interrogates: "How do we know the world or gain knowledge of it?" (Denzin and Lincoln, 2018). This interconnection of beliefs and ideas, blended with the distinctive features of the researcher (such as gender, culture, class, and community perspective) configure the research act. While some of these beliefs and theoretical assumptions may be invisible (because taken for granted), whereas others more explicit (perhaps because controversial), it is crucial to acknowledge them (Holloway and Todres, 2003); this is particularly true in the field of social sciences, owing to the necessity to describe or explain complex social phenomena beyond singular events, and because social reality is indeed viewed differently and singularly by different people (Mertens, 2005). Denzin and Lincoln (2018) classify at the most general level five dominant abstract paradigms in the social sciences: positivist and postpositivist, critical, feminist, constructivist-interpretivist, and participatory-postmodern-poststructural; each features

distinctive assumptions, criteria for evaluating research, and forms of research narration. Table 3.1 provide a summary of these.

Paradigm	Description
Positivist and postpositivist	Positivists holds that the goal of knowledge should be limited to describing the phenomena that we experience and can be measured directly, and that reality and its observation are objective; they believe all scientific propositions are founded on facts and hypotheses are tested against these facts (Robson and McCartan, 2016; Denzin and Lincoln, 2018). Post-positivists share the point of view that reality does exist, however, this can only be known imperfectly and probabilistically because of the limitations and the influences that the research exerts on what is observed and is also limited (Robson and McCartan, 2016).
Critical(-transformative?)	Critical theories are fuelled by the desire for liberation and assume that the primary aim of the research is to critique reality and change it (Bronner, 2011; Robson and McCartan, 2016). Critical theorists tend to locate the foundations of truth in specific historical, economic, racial, gendered, and social infrastructures of oppression, injustice, and marginalisation; they discuss democracy, freedom, questions of racism, gender oppression, sexism, religious intolerance and other systems of oppression and domination (Denzin and Lincoln, 2018).
Feminist	Feminist research also focuses on social and economic inequalities and has an agenda of promoting system change, but with a central aim of empowering women (Robson and McCartan, 2016).
Constructivist-interpretivist	The constructivist paradigm claims that truth cannot be universally and objectively known. Instead, understandings are co-created between knower and respondent; reality is a derivate of community consensus and therefore meaning-making, sense-making, and attributional activities are of principal interest for they shape action (or inaction) (Denzin and Lincoln, 2018). Interpretivists asserts that everything is the product of human conceptualisation and thus, it commits to seeing the world from the actor (Ritzer, 2007).
Participatory-postmodern-poststructural	The participatory paradigm emphasises the embodied experience of individuals and attempts at change that is presumed to be of benefit (Heron and Reason, 1997; Denzin and Lincoln, 2018). Postmodern and poststructural approaches hold that truth is an illusion and focus on local power relations (Anyon, 1994; Denzin and Lincoln, 2018).

Table 3.1 Summary of the five major research paradigms in the social sciences

The researcher approached the research from a constructivist-interpretivist paradigm; constructionist approaches are also sometimes referred to as interpretive or interpretivist to specify a focus on how the social world is interpreted by those involved in it (Robson and McCartan, 2016); Interpretivism and constructivism diverge over the understanding of representation of measures, that for the former reflect an intersubjective understanding, whereas for the latter speak on behalf of that which is present (Ritzer, 2007). The researcher has been influenced by the constructivist-interpretivist ontology that there is no objective or absolutist truth; instead, it is socially constructed and fluid. Reality is a social construct experienced individually by different members of human communities (Hacking, 1999). Individuals make sense of their daily experience through interactions with other members of society, which in turn influence their interpretation of the world. What we know is always negotiated within cultures, social settings, and relationship with other people and as such from an epistemological perspective, the researcher embraces the transactional or subjectivist epistemology assuming that investigator and the object of investigation cannot be separated in order to produce knowledge that is reflective of the research subjects. The constructivist-interpretivist researcher aims at uncovering the details of a situation by relying as much as possible on the participants' views in their life settings, typically elicited through discussions or interactions led by broad and general questions (Creswell and Creswell, 2018). The set of methodological procedures adopted are of type naturalistic, meaning they are set in the natural world. To generate data, there is a need to engage in the process along with the participants using hermeneutic-dialectical qualitative strategies, as they have been described as most appropriate to examine in-depth thoughts, beliefs, behaviours, ideas, examining act, words and gesture of participants (Ambert et al., 1995; Bogdan and Biklen, 1998; Marshall, Catherine Rossman, 2011). An enquiry should thus aim at interpreting participants' understandings and interpretations of the world within and through the lenses of a specific context, acknowledging that scientific generalisations may not fit in solving all problems.

3.3 Research purpose

This research aims to seek new insights to generate ideas and hypotheses to open up new directions for future research concerning the little-understood real-world situation of deploying PD in the context of youth empowerment in developing countries. Real-world research has been divided by Robson and McCartan (2016) into four types according to the purpose research projects ought to achieve: exploratory, descriptive, explanatory, and emancipatory. Real-world research always revolves around a central purpose – whether exploratory, descriptive, explanatory or emancipatory – but it may concern more than one of these; most notably, the purpose may also change as the study unfolds. A summary of the aims of these four types is presented in Table 3.2.

Aim	Description
Exploratory	Exploratory research helps to scope out the nature and extent of new areas of inquiry where limited information is available to lay the foundations for further in-depth research.
Descriptive	Descriptive research is directed at making careful observations and detailed documentation following rigorous scientific methods to examine the what, where, and when of a phenomenon.
Explanatory	Explanatory research is interested in why and how; it seeks explanations of observed phenomena, problems, or behaviours by identifying causal factors and outcomes of the target phenomenon.
Emancipatory	Emancipatory research is concerned with direct or indirect action leading to change, following the critical theory stressing Marx's considerations about changing the world rather than understanding it.

Table 3.2 Summary of the four major real-world research aims

Despite collaborative approaches to design – and more specifically PD – are being practised and researched for nearly 50 years, the structures, methods and objectives to contribute solving real-life challenges and attain meaningful social innovation, mainly to attain community development and emancipation in developing countries, remain a mostly unexplored territory. For this reason, this research is of type exploratory. Nevertheless, the emancipatory component constitutes the focus of the project and therefore, this research could be said to be also of type emancipatory.

3.4 Research type

In order to investigate a topic, researchers have traditionally identified two alternatives for collecting, representing and analysing data, namely quantitative and qualitative (McMillan and Schumacher, 2010). The former specifies numerical assignment to the phenomena under study and is preferred when large amounts of clear information is available before starting the research (O'Leary, 2013); quantitative research deducts knowledge from measurement and analysis of causal relationships between variables, usually in the form of numbers and statistical generalisations (Robson and McCartan, 2016). Qualitative approaches, on the other hand, are preferred when no definite information is available beforehand and the focus evolves through a reflective, interactive and experiential process of inducting a theory (Corbin and Strauss, 2015); this type usually produces data in the form of words using narratives or textual descriptions (VanderStoep and Johnston, 2009). Qualitative research is understood to follow the inductive approach, according to which researchers gather rich and insightful narratives by immersing themselves in the data and generate results through a process of data clustering and categorisation in themes and description (Creswell and Creswell, 2018). Finally, growing recognition of the limitations of the two used in isolation gave rise in the 1990s to multi-strategic approaches, that aim to combine elements of both quantitative and qualitative research styles with adding value and validity to primary research data (Bryman, 2006; Robson and McCartan, 2016).

In line with the constructivist-interpretivist paradigm and exploratory purpose of this research – looking to investigate meanings as they emerge from the research process through the use of dialogue – the qualitative approach was chosen. Qualitative research locates the observer in the world to study things in their natural settings and allows to make it visible through a series of representations such as fieldwork notes, interviews and photographs (Denzin and Lincoln, 2018). In minor instances, however, quasi-statistical elements are utilised to interpret numerical data and complement the analysis – such as to map out participants' attendance to research activities throughout the fieldwork.

3.5 Research strategy

The process of undertaking research encompasses a range of activities required to achieve its pre-set objectives to find answers to the research questions. The general orientation of these activities is defined in the research strategy, which determines the conduct of research on the whole and regulates the tactical decisions in which the research will be carried out and the data analysed (Bryman, 2012). Depending on the requirements of the research objectives, the strategy can either be fixed, flexible, or multi-strategic – if substantial elements of fixed and flexible design are combined (Robson and McCartan, 2016). Research strategy details the overall plan, the arrangements, and the conditions for collecting and analysing data in the most effective and relevant way; it is best described as a "procedural plan that is adopted by a researcher to answer questions validity, objectively, accurately, and economically" (Kumar, 2011, p.74). Creswell and Poth (2018) identify five different approaches to qualitative enquiry: narrative, phenomenology, grounded theory, ethnography, and case studies. To these, they also add Participatory Action Research. McKenzie et al. (1997) remark a substantial difference between case studies and action research, reflecting that while the researcher is an independent outsider in the former, she is a participant in the latter. Table 3.3 summarises the key features of each.

Strategy	Description
Narrative	Aims at studying the lives of individuals through the stories they tell (Riessman, 2008).
Phenomenology	Focuses on the need to understand how humans view themselves and the world around them (Robson and McCartan, 2016) by capturing how individuals experienced a phenomenon (Moustakas, 1994; Giorgi, 2009).
Grounded theory	Aims to construct a general theory from the analysis of data (Charmaz, 2006; Corbin and Strauss, 2015).
Ethnography	Aims at studying the "shared patterns of behaviors, language, and actions of an intact cultural group in a natural setting over a prolonged period of time" (Creswell and Creswell, 2018, p.56) through observational work in particular social settings (Silverman, 2017).
Case studies	Aims at generalising theoretical propositions by developing an in-depth understanding of a specific case

	collecting detailed information over a sustained period (Yin, 2018).
Action research	Aims at actively participating in a change situation while simultaneously researching the flourishing of individual persons and their communities (Bradbury and Reason, 2014).

Table 3.3 Summary of the major social research strategies

Considering the emancipatory element concerning the facilitation of changes or improvements to influence the policies or practices, and the context of enquiry upon which the researcher is a participant in implementing a system and simultaneously evaluating it, action research was first considered. This research applies a participatory approach and being action research rooted in participation, "all participative research must be action research" (Bradbury and Reason, 2014, p.4). Action research is indeed best described as a family of approaches and, depending on the choices for the conduct of the inquiry and the nature of those involved. It is also articulated in terms of, for example, Participatory Action Research (PAR). Action research (and by extension PAR or other forms such as Community-Based Action Research) also supports fundamental values of purpose and practise in action research efforts; it is about working towards practical outcomes and creating new forms of understanding – all of which is embodied in the PD discipline on top of which this enquiry is built. The liberationist purpose of action research, however, aims at redressing imbalances of power and liberate the human body; it focuses on bringing together action and reflection, theory and practice to generate practical knowledge and solutions to issues. The primary aim of this inquiry instead looked to produce theoretical knowledge based on action, about action, and that can be applied in action. In this sense, this research did not strictly abide to the action research strategy.

Furthermore, the researcher aimed to assess the impact of a model of practice over several different scenarios, where restoring to ordinary people the capacities of self-reliance and ability to manage their own lives in search for a better, free world, was considered a long-term effect rather than the focus of the enquiry. For these reasons, the case studies strategy was finally chosen to frame the research, but with strong influences of the action research approach. As explained in section 1.4, this research adopts a practice-led approach as a way of knowing, since it is grounded in

the field of PD and as such, it makes use of many its elements and methods to generate knowledge. In terms of strategy, however, among the five different approaches to qualitative enquiry detailed above, the case study was chosen to guide the construction of this investigation as it seemed to be most appropriate due to its potential to contribute to theory building. Case study research investigates a contemporary phenomenon in its original context and it is seen to be most suitable to answer to "how" or "why" questions where there is no absolute distinction between the investigated phenomenon and the context itself; it factors real-world settings where the investigator has no control over the events (Yin, 2018). Data in case study research is collected over a period using multiple sources that are typical, though not necessarily exclusively, of qualitative type (Robson and McCartan, 2016). Also, case study research provides researchers with rich details and accuracy of the information in the social area, thus allowing to look in-depth at social and relational mechanisms (Creswell and Poth, 2018). Case study research is primarily exploratory and explanatory in nature and can be used to study a range of topics and purposes related with a phenomenon, or event, a situation, an organisation, a program, a process, an individual or a group (Bryman, 2012; Robson and McCartan, 2016). According to Yin and Yin (2018) case study research can be designed as either an individual (single-case) or a set of individual cases (multiple-cases), and as either holistic or embedded. A holistic case is one where the case is the unit of analysis; an embedded one is where there are several units of analysis in the case (meaning, for example, looking at several different classes, or sub-units, within the overall school case).

The researcher decided to use a holistic multiple-case studies approach with a small number of individuals with some features. Using a set of individual case studies can yield invaluable insights, likely to be stronger than single-case studies (Yin, 2018), and enables to maximise theoretical generalisations (Mookherji and LaFond, 2013). Rather than comparing them, the two are designed as distinct but complementary experiments with shared elements; thus, to allow the researcher to review and enrich the model developed through this research progressively. As stated in the previous paragraphs, this approach was not applied entirely conventionally for it included action research elements. More specifically, considering the empowerment

component, the active participation of the researcher in the project and the context of PD upon which this enquiry is built, this research strategy was combined with a PD research approach, which involves a process of investigation, reflection, and mutual learning between participants around a social problem (Bang and Vossoughi, 2016).

3.6 Practice-led fieldwork approach

During the work on the field that took place in the case studies, a design anthropological lens was adopted; thus, to embody the process of discovery and actualisation during the research and approach communities with sensitivity and respect as presented in section 2.4.3. This enabled the researcher to combine practice, methods and outputs into the research perform the practice-led approach as introduced in section 1.5.

Research has been described as a process of systematic enquiry to obtain reliable and valid knowledge by collection, analysis and interpretation of data, to address specific questions, consisting of explicit statements of what the researcher wants to know about to answer to a problem (Kumar, 2011; Bryman, 2012; Robson and McCartan, 2016). The nature of the questions this research aims to answer situated this study in the real-world; which means, in an open system. Open systems are defined in contrast to closed systems such as that being carried in a laboratory, where the control of the researcher is maximised, and components are controlled and defined before carrying out the research. On the contrary, open systems can be entered and exited by the researcher as the research unfolds, but cannot be hermetically sealed from external influences; they are generally complicated and lack of restraint about what is considered to be the context of the study and its actual content (Robson and McCartan, 2016). Real-world research indeed escapes the laboratory and is set in what is typically referred to as fieldwork, defined by Holbraad as "the exact opposite of lab work: an experiment out of control, fieldwork is by nature oriented not toward planned eventualities but rather toward arbitrary coincidences" (2011, p.82).

Fieldwork entails a deliberate act of immersion in a different context to produce knowledge. Anthropologists, being concerned with this type of work to study societies and cultures, have for long been debating how to be critical of other perspectives or cultures and still be respectful, and whether this is even possible at all. Gunning (1991) refers to "world travelling" as that process of multicultural dialogue that occurs when an outsider enters the world of a different community; it is "the search for shared values, for agreement or consensus on some rights and wrongs" (Gunning, 1991, p.245). This process requires to understand the new world through the eyes of an insider. This is necessary not only to deal with delicate conditions with sensitivity (such as forms of oppression in which marginalised communities live), and more generally to cope with cultural diversity with no arrogance (Gunning, 1991), but also because in order to determine how social change can be achieved, the conceptualisation of a culture and immersion within its everyday social practices is fundamental (Merry, 2006). Design anthropology is an emerging field aimed at producing knowledge in *designerly* ways of thinking and planning with a distinct intentional interventionist style. It concerns how to engage with people to instigate change to realise the agency of participants, combining elements from design and anthropology – such as process of thought and planning from the latter, and ethnographic data and methodologies from the former (Otto and Smith, 2013). A design anthropological style of knowing emphasises careful observation of the world and inclination toward critical self-evaluation in collaboration with participants (Murphy and Marcus, 2013). Like ethnographers, design anthropologists begin with immersion in real-life situations; hence to gain insight into the experiences and the meanings of a given environment to form the basis for reflection, imagination, and design (Nelson and Stolterman, 2012). A design anthropologist engages and collaborates in people's formation of their futures, with a sensitive attitude to incorporate the values and perspectives of the people whose worlds are affected by design to attain long-term sustainability (Otto and Smith, 2013).

The researcher adopted the design anthropology style of knowing during fieldwork as a way to travel through the world of participants with sensitivity and therefore intervene mindfully within the context of participants. More specifically, the design

anthropology style of knowing enables the researcher to generate reflections and therefore produce knowledge during the collaborative encounters that took place in the form co-creation workshops. For this reason, the co-creation workshops, as emphasised in the following section, constitute both a tool of design but also a form of practice in so far they enabled the researcher to achieve data collection as well as to reflect and generate knowledge.

3.7 Data collection methods

Research methods are strategies of enquiry used during the research process to implement the research plan (Creswell and Poth, 2018); in other words, are the techniques for collecting data (Bryman, 2012). A variety of data collection methods exist to help gather information, which selection is dictated by the paradigm, the nature of the study, as well as availability of time, resources or other constraints for example specific to the participants and their context. In practice, many real-world types of research involve the use of two or more data collection methods to provide a complementary perspective of the answers being sought. Per each phase, the researcher identified a blend of research methods deemed most appropriate for gathering evidence and help achieve the objectives set. In line with this research methodology, the researcher refined throughout the research process the methods to incorporate the learning from one phase to the next.

3.7.1 Literature review

Reviewing the literature enables the researcher to identify and examine critically what is already known about the research area (Bryman, 2012). In order to meet the objective set for the first "problem framing" phase, the researcher identified literature around the concepts of PD, design for social innovation, design anthropology, sustainable and participatory development, and youth empowerment in the context of developing countries. This was done by using keywords on the search engine provided by the University of Leeds library website[1], ScienceDirect[2],

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[1] https://library.leeds.ac.uk

[2] https://www.sciencedirect.com

Google Scholar[3], Mendeley Research Papers[4], and other databases accessible from the University of Leeds Library. Exchange with peers on the PhD-Design[5] email list also allowed to inform the identification of relevant readings. Relevant material was imported on the reference management software Mendeley[6] and divided by topic. The researcher made use of Mendeley's underlining and annotation features to highlight relevant passages and to summarise critical ideas for each reading relevant to the research; this allowed to quickly recollect valuable elements at the various stage as the research process unfolded. By reviewing the main areas of research, the researcher was able to identify gaps that directed the formulation of questions worth researching. The literature review allowed to draw conclusions on theoretical as well as practical implications, thus enabling to formulate the model evaluated through the two case studies.

3.7.2 Participatory case studies

The researcher undertook two case studies throughout this research to evaluate and refine the proposed model of practice. The first case study evaluated the baseline model developed from the literature review; the learnings captured informed its refinement, which was then evaluated in the second case study. The two case studies are parts of iterative loops and build on each other. The specific materials, tools and activities employed in the case studies thus evolved to accommodate the insights gathered from one study to the next; for this reason, they have been positioned in the case studies' respective chapters. The two case studies also differ in another way. The researcher looked to test the flexibility of the model by investigating two instances: a first, where the designer collaborates with youth at the grass-roots level directly over an extended period; and a second when the designer engages youth via a local NGO and has limited time available to undertake the intervention. This choice

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[3] https://scholar.google.com

[4] https://www.mendeley.com/research-papers

[5] https://www.jiscmail.ac.uk/cgi-bin/webadmin?A0=phd-design

[6] https://www.mendeley.com

also resulted from the findings gathered at the end of the first case study, that so prompted to shape the second in this way.

3.7.3 Design ethnography

A variety of ethnographic research methods were utilised during the case studies by the researcher in line with the design anthropology style introduced in section 3.6 above; these included participants observation and the use of field notes. Contrarily to an ethnographic study, these were not used to produce theoretically informed arguments against the particular social setting and cultural context documented; instead, the researcher employed them to "integrate field-specific knowledge with a larger understanding of the human beings for whom design is made, the social circumstances in which the act of design takes place, and the human context in which designed artifacts are used" (Friedman, 2002, p.209 cited in Otto and Smith, 2013, p.3). In other words, to discover the participants' point of view and pay attention to contextual elements.

3.7.4 Co-creation workshops

As explained in section 1.5, the research employed co-creation workshops as the primary method to generate knowledge in this research. The review of literature identified the co-creation workshop as a primary method used by PD practitioners to form collaborative encounters (see section 2.5.2). The use of co-creative workshops to jointly and creatively explore the design space are critical in PD (Bratteteig et al., 2013) since they enable "users and designers learn together to create, develop, express and evaluate their ideas and visions" (Robertson and Simonsen, 2013, p.8). Co-creation refers to acts of collective creativity shared by two or more people; when these acts are applied across the whole span of a design process, these are referred to as co-design (Sanders and Stappers, 2008). The researcher implemented co-design by running a series of workshops, which served as a field site for co-creative activities, as well as means to engage participants and cultivate connections over time (Rosner et al., 2016). The researcher played the role of the facilitator during these co-creative workshops. Using tools, templates and strategies, he orchestrated activities to help non-expert design participants "make

best use of their design skills, and augment them" (Manzini, 2015, p.52) by "feed[ing] the conversation with visions and ideas, listen[ing] to the feedback from other interlocutors, and then, in view of the feedback, (…) introduce[ing] new, more mature proposals into the conversation" (Manzini, 2015, p.67). Details on the specific tools and activities employed for the case studies are presented in the relevant sections of the case study chapters. During the co-creation workshops, the researcher adopted a variety of design tools as identified in section 2.5.3. These were adapted and adjusted as needed; specific details are provided in the relevant sections of the case study chapters.

3.7.5 Semi-structured interviews

The interview is widely used in qualitative research as a result of the flexibility it offers as a method (Bryman, 2012). Interviews are verbal exchanges "in which one person, the interviewer, attempts to elicit information or expressions of opinion or belief from another person or persons" (Maccoby and Maccoby, 1954, p.449). Interviewees take the position of experts as they convey personal information to the interviewer (which is often a stranger), in what essentially constitutes a human encounter (whether this takes place face-to-face or via other media) involving a social construction of communicative processes (Denzin and Lincoln, 2018). Interviews are commonly divided between fully structured, semi-structured, and unstructured depending on the degree of flexibility determined by the interviewer; that is, how much questions are standardised, or how much to get people to expand further on the answers they have given (Robson and McCartan, 2016). Despite being very time-consuming, both in terms of interviewing, transcribing the interviews, and analysing transcriptions, the method is very adaptable and flexible in terms of accommodating individuals' requirements, and for this reason it was chosen. The researcher used semi-structured interviews on two occasions: the first, to gather knowledge from expert practitioners to inform the development of the model; and subsequently, to complement the findings of the focus group with the participants of the case studies.

3.7.6 Focus group

Focus group is a method for interviewing a small group of people on a specific theme that enables the researcher to explore "the ways in which individuals discuss a certain issue *as members of a group*, rather than simply as individuals" (Bryman, 2012, p.501). The method is useful to explore ideas and gather in-depth knowledge about attitudes, perceptions, beliefs and opinions of individuals (Then et al., 2014) and is especially valuable when a limited amount of information is available (Cooper and Schindler, 2011). Focus groups can be highly scripted or widely dialogic, depending on the aim of the researcher (Denzin and Lincoln, 2018). They are led by a moderator and are generally inexpensive to set up in terms of time management and costs; however, they require a great time involvement in the analysis process (Kumar, 2011). The focus group method was chosen because it allows to stimulate a discussion upon a given topic and open it to unanticipated directions (Krippendorff, 2006). Its flexibility and emphasis on capturing the views of the group (rather than merely of individuals), deemed most suited to inform the evaluation of the intervention as framed in this research. The researcher made use of the focus group method at the end of each case study to discuss collectively with participants their impressions and perceptions on the intervention; thus, to recognise whether the objectives set by the researcher had been met, and to identify challenges and opportunities to further refine the model under evaluation.

3.8 Data analysis

A large amount of qualitative data were collected in various form for this research; this comprised audio and video recordings, pictures, material generated during the workshops (such as post-it notes, posters, prototypes) and field notes. All non-digital material was converted into a digital format and securely stored in the researcher's encrypted hard drive; thus to be carried efficiently and reduce the risk of data loss while being on-field. Data were later transcribed on NVivo adopting a verbatim approach to transcription, hence by taking note of all utterances in the records. Transcribed data were analysed following Braun and Clarke's thematic analysis method (2006; 2013) for identifying and analysing pattern meaning within data. By following this process, the researcher first familiarised with the data, by going

through each data individually and inclusively; data were read and looked at actively, to see its richness and start generating reflections. The second step focused on generating codes, defined as an explanatory "label that captures something interesting in the data" (Braun and Clarke, 2006); each data item was looked at several times individually, systematically, inclusively comprehensively and organically; both semantic and latent meanings were captured. Codes were then organised into potential themes, unified by shared meanings and core ideas that could help answer the research questions; raw data were double-checked to ensure accuracy. This process was done both digitally and on paper, by using post-its on a poster to visualise the relationships between codes, themes and sub-themes. Potential themes were then reviewed to produce a hierarchy map of themes and sub-themes. A description for each theme was finally produced, to which followed the report to present, in the form of an analytic commentary, the themes and compelling data extracts. At each stage, the researcher reflected on the relevance of the story told through the analysis concerning the researcher questions; this meant that some findings, although exciting, were ultimately left aside – only the essential and relevant story concerning the research topic was maintained. Details of the process of thematic analysis undertaken and results for each phase of this research project are presented in related sections of this thesis.

3.9 Sampling strategy

A sampling strategy enables the researcher to define the logic of where the data will be sought from; it links research findings to external validity by making sure that the participants involved are representative of the population from which the sample is drawn (Robson and McCartan, 2016). At the most basic, sampling is divided between random sampling of a representative population and non-random sampling (Flick, 2014). The former is preferred in quantitative studies, as it reduces potential issues of biases; however, in qualitative research, the latter is most widely adopted; this both because specific people, situations or sites are capable of offering specific perspectives on the phenomenon under investigation (Patton, 2002), but also because the focus of qualitative research is often on issues where there is not enough knowledge to adequately classify the population in order to generate a

representative random sample (Flick, 2014). In the logic of qualitative studies, it is most valuable to find individuals who can provide rich perspectives and insights on the phenomenon under analysis; besides, the feasibility of the study may be dictated by other implications, such as the availability of resources, money, stress, access, time or negative cases (Cohen et al., 2017).

Due to the qualitative nature of this research, the researcher looked at non-random, non-probability forms of sampling; meaning, all those forms of sampling that do not consider statistical representativeness (Bryman, 2012). The researcher adopted snowball sampling to identify participants. In so doing, the researcher first contacted individuals on-field relevant to the study and established contact to participants through them (Bryman, 2012). As part of this process, the researcher defined some characteristics to guide the sampling process and identify individuals relevant to the research scope and questions. Table 3.4 summarises the key characteristics of the sampling per each case study conducted in this research; specific details are provided in the relevant sections 5.3.5 and 6.4.5 for case study 1 and 2 respectively.

Case study	Sample
CS1	Youth unemployed or student in marginalised community with some experience with community work
CS2	Youth employed or volunteers at NGO working with a marginalised community

Table 3.4 Sampling characteristics for the two case studies

The researcher considered sufficient to identify between four to twelve individuals. Since the sample was not determined statistically, the size was irrelevant (Yin, 2018); the researcher thus prioritised a size he felt comfortable working with based on his experience as a design facilitator. This number was set to ease facilitation, coordination and communication of workshop activities and retain control over dynamics, leading to supposedly highly productive dialogues and collaboration. Age and gender heterogeneousness were preferred to enrich the diversity of perspectives and reduce limitations and influences of age-related views and gender roles. English is among the official languages spoken in South Africa; therefore, a translator was not considered.

3.10 Research quality

Questions of quality in qualitative research are primarily related to the actions taken by the researcher to establish trustworthiness in terms of reliability and validity of the research. Qualitative validity means that by employing specific procedures, the researcher checks for the accuracy of the findings, whereas qualitative reliability indicates that the researcher's approach is consistent across different researchers and among different projects (Gibbs, 2007). Quality is achieved through rigour and sophistication of research design and procedures; transparency of assumptions and criteria; consideration of ethical issues; convincing presentation of the process and the findings (Robson and McCartan, 2016; Creswell and Creswell, 2018; Denzin and Lincoln, 2018). Despite the lack of agreed structures and standard approaches when designing and conducting qualitative studies, some elements are common and a variety of different systems exist (Creswell and Poth, 2018; Denzin and Lincoln, 2018). Among these, the researcher selected Zimmerman et al.'s four lenses of process, invention, relevance, extensibility for evaluating quality (2007); though originated in the field of interaction design, this system for evaluating quality was selected as it is aligned with the practice-led research approach followed in this study (see section 1.4). These are described in the following paragraphs.

3.10.1 Process

The first lens is on the process. This research mixes qualitative methods with an anthropology style of knowing employed within a design approach. Within this domain, the researcher does not expect that the process adopted in this study, once reproduced, will generate the same results. This is because the data collected is mostly of "softer" type; meaning, data are generated from those who had specific experience and are therefore highly interpretative (Denzin and Lincoln, 2018). Instead, this element looks at maintaining quality by providing rationale and details on the process and methods employed so that it can be reproduced (Zimmerman et al., 2007).

To achieve process quality, the researcher provided details on the process followed from beginning to end, from the formulation of the research questions, through the

identification of the objectives, the selection of the methods and the generation of results throughout the case studies. A narrative was built in to present a natural progression between these stages, explaining how each stage informed the following one. This process is explained in detail in the case study chapters since it is contextual to the specific cases. The complete set of tools and methods used by the researcher are included in appendices.

3.10.2 Invention

The second element emphasises the need to demonstrate that the research "produced a novel integration of various subject matters to address a specific situation" (Zimmerman et al., 2007, p.499); thus, by situating the work within existing literature and providing details on the advancements generated.

The literature reviewed in Chapter 2 situated this study within the current state-of-the-art of relevant fields, proving details on the gap identified that informed the development of the research. The contribution to knowledge is discussed in detail in Chapter 7, whereas specific impacts generated as a result of the two case studies are presented respectively in section 5.4 and 6.5. Chapter 8 provides final considerations to advance the academic field of PD and recommendations for further research to build upon the outputs generated with this research.

3.10.3 Relevance

Acknowledging that no designers, given the same problem, will produce similar or identical results, the third criterion stresses the importance of motivating a research endeavour; this is the design research response to the quantitative approach to establishing truthfulness by maintaining validity of the measuring instruments and measured data so that others can reproduce the experiment and produce the same results. Within the context of a qualitative exploratory study and interpretivist paradigm, looking at reproducibility to attain validity as a benchmark "does not make sense" (Zimmerman et al., 2007, p.499); this requires a shift from the positivist or post-positivist concept of "truth" to that of framing the research in the "real world", as anthropologists do. Therefore, Zimmerman et al. suggest instead the importance

of detailing why the contribution moves towards a collectively favourable, though missing, state of being (2007).

This study is situated in the real-world and within a real-world problem. The ontology, epistemology and methodology stances and assumptions underpinning the organisation and interpretation of the researcher are acknowledged in this very chapter. The outputs generated aim to fill the gap towards a favourable state of being and a step forward from the current state of being of PD work carried out in the non-profit sector. The model of practice developed throughout aims to contribute to a more mindful and respectful approach to deploy PD intervention for socially progressive ends for the betterment of the life of those youth who live in marginalised conditions.

3.10.4 Extensibility

The final criterion proposed by Zimmerman for judging successful design research is extensibility. This means either building upon the outputs of the study or presenting the results in a way that the community can easily "leverage the knowledge derived from the work" (2007, p.500). The concept links with the idea of generalisation which, as Mason (2002) puts it, in qualitative research means producing explanations that have a wider resonance than the limited empirical parameters of the study. In the field of design research, however, it has already been remarked how only certain aspects can be extended beyond the case-based situation to which those designs respond (Tonkinwise, 2017); as the purpose of design is to create products, processes, and services that transform reality, "its success is measured by the material and social impact of particular solutions, rather than by the validity of its generalizations" (Otto and Smith, 2013, p.3).

To achieve extensibility, the researcher provided a comprehensive report on the methods and tools employed for the two case studies, so that individuals reading this thesis may make use of them. Final considerations are drawn to impact a wide range of audiences ranging from academics, design practitioners, young entrepreneurs and community members.

3.11 Ethical considerations

Conducting ethically sound research was a primary concern for the researcher. As stated by Creswell and Poth, "planning and conducting an ethical study means that the researcher considers and addresses all anticipated and emergent ethical issues in the study" (2018, p.264). Ethical considerations safeguard and ensure that the rights, needs, values, and desires of participants are respected (Creswell and Creswell, 2018).

In order to protect the participants and their interests throughout the research process, the researcher followed and satisfied the principles of good research practice and the requirements as described in the University of Leeds ethics policy. As part of this process, ethical approval was formally requested to the research ethics committee, who reviewed and approved the application submitted by the researcher. Health and safety risk assessment forms were also submitted before conducting fieldwork. As part of the ethical considerations, all data collected was securely stored on an encrypted hard drive accessible only by the researcher; as part of the confidentiality and privacy measures taken by the researcher to protect participants, all data was anonymised by assigning labels to individuals.

At the beginning of the fieldwork data collection activities with participants, the researcher handled a paper information pack, which provided information on the research background and objectives, as well as details on the collection and use of data, and expectations and rights of participants. The material was presented verbally to participants, to which followed a Q&A session to ensure that the information was understood. Once potential participants understood the scope and purpose of the research, before proceeding with the study, they were asked to signed a consent form to confirm in written form this and their willingness to take part, as well as to have their contribution recorded and used for future research outputs. Besides sharing findings back to participants after the study, the capacity-building and the generation of tangible outputs that constituted the core of this study aimed to avoid the risk of "helicopter research" (Flicker et al., 2007); hence, to ensure that the researcher would give back to participants and their community.

The researcher framed the research so that participants would not receive direct forms of payments for their participation. A variety of arguments were considered leading to this decision. Despite being increasingly common in qualitative social research studies, the practice of monetary payments has received little attention beyond medical and psychology researchers, and there exists no clear guidance in the social research field (Head, 2009). Paying for participation is subject to debates among researchers, practitioners and many ethics committees and professional bodies and is open to controversy, and some authors favour relying mainly on individual researchers' conscience (Gelinas et al., 2018). With its long-standing body of practice, healthcare ethics, in particular, offers detailed guidelines and resources that can inform and consider ways forward social research ethics (Alderson and Morrow, 2006). While monetary payment does have a positive effect in terms of making participants more willing to participate in research (Bentley, 2004) and hence increase the number and variety of potential participants available (Stones and McMillan, 2010), it is unclear whether it may have a negative effect in terms of encouraging participants to take part also when contrary to their best interests (Faden and Beauchamp, 1986). The very use of payment as an incentive to participation is controversial, because as claimed in the 1947 Nuremberg Code, which was developed as a reaction to abusive research behaviours conducted in the name of "good science" to protect subjects in research (Flicker et al., 2007), "no persuasion or pressure of any kind should be put on participants" (Alderson and Morrow, 2011, p.6), and incentive payments may indeed be seen as coercive – or else as putting such pressure. As stated by Alderson and Morrow (2011, p.6) "a payment that may be small to some people can be high for others, including disadvantaged people and many children", meaning that for those categories of participants consent might not be genuine if payment is involved and if they need that money. On the other hand, it is also argued that offering payment, especially for those with lower or no income, increases the options and freedom to make money and should therefore be permitted (Stones and McMillan, 2010). In addition to the issue on whether to provide payments or not (and if so in what quantity), a further obstacle stands as to how payments are actually provided. For example, cash payments may have implications in terms of taxation, not to mention that carrying

cash (or even gift vouchers) may expose researchers to personal safety risks (Head, 2009). For these reasons Alderson and Morrow emphasise that "the question of payment needs to be understood in context" (2011, p.7) and remark how "payment may be made in kind instead of in cash, such as giving school children pencils, pens and notebooks". Considering the context and the scope of the research, which aimed to sparkle a spontaneous grassroot socially-driven intervention in the community, the researcher opted to remove all forms of extrinsic factors such as pay to foster participation. This avoided creating coercive economic conditions, conflicts of interests, power imbalances between researcher and participants, and also served to identify participants driven more by intrinsic rewards and most caring about community development. However, simply asking for participants to volunteer would not have been an ethically fair distribution of the benefits of research. In order to minimise the inconvenience of research encounters and activities, all associated costs were reimbursed; not covering for these would indeed potentially constitute an under compensation for participants' role in research (Molyneux et al., 2012). In addition to reimbursing individuals' travelling, phone and internet costs, all the material bought for the workshops were donated to participants (pens, markers, sticky notes, posters, etc). The researcher also covered all project-related costs, such as venue booking, printing, material, snacks and lunches (arranged in such a way so that participants would choose what to get).

3.12 Research design

A research design is "the logical sequence that connects the empirical data to a study's initial research questions and, ultimately, to its conclusions" (Yin, 2018, p.20); it describes the specific direction for procedures in a research study (Creswell and Creswell, 2018), guiding the execution of research methods and the analysis of subsequent data in order to answer the research questions (Bryman, 2012). The research design reflects the paradigm and strategy chosen by the researcher and dictates the selection of appropriate research methods. It is not permanent, meaning it can be revisited as a result of discoveries or constraints as the research unfolds.

The research design developed for this inquiry is divided into four main phases, each informing the following one and working towards addressing the overall research aim. The identification of the research questions (section 1.2) led to the review of relevant literature (Chapter 2), which in turn enabled to refine the research questions further and design an appropriate methodology (this chapter) to find the answers. This led to the development of a model of practice (Chapter 4) that was evaluated and refined throughout two case studies (Chapter 5 and Chapter 6). Conclusions were drawn and are presented in Chapter 7 and summarised in Chapter 8. Table 3.5 provides details on each of these phases.

Phase	Objective	Methods	Outcome
Problem framing	To critically review the literature on PD for social innovation and indirect approaches to development in developing countries	Literature review	Conceptual framework made of key concepts and practices to guide the development of the model baseline
Model development	To articulate the selection of elements that constitute the underpinnings for framing a PD intervention intending to empower marginalised youth and foster sustainable community development and develop a model made of a selection of tools, methods, approaches, and strategies to assist expert designers facilitate such intervention	Literature review	Model baseline
Participatory case studies	To undertake case studies aimed at evaluating and refining the model	1. Co-creation workshop; 2. Design ethnography; 3. Focus group; 4. Semi-structured interviews.	Refined model

Discussion and conclusions	To evaluate the potential impact and relevance of this research project's contribution beyond its specific case studies		Discussion on impact, relevance, and transferability of the model

Table 3.5 Research design phases in detail

3.13 Conclusions

This chapter reported the research methodology employed in this study, discussing its appropriateness to answer the research questions. An understanding of the researcher approach was provided, thus, to render explicit the decisions taken in terms of research design, data collection and analysis. Finally, the chapter engaged in ethical considerations. The following chapter presents the main concepts, as drawn from the literature review, to build the founding layers of the model of practice developed throughout this thesis, later applied for two case studies.

Chapter 4 The model baseline

4.1 Introduction

The literature reviewed presented in Chapter 2 allowed to identify key elements within and beyond the field of design to inform the generation of a model of practice to guide designers to undertake PD interventions to attain sustainable, socially progressive ends with marginalised youth in developing countries. These were arranged into three main layers; namely: ethos, methods and outputs. This chapter presents the three layers their composing key elements, outlining the baseline of a model of practice that will later be applied and evaluated throughout two case studies.

4.2 The three layers of the model

From the literature review, the researcher identified three main *layers* for the development of the model baseline; these are:

1. Ethos;
2. Methods;
3. Outputs.

The three layers are designed as progressive steps enabling the design practitioner to move from theory to practice while conceptualising and planning an intervention.

4.2.1 Ethos

This first layer aims to address those pre-conditions and overall ethical and strategic considerations not to produce and exert continued colonial power upon the lives of the marginalised; thus, to limit overcontrol or manipulation of the actions that should instead be governed by the subjects of development and frame the intervention in a way that is mindful of cultural diversity and meaningful to local community members, in which PD tools and processes are vernacularized in local cultural terms.

The first element is the notion of **cultural sensitivity**. As identified in the literature review, in order to foster meaningful, respectful and sustainable change, the

intervention should offer people the means to be the protagonists of their development, respecting their autonomy to make decisions about what is best for them (Ellerman, 2007). Since the researcher is of Western origin and as such embodies Western cultural values and influences, the concept of designers as mindful travellers across communities outlined in section 2.4.3 constitutes the starting point and necessary pre-condition for a model of practice set in the context of marginalised communities in South Africa – which is a non-Western (Kubow, 2018) developing country (Statistics Division United Nations, 2018). In addition, because PD approaches emerged in the Western "developed" world, it is critical to ensure that practices of engagement contribute to the self-definition and self-determination of target communities (Tungstall, 2013) and do not result a new form of cultural imperialism where subjects of development are oppressed to replicate Western models of practice. A cultural sensitivity ethos is founded and permeated in the attitude to approach and treat communities and their value systems with sensitivity and respect; it emphasises willingness to establish multicultural dialogue, mutual learning and re-negotiation of practices and understandings in local cultural terms (Merry, 2006). This element is applied following the design anthropological lens (see section 3.6) and through the idea of vernacularisation; thus to enact strategies that enable participants appropriate and translate the intervention in local terms. This aim to address the call of PD practitioners to translate methods, principles, and practices of PD in local cultural terms as presented in the literature review chapter.

The second element is the concept of **genuine participation**. PD builds upon the fundamental principle that people affected by a design outcome ought to have a say in the development of that outcome (Iversen et al., 2012). Users and stakeholders in a PD process are considered experts of their lives, hence ideas arise in collaboration between them and designers (Sanoff, 2007); they are not just involved to answer questions to inform the outcome, but are instead considered equal partners and are in that asked to engage and participate in the work process fully. PD "require[s] deliberate efforts to embed democratic values into design" (Ssozi-Mugarura et al., 2017, p.113). Participants "are asked to step up, take the pen in hand, stand in front of the large whiteboard together with colleagues and designers, and participate in

drawing and sketching how the work process unfolds as seen from their perspectives" (Robertson and Simonsen, 2013, p.5). Robertson and Simonsen define this concept *genuine participation*, described as "the fundamental transcendence of the users' role from being merely informants to being legitimate and acknowledged participants in the design process" (2013, p.5). Although involving participants horizontally as active partners in all phases of the design process is a prerequisite for genuine PD, the literature on international and human development suggests that this may not exclude the threat to cast an intervention following the practitioner's subjective view of the world. Unless participants are "empowered to retain control at all levels of the development process" (Dulani, 2003, p.4), and are hence recognised as subject and not object of change, the risk is to steer the outcome towards practitioners' idea of how marginalised people should live their lives overriding participants' visions, values, and agency. The solution is to give participants "understanding (…) of the framework conditions in which the development process takes place" (Kinyashi, 2006, p.3), and put them in control of the whole process. Participation hence is genuine not only when participants are involved as equal partners in the process, but also when they are engaged in intelligent and shared decision making and empowered with the knowledge, skills and resources sufficient and necessary for changing and improving the quality of their lives (Kinyashi, 2006). The idea builds upon Arnstein's (1969) hierarchical and normative differentiation of "ladders of participation" and expanded, among others, by Pretty, who suggested that at the highest level, participation occurs when "people participate by taking initiatives independent of external institutions to change systems. They develop contacts with external institutions for resources and technical advice they need but retain control over how resources are used" (1994, p.41). Finally, since the role of the development practitioner is to include people as active partners in all phases of the project (Kinyashi, 2006) and motivate them by working towards challenging, but reachable, stages of development – or "window of aspirations" (Ray, 2006), the model intends to apply the concept of genuine participation by creating opportunities for leadership and agency through which participants can progressively take the initiative and gain ownership and retain control of the intervention.

The third element focuses on providing the necessary capabilities so that participants can realise their potential consciously and autonomously; that is, **empowering design capabilities**. Developing design capabilities allows individuals to fulfil their needs and build their desired futures (Manzini, 2015). This element stems from Appadurai's argument that in order to exit the cycle of poverty and oppression, the marginalised need to develop a "capacity to aspire" – to imagine alternative courses of actions and aspire to alternative futures to the status quo (2004). Although design capabilities are based on inherited human processes, to be used they must be cultivated and promoted through first-hand co-design experience (Manzini, 2015). The model foresees to empower design capabilities through first-hand co-creation and testing of design tools. On the one hand, expert designers "make things happen" (Manzini, 2015) by facilitating the investigation of social reality and feeding critical conversations to identify alternative courses of action; on the other, they enable participants to take a more skilful part in the design processes by shaping a "non-authoritative" participatory pedagogic process (Freire, 2000; Opaluwah, 2016) in which participants do not use the tools passively, but learn how to apply them and to construct them. By so doing, learners exercise their voice and participate in the creation of knowledge as opposed to becoming passive recipients of knowledge imparted by the designer. As discussed in the previous chapter, Kolb's experiential learning model was identified as most appropriate to achieve this, for it builds upon Dewey and Freire's progressive perspective on learning and education while balancing instruction and construction on knowledge with reflective thought and action (Miettinen, 2000; Kindon et al., 2007) – which further links with the "designerly" way of knowing (Cross, 2006). The work of Dewey and Freire is of particular importance because they explicitly dealt with power relations, democracy, and liberation from oppression through education – concepts that are critical in PD for social innovation. This element is therefore addressed by teaching and learning about design tools through iterations of ideation, prototyping and testing where participants are deliberately involved in knowledge-creation, first-hand experience and collective reflection.

The final element of this first layer is to employ a **grassroots approach**; which is intended as involving those that are most in need. It entails mitigating the barriers

of elites who may manipulate the intervention and retrain existing power structures (Kinyashi, 2006), as well as ensuring the intervention is framed around their interests and values (Ellerman, 2006). Grassroots community action is seen as a practical approach to creating innovative sustainable development (Seyfang and Smith, 2007). This element, on the one hand, looks to enable participants determine the focus and direction of the intervention by restraining external forces (including the designer) from doing so and by widening the aspiration window (Ray, 2006) – framing the intervention in a way that is challenging, though accessible, so that participants' motivation is not hindered. On the other, it emphasises the need to connect directly with local communities, which the researcher foresees to take place by connecting with local intermediaries. Local intermediaries are utilised to broker access to local communities and gain a more in-depth understanding of the cultural context; they play an essential role in helping niches to develop and become more robust, and especially to foster grassroots innovation (Hargreaves et al., 2013). While "designers, with their outsider perspective, could more easily escape old thinking logic and limitations." (Yang and Sung, 2016, p.31), intermediaries also function as cultural mediators, helping designers approach cultural diversity with respect. The use of intermediaries links to genuine participation, which starts before the intervention when participants are identified, contacted, and invited (Kinyashi, 2006); The interplay of intermediaries becomes thus critical because in order for participation to be genuine, people should participate only if they want.

4.2.2 Methods

The second layer reflects on the concrete methods supporting the intervention.

The first methodological element considered shaping the intervention after the **design process**, which constitutes the backbone of design projects. More specifically, the model looked to follow the double-diamond (Design Council, 2019) design process from the exploration of local challenges towards the generation of a problem definition, culminating with a public presentation. The process envisaged a blend of the pre-incubation and incubation activities as outlined in the Social Innovation Journey presented in the literature review that emphasised building the foundations to make sure to solve the right problem "before solving the problem

right" (Stickdorn et al., 2018, p.86). In doing so, this study evaluated the model's "enabling" function to "help people help themselves" (Ellerman, 2006) by creating the basis for participants to take co-responsibility and self-initiative of the following solutions development phase with the support of local stakeholders – thus to achieve sustainable development (Leal Filho and Brandli, 2016). At a more granular level, the model applied numerous alternations of divergent and convergent phases to respectively identify opportunities and make decisions (Stickdorn et al., 2018), for example, to prototype and refine the cultural probes and contextual interviews tools. Figure 4.1 visualises this multi-level application.
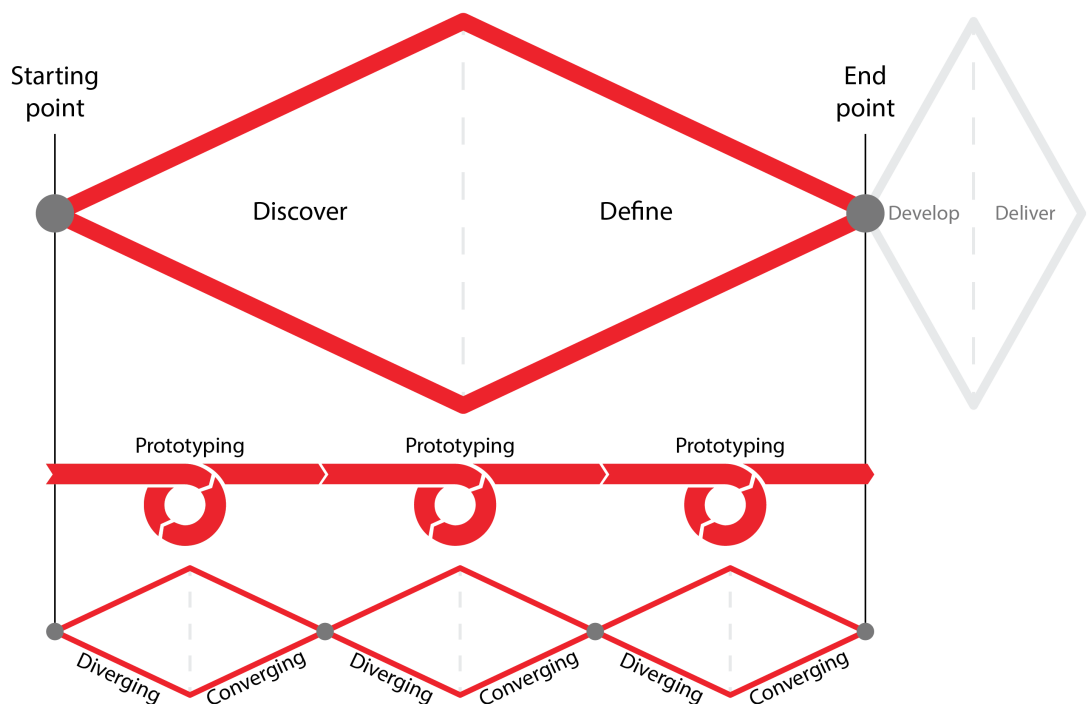
Figure 4.1 The focus on problem identification with alternation of diverging and converging phases

The second element is the use of **co-creation workshops**. These consist of events where people are brought together to explore a topic and share knowledge employing creative, collaborative, and reflective activities (Bratteteig et al., 2013). Co-creation workshops, as described in the literature review (see section 2.5.2), are adopted to bring people together, sparkle social conversations, and facilitate exploration of ideas through creative activities. As part of the workshop arrangements, icebreakers and energisers are used as a quick and fun way to "warm up and bring energy" to participatory workshops (Desai, 2018, p.14) and more generally enhance engagement (Schelle et al., 2015). Icebreakers and energisers are

useful to get participants to know each other, overcome anxiety, and more generally foster the physical, mental, interpersonal, and emotional involvement. They are useful both before and during the workshop to break from intense activities.

The third methodological element is the use of **prototyping**. Prototyping is defined as the best evidence of experimentation and the lifeblood of creative organisations; it is about quickly building "an idea to learn about its strengths and weaknesses and to identify new directions for the next generation of more detailed, more refined prototypes try it" (Brown and Katz, 2009, p.91). Collaborative prototyping is adopted as a core activity to enable users to actively participate and contribute to the design process (Iversen et al., 2012; Iversen and Dindler, 2014). Prototyping is employed more specifically to realise 2d/3d mock-ups of the design tools. The process of prototyping, as explained in section 2.5.3, constitutes an essential element for it support the pedagogic process through which participants vernacularise the design tools imparted during the intervention.

The final element includes the use of specific **design tools** as identified in the review of literature to explore local problems, facilitate collaborative encounters, and address a sustainability-oriented approach. These are classified respectively into three groups: framing, scaffolding, and building credibility. The first, **framing**, brings together those design tools used to collect and make sense of stories and insights from community members to define and narrow the challenge of the intervention. **Scaffolding**, groups those project-management oriented tools enabling participants to self-direct the initiative. The third and last group, **building credibility**, collects those tools which purpose is to move the intervention towards a more open-ended long-term future-oriented initiative by enabling the group to communicate with the public arena (Ray, 2006).

4.2.3 Outputs

The last layer focuses on those elements aiming to create long-term impact.

The first element of this third layer is to create a more favourable enabling ecosystem through **infrastructuring**, and more specifically fostering engagement and collaboration with local actors. As discussed in the literature review, designers

have the opportunity to foster long-term sustainability and growth of small-scale initiatives by facilitating long-term relationships and multidisciplinary collaboration with stakeholders. In order to create impactful social innovations, local actors need to facilitate decentralised action by promoting co-management, decentralised decision-making and power-sharing at the local level through local intermediaries (Jones, 2011; Ibrahim, 2017). Engagement with local change-agents and key stakeholders is vital, both during and after a project, to achieve successful implementation and sustained effect of community-based knowledge implementation strategies (Eriksson et al., 2017). Complementing bottom-up initiatives with actors "at the top" with the power and money to make things happen to scale – or in other words, converge bottom-up with top-down approaches – is imperative to exert power and achieve change (Dalal-Clayton and Bass, 2002; Murray et al., 2010). Group actions that credibly communicate information to outsiders – stakeholders – can have an enormous lobbying force and real benefits (Ray, 2006); this element thus considers more specifically the dissemination of insights as gathered throughout the intervention in the form of a closing, public event.

The second element is to consider a **social entrepreneurship** orientation in the production of tangible outputs and as overall approach to the intervention. Literature has evidenced that a social entrepreneurship orientation is particularly valuable among youth for it improves opportunities to participate in community development and assert youth agency (African Union Youth Division, 2006; African Union Youth Division, 2011; National Planning Commission, 2013; National Youth Development Agency, 2015; Muldoon, 2017). Marginalised areas such as South African townships offer fertile ground for this kind of work (World Bank Group, 2014). Focusing on social innovation as an entrepreneurial activity is particularly useful for it emphasises community's capacities to solve their problems by challenging an unjust equilibrium causing a powerless segment of humanity to stop or alleviate their suffering for the betterment of the society at large (Martin and Osberg, 2007). Engaging in entrepreneurial activities can speed up innovation and transformation of society (Biggs et al., 2010); despite starting at the grassroots level, the impact of practical innovation can expand into new contexts (Ibrahim, 2017).

This element focuses the production of tangible *leave-behinds* supporting the condition for participants to take the initiatives further as "exit strategy" (Meroni et al., 2013); thus, to create artefacts that are owned by participants and can be used after the researcher departure from the field.

4.3 Conclusion

This chapter presented three main layers enabling the design practitioner to move from theory to practice while conceptualising and planning a PD intervention to attain sustainable socially progressive ends with marginalised youth in developing countries. These emerged from the review of the literature and considered three layers of ethos, methods and outputs. The first, ethos, considered those elements that enable design practitioners to approach a design intervention considering those pre-conditions and overall ethical and strategic considerations to frame the intervention in a way that is mindful of cultural diversity and meaningful to local community members. The second presented the methods of PD that are used in the model of practice. The last layer reflected on the outputs that the model aims to produce to enable future-oriented long-term sustainability. The following chapter presents the first adaptation of the model in a real-life scenario.

Chapter 5 Case study 1

5.1 Introduction

Building upon the review of literature, the previous chapter presented the basis for a model of practice to deploy PD interventions with communities of marginalised youth in developing countries for social innovation; this revolved around three *layers* allowing to organise and undertake fieldwork by respectively considering theoretical principles, practical methods and tangible outputs. This chapter refers to the first participatory case study – or case study 1 (CS1) – where the model is evaluated in a real-life scenario in order to reveal new understandings to answer the main research question. The following section provides an introduction to the case study, presenting the context where this took place. A description of how the research methods were applied in practice is then provided. The subsequent section presents and discusses the results gathered throughout the case study. Finally, the last section reflects on the strengths and weaknesses of this first iteration of the model and draws conclusions leading to the development of a second case study.

5.2 The context

CS1 took place in Philippi, which is one of the largest townships in the suburbs of Cape Town, South Africa (Adlard, 2009 cited in Anderson et al., 2014). The reason for selecting this context to undertake the research is outlined in Chapter 1, section 1.6. This specific location was identified for the social challenges its community face and its vibrant growth of entrepreneurship and community initiative. The township is located near to Cape Town International Airport and covers an area of 47.96 km² (Frith, 2011). It is home to 200,603 individuals with a population density of 4182.34 per km²; less than 4% aged 20+ has a higher education (Statistics South Africa, 2011). The area's history and development are linked to apartheid policies; Philippi belongs to the area known as Cape Flats, which was designated for and populated with 'non-white' households as a result of the Group Areas Act (SA-Venues, 2019a). 94.1% of the Philippi population is Black African; 4.7% is coloured; 0.1% is Asian; 0.1% is white; 1.0% is other (Anderson et al., 2014). The area was, and still is, mainly used for grazing and it is home to small-scale farms that today produce around 80 per cent of

Cape Town's vegetables (South African History Online, 2011). Philippi was a battleground during apartheid and still today many people live in harsh conditions due to the growth of population and the pressure for space; people living in the area face enormous challenges such as poverty, unemployment, overcrowding, susceptibility to fire and flooding (SA-Venues, 2019b) as well as limited access to the sewerage system, electricity and proper sanitation (Anderson et al., 2014). More than half of the population lives in informal dwellings; the unemployment rate is 38% and the poverty rate is 52% (Lorini et al., 2015). As pointed out by Anderson et al., "unemployment is a serious problem (…). The economically inactive group forms a large segment of the population and this exacerbates the problem of low-income levels per household. (…) The strain of having a low income may mean that education is not a sustainable option for parents" (2014, p.13). Lack of education is a concern, and in response to that Anderson et al. recommend "to build the culture of education and increase the skills of the unemployed so that they can access work" and "assists people in starting their own businesses" (2014, p.14); these recommendations, although directed to non-governmental organisation South African Education and Environment Project (SAEP), strengthen and validate the overall direction of the researcher and his model for intervention. The area has nonetheless emerged as a vibrant and culturally diverse space, where an increasing amount of young entrepreneurial development initiatives and innovative small businesses are emerging giving rise to promising economic futures (Mulligan, 2016).

Figure 5.1 View of the Philippi township (Brinkmeier, 2010)

5.3 Methods

The first case study encompassed a pre-fieldwork phase (labelled as PR) in which the researcher connected with local intermediaries to initiate the snowball sampling approach to recruitment described in section 3.9. As soon as the first intermediary agreed to support the research, the researcher reached fieldwork to finalise the recruitment, sensitise with the local context, and refine the intervention to match local requirements. From this moment onwards, the researcher initiated the design ethnographic method. The intervention took place over the course of 13 co-creative workshops (labelled WS), concluded with a final, closing event (CE) followed by a round of semi-structured interviews. The researcher then departed from the fieldwork and returned to carry out a focus group (FG) to evaluate the middle-term impact of the intervention. Table 5.1 summarises the research methods, whereas Figure 5.2 maps visually the methods, the design tools and the main activities (presented in section 5.3.2.1). The following section presents how each research method was applied in detail throughout the case study. The red circles mark parallel

co-creative workshops named "core meeting" (CM), which are explained in section 5.3.2.

Methods	Objectives
Design ethnography	Capture interactions and reflections to evaluate the model during fieldwork
Co-creation workshops	Unfold intervention and generate project outputs
Semi-structured interviews	Capture individual experiences of participants
Focus group	Capture experiences and reflections for improvement from participants as a group of leaders

Table 5.1 Research methods of CS1
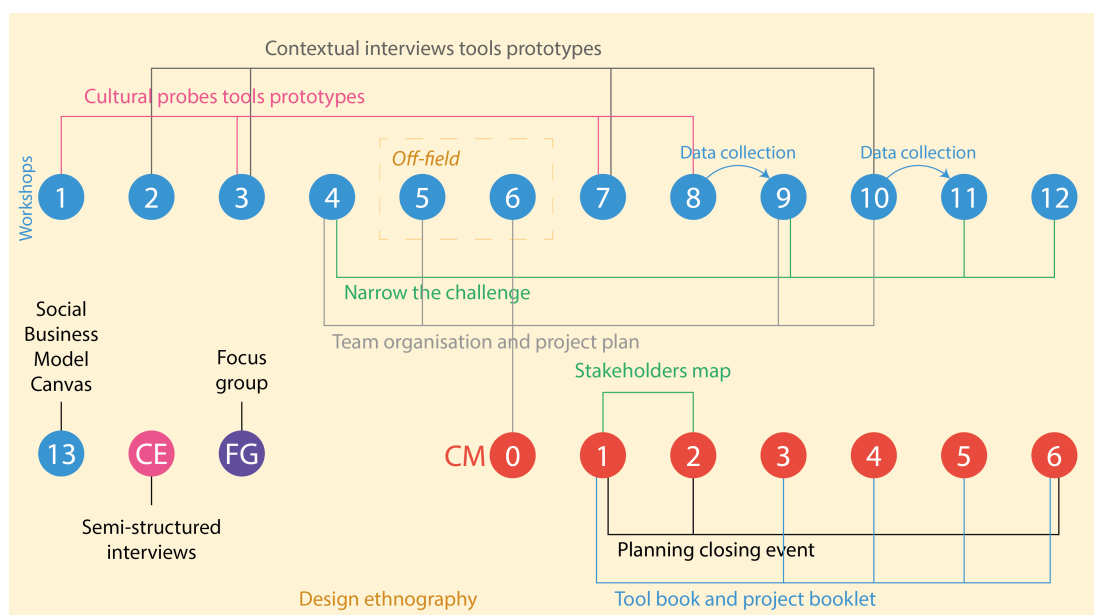
Figure 5.2 Research methods and design tools employed throughout the first case study

It is worth reiterating at this point the researcher's epistemological stance as social constructivist, according to which the understanding of reality is socially constructed and subject to individuals' perception (Hacking, 1999); the world is experienced and made sense of by individuals through a system of social constructs that thus frame, conveys and influence their daily interpretation of it (Bryman, 2012). In terms of research design and data analysis, by acknowledging such a stance that there is no single objective truth – for reality evolves and changes according to individuals and the context built around them – the implication is that data is coded and analysed focusing on interpretations and understandings from within the lenses of the local reality constructed (and co-constructed) throughout the case study in itself by the community of individuals that participated and contributed to its existence. By doing

so, the researcher accepts the potential limitations of such an interpretation and acknowledges the challenge that is to be tackled for a discourse on scalability over other contexts.

5.3.1 Design ethnography

From the pre-intervention stage throughout the whole duration of the intervention, the researcher wrote field notes (either digitally or in handwriting) following the descriptive-reflective format; that is, by keeping separate the descriptive records of a setting or situation from the subjective reflections, comments and insights elicited from that setting or situation (see Figure 5.3). Fieldwork notes included quotes from phone conversations, email exchanges, and WhatsApp chats that occurred.
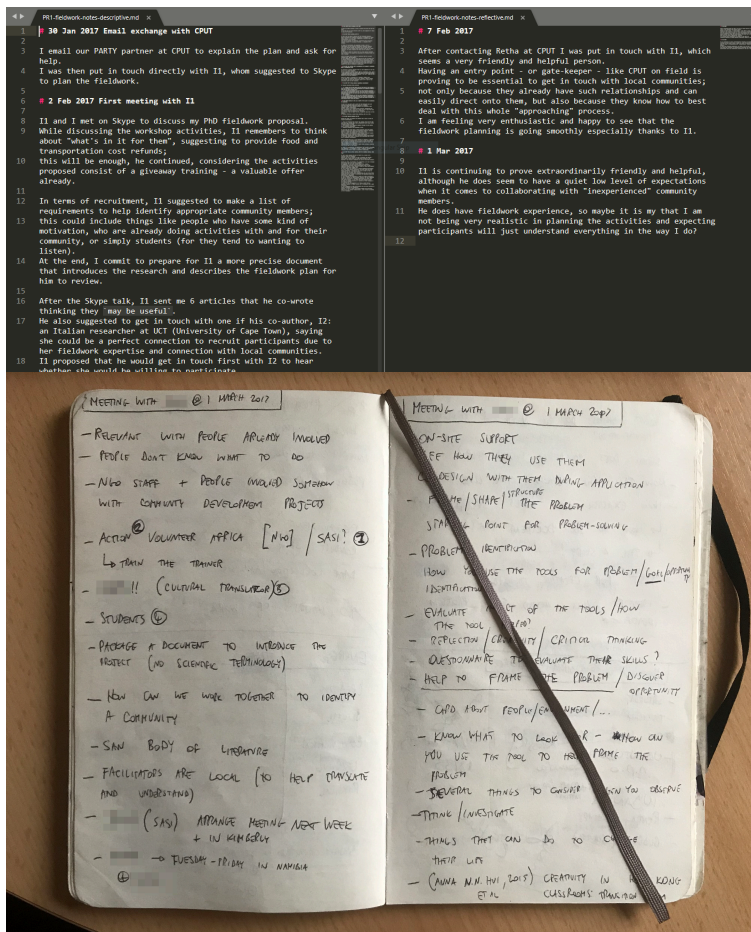
Figure 5.3 Examples of digital and handwritten field notes

5.3.1.1 Data analysis of design ethnography

Notes were imported to NVivo for analysis, though the researcher adopted a variety of non-digital strategies to make sense of the information by visualising codes and their connections (as shown in Figure 5.4). The researcher adopted a data-driven

inductive approach for identifying and analysing pattern meaning following Braun and Clarke's thematic analysis process (2006) consisting of:

1) Familiarisation with the data and identification of items of interest

2) Generation of codes capturing interesting aspects in the data

3) Organisation of codes into themes

4) Review of potential themes identified

5) Definition and naming of themes

6) Production of an analytic commentary of the themes with compelling examples from the data
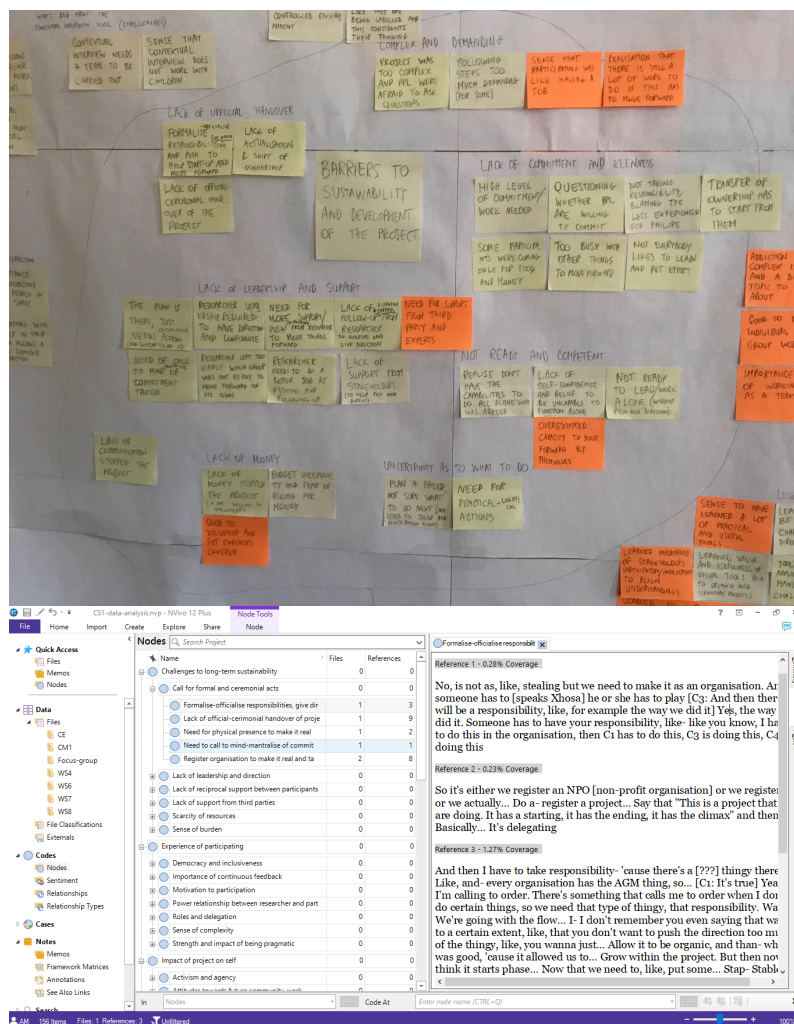
Figure 5.4 Mapping themes and sub-themes both by hand and using NVivo

5.3.2 Co-creation workshops

The intervention revolved around a sequence of thirteen co-creation workshops (labelled WS) and a final public closing event (labelled CE). In addition, a parallel set

94

of workshops – namely "core meetings" – were held with a smaller group of "core participants" (see section 5.3.5).

5.3.2.1 Implementation of the co-creation workshops

Co-creation workshops were employed as main form of collaborative encounters; they served to ease cooperation between participants and contribute to the shaping of the project through acts of collective creativity (Sanders and Stappers, 2008; Steen et al., 2011; Stickdorn et al., 2018). The researcher acted as a facilitator by guiding the discussions, abiding and encouraging participants to follow IDEO.org's seven mindsets: "Empathy, Optimism, Iteration, Creative Confidence, Making, Embracing Ambiguity, and Learning from Failure" (2015, p.10) as described in section 2.5.2. Workshops generally lasted four hours to enable enough time to be completed but without obliging participants to full days of work. They took place in the morning, between 9 am and 1 pm; snacks and lunch were offered to participants. These specific arrangements were decided during the pre-intervention phase in agreement with local intermediaries, who provided recommendations for what could have been best for participants based on their local cultural knowledge and understanding. Table 5.2 summarises the general structured followed during the workshops.

Activity	Length
Preliminary intro and recap	15-20 mins
Main activities	2-3 hours
Wrap-up and head to lunch	10-15 mins

Table 5.2 General workshop structured followed in CS1

The "preliminary intro" aimed to summarise the agenda and provide an overview of the activities of the workshops; a quick "recap" followed to review the work carried in the workshops before. The main activities adapted the tools identified in the literature review (section 2.5.3), arranged following the categorisation presented in section 4.2.2 (consisting of framing, scaffolding and building credibility). As shown in Figure 5.2, the intervention initially focused on the first category, employing tools to identify challenges, collecting stories and insights from fellow community members, and making sense of the information gathered to give direction and meaning to the intervention. Then, tools for scaffolding were introduced. These include all those tools used to organise and manage the project to move it towards a self-directed,

well-organised and long-term sustainable design initiative. Finally, the intervention focused on building credibility; that is, finalising a clear project proposal, establish collaboration with stakeholders and credibly communicate information to outsiders. Table 5.3 lists all the tools used during CS1 in detail. Energisers and ice-breakers were played before, between and after main activities as needed to energise the group. Table 5.3 below summarises the tools used and their objectives. The process followed to prototype the tools is presented in section 5.3.2.4.

Category	Tool	Objectives
Framing	Cultural probes tool prototyping	To prototype an auto-reportage tool
	Contextual interviews tool prototyping	To prototype a tool to ask for opinions, info and feedbacks
	Narrow the challenge	To give purpose and direction to the intervention
Scaffolding	Plan a workshop	To plan a co-creative workshop
	Build a team	To identify individual talent, skills, resources and availability
	Action plan	To create a step-by-step schedule of activities
	Facilitator's game	To learn the skills of the workshop facilitator
Building credibility	Stakeholders map	To identify the different individuals and organisations that can influence the project
	Social business model canvas	To articulate a structured overview of the project, the challenge it aims to tackle and the operational and economic foundations to achieve change

Table 5.3 Design tools used in CS1

The closing event concluded the intervention. It was organised by participants (mostly those "core" ones) to engage with local stakeholders and present the project; eighteen invitees participated, eight of which affiliated to some organisation, plus members of the local community.

Figure 5.5 Participants presenting at the closing event

CS1 initially was planned to alternate periods of on-field work with periods of off-field work; hence, to consider the fieldwork approach that constitutes Design Anthropology. Designers assimilated methodology of classic ethnography (such participant observation) but in a namely "accelerated form" (Ventura and Bichard, 2017, p.2). This form of rapid ethnographic work made of short periods of fieldwork (Norman, 1999) transforms the designer in a part-time anthropologist (Ventura and Bichard, 2017). To maintain the characteristic Design Anthropology approach to fieldwork made of short field studies and interventions (Otto and Smith, 2013), the researcher originally intended to alternate periods of on and off-field; the former to lead workshop whereas the latter to prompt participants to lead activities themselves (with long-distance supervision). However, as explained in detail in section 5.4.2.7, due to a delay with transferring funds and complications with communications, the researcher abandoned the on- and off-field alternation and concentrated on on-field work only. This period that preceded the return on-field of the researcher is labelled as "deadlock". Before this deadlock, participants ran two workshops independently (WS5 and WS6) with the off-field support of the researcher, who provided material to help with the organisation (see Figure 5.6). During these two workshops, participants introduced the project to the newcomers, re-discussed the research plan and organised the data collection.

Figure 5.6 CS1-WS6 plan sent to participants with the researcher off-field

5.3.2.2 Ethical considerations

Ethical requirements of the University of Leeds were followed and satisfied. Participants' consent to participate in the research was initially collected at the beginning of the intervention during WS1, just after the presentation and before stating the introduction of the first tool. As part of the presentation, the researcher handled a "research information sheet" and an "informed consent form" (appendix A.1). The two were explained and commented section by section by the researcher, and questions were encouraged to clarify all doubts with regards to the research and participants' rights. A break then followed to allow individuals to reflect and discuss with each other their interest or disfavour to take part. Only after it was asked to those willing to participate to sign the informed consent. The same process was followed in WS2 for those new individuals who did not attend the first workshop. Over time, due the volatile composition of the group of participants taking part to workshop activities, in order to keep new participants informed about the research and their possibility of withdrawing from the study at any time without having to offer any explanation, the researcher adopted a diverse approach to obtain their consent in each workshop in writing. A poster was made per each workshop to give

some basic details on the research and on the aim of the session, for all individuals participating to read and sign (see Figure 5.6); the primer of the poster is provided in appendix A.2.

Figure 5.7 Participants signing the consent poster in CS1

All data were kept secure and made anonymous. Participants were made aware they could access all observations, recordings, transcriptions and this final report. Throughout the whole duration of the intervention the researcher paid attention to avoid causing offence, harm or embarrassment to individuals and their community; this included for example not forcing participants to respond to particular questions that stressed them or diverting the focus at any sign of discomfort during workshop activities.

5.3.2.3 On the location

All activities took place in the Tsoga centre in Samora Machel, a community centre in an informal settlement in the Philippi district of Cape Town suburbs. Figure 5.7 shows the main room used by the researcher for the workshop activities.

Figure 5.8 The main room used for the workshops

The decision to hold activities there was put forward and agreed during the discussion held with local champions during the pre-intervention stage. The researcher had the occasion to visit the site during such meetings to ensure it was suitable to undertake the activities. Built in 2006, the Tsoga centre is a community service and recycling centre; Tsoga is the Xhosa word for 'wake up'" (Holcim Foundation, 2007). The centre was built to host "a community-based non-government organisation committed to improving the local environment and living conditions" (Holcim Foundation, 2007, p.3); the design also won Regional Awards for Sustainability in 2005 for the use of vernacular technologies, materials, and design that maximises the benefit to the local neighbourhood (Collis & Associates, 2014). In 2010 it was "identified as the primary vehicle for the implementation of skills development and job creation programmes" (Gordon, 2010); sewing machines and beading equipment was brought in to make and teach traditional Xhosa arts and crafts (Schroeder, 2012). However, over time, equipment was either removed or stolen, following a period of disuse of the centre (Schroeder, 2012). The centre had been progressively abandoned, favouring the growth of criminals and drug and alcohol addicts' congregations, which lead to increasing disuse. Recently, however, a small group of volunteers looked to regenerate the centre; a community-led organisation named Ubuntubethu was funded, and the centre opened its doors to host a variety of events, such as the concluding event of the Art Residency Project

(News24, 2017), the Italian Art Day (Ishishinilam, 2018), and the celebrations of the Heritage Day (Africa Unite, 2017).

> *"Today I visited the Tsoga Centre (…) it is a magnificent structure*
> *with a great potential (…) It's kind of sad to see it all vandalised…*
> *The windows and doors are broken… It's going to be cold to run*
> *workshops here (…) It's early morning and there already are some*
> *drunk people walking around in the parking outside (…) C1 said*
> *that it used to have a lot of equipment, computers, machinery… But*
> *not it's all gone… Either removed or stolen (…) he [C1] introduced*
> *me to a lot of volunteers who are hanging around in the centre, it's*
> *great to see the enthusiasm of these people who wants to help*
> *their community even after what some members of the community*
> *are treating the centre and with the limited resources they have"*
> *(fieldwork notes).*

5.3.2.4 Implementation of the learning process

The learning and vernacularisation of the design tools was shaped after Kolb's Experiential Learning Cycle (summarised in Figure 5.8), which is the process whereby knowledge is created through the transformation of experience (Kolb et al., 2014). This process is described Table 5.4 and presented in Figure 5.9.

Figure 5.9 Kolb experiential learning (Kolb et al., 2014; Kolb, 2015) adapted from Beckman and Barry (2007).

Step	Name	Description
0	Tool(s) introduction	Participants are provided with a basis for a concrete experience by introducing the tools, their key concepts, and example of use-cases; they are asked to discuss and reflect on the newly introduced concepts to relate them to past experiences and knowledge
1	Prototyping	Participants derive implications for creating their tools, applying and honing the new knowledge in a new experiment through prototyping
2	Testing / data collection	Participants then engage in a concrete experience, whereby the prototypes are tested in an authentic situation with community members
3	Discussion and reflection	A collective discussion is held to reflect on the experience, and the insights gathered using the clustering tool
…	(follow-up round of prototyping)	The discussion fosters thinking and informs the conceptualisation, and a better understanding of the tools used, forming the basis for further prototyping

Table 5.4 Steps of the learning process followed in CS1
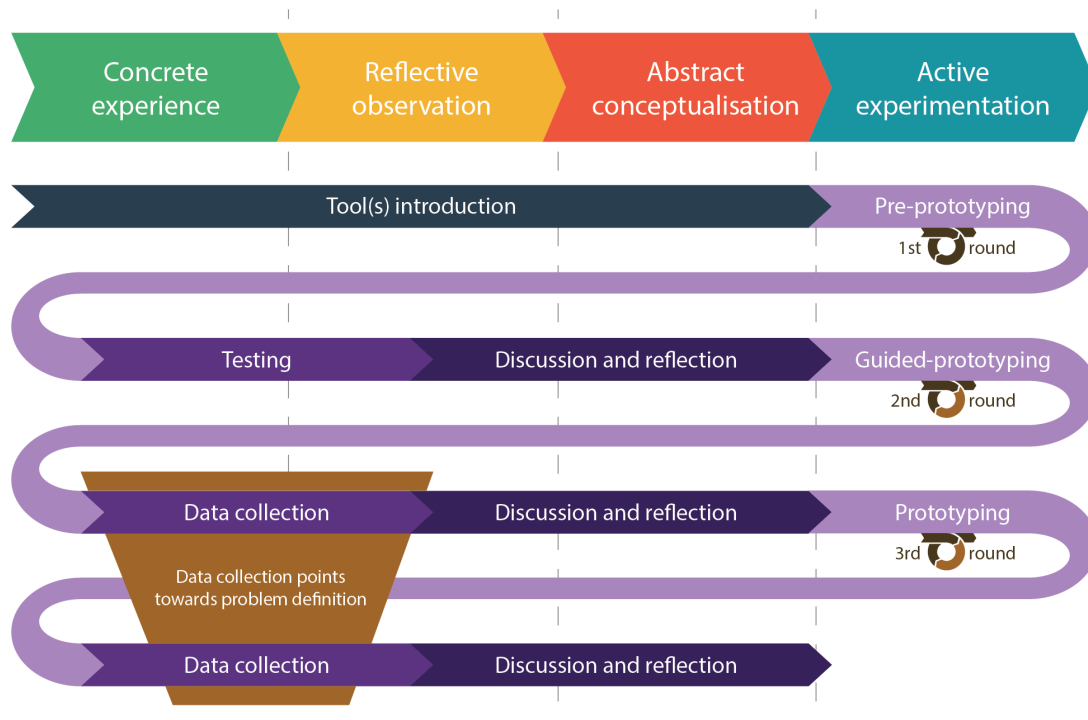
Figure 5.10 The learning process and progressive prototyping of CS1

This process had a three-fold function: on the one hand, to learn the tools from the first-hand experience; secondly, to progressively refine the tools and by so doing adapt them to the local cultural lenses and understandings; finally, to explore the challenge at stake and empathise with those affected by it. Table 5.5 details the implementation of the learning process over the individual workshops in the case study.

Workshop	Activity	Description	Instructions
WS1	Pre-prototyping of cultural probes	First experience creating a data collection tool. Participants were presented with an example of cultural probes and then filled a sheet with eight quadrants to reflect on the foundations of their tool	Appendix A.8.1
WS2	Pre-prototyping of contextual interviews	Second experience creating a data collection tool but first with the contextual interview. A play was staged to demonstrate in practice the application of the tool. Participants then filled a sheet with eight quadrants to reflect on the foundations of their tool	Appendix A.9.1
WS3	Guided-Prototyping of	Participants split into two groups, one creating a cultural probes tool	Appendix A.8.2

	cultural probes and contextual interviews	and the other a contextual interview tool from scratch using some guiding questions	
WS7	Guided-prototyping of questions for both tools	Recap of tools due to deadlock and new participants. A questions template toolkit was handled to participants to create a combination of questions that served as a basis for the following prototyping round	Appendix A.9.2
WS8	Prototyping of cultural probes	Participants prototyped cultural probes tools	N/A[7]
WS10	Prototyping of contextual interviews	Participants prototyped contextual interview tools	

Table 5.5 The stages of prototyping of CS1

Prototyping was carried out in levels of increased complexity. The first prototyping session was labelled 'pre-prototyping' as it concerned the foundations of tool-making; no tools were actually made. At this stage the main challenge of the project had yet to be decided. Thus participants could pick any topic; this was done to make it explicit that the tools could be applied to just about any challenge. It also enabled participants to get a sense of what the project entailed. The second layer was called 'Guided-prototyping' since participants prototyped their tools following guiding templates. An additional guided-prototyping session was held (see WS7 in Table 5.5) to elicit thinking on the variety of possible questions to ask; participants were asked to "pick and assemble" questions to create their prototype using an ad-hoc toolkit. Finally, in the third round, participants created from scratch their tools with complete freedom. Except for the first round, participants collected information on the chosen challenge during the testing phase. Participants tested their prototypes with other community members outside the group and started collecting actual data related to the challenge identified. As part of the activity, participants reflected on the different type and quality of data that the two different tools gather; here the

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[7] Participants were asked to "start from scratch" using the knowledge built over the previous activities to prototype their tools. No physical instructions were handled at this point.

clustering tool was introduced, to show how to make sense, identify patterns, and draw conclusions of the information collected.

5.3.2.5 Data analysis of co-creation workshops

The co-creation workshops were documented via photo, video and audio recordings. These served to carry out more detailed participants observation in retrospect and thus enrich the researcher's insights, comments and reflections captured during workshops; this was necessary as the role of facilitator required constant attention and involvement with participants and therefore little space for note-taking. Key moments were transcribed to provide vivid and compelling examples to support the researcher reflections. The researcher adopted a verbatim approach to transcription (that is, noting repetitions, stutters, grammatical errors, pauses) to maintain as much fidelity as possible and represent what is being said as well as how; data extracts are however presented in a 'cleaned way' to reduce their length and improve readability by removing repetitions or hesitations unless this was considered to alter the meaning of the data (Braun and Clarke, 2013). All material produced by participants was digitalised; however, no detailed analysis was carried out for the vast majority of these data. The outputs of the workshops were contextual to the challenge developed by participants throughout the case study, which was considered secondary to the aim of the researcher; that is, to evaluate the effectiveness of the model. Some of these are presented to build the narrative around the case study and contextualise it with relevance to the challenge developed by participants.

5.3.3 Semi-structured interviews

After the closing event, seven semi-structured interviews (mostly with core participants) were carried out to capture individuals' reflections on the project overall, the event and the future project developments. The guide of the semi-structured interviews used is provided in appendix A.4. The interviews were carried out one-to-one following the closing event to capture individual reflections on the project overall, the event and the future project developments; these included four core participants (the other two could not attend the closing event) and two participants.

5.3.3.1 Data analysis of semi-structured interviews

Audio recordings of semi-structured interviews were transcribed by the researcher adopting a verbatim approach as in section 5.3.2.5 and organised using NVivo following the process described in section 5.3.1.1. Following the participatory nature of this research, the researcher aimed to describe the voices of participants in a most specific, straightforward and descriptive manner, so that participants could not feel misrepresented or misunderstood. At the same time, the broader context was considered and so themes and sub-themes are presented to tell the story of the fieldwork and the case study in a hopefully sophisticated, meaningful and reflexive way – thus to reflect and interpret data with relevance to the research questions.

5.3.4 Focus group

A final focus group was conducted with core participants to discuss their experience with the project and inform the evaluation of the model sometime after the intervention was completed, thus to allow time for follow-up actions to appear. The focus group was initially planned three months after the closing event; however, it had to be postponed due to the water crisis that hit Cape Town and its suburbs. The guide of the focus group is provided in appendix A.5. Five core participants took part in the focus group (the others could not attend).

5.3.4.1 Data analysis of focus group

The audio recording was transcribed and coded following the process as described in section 5.3.3.1.

5.3.5 Participants and recruitment

In line with the qualitative approach outlined in Chapter 3, the case study involved a small sample size over a lengthy period to obtain depth and quality of information. Table 5.6 summarises the sampling characteristics for CS1. Participants were recruited following a snowball sampling approach through local intermediaries as explained in section 3.9 and in line with the grass-roots approach presented in section 4.2.1.

#	Sampling characteristics
1	Between 4 to 12 in total
2	Age and gender heterogeneousness
3	Age between 15 and 35
4	Fluent in English with good reading, writing, speaking and listening skills
5	Living in and belonging to a marginalised community or deprived area
6	Minimum experience with community development work
7	Unemployed (can be students or volunteers)

Table 5.6 Sampling characteristics for CS1
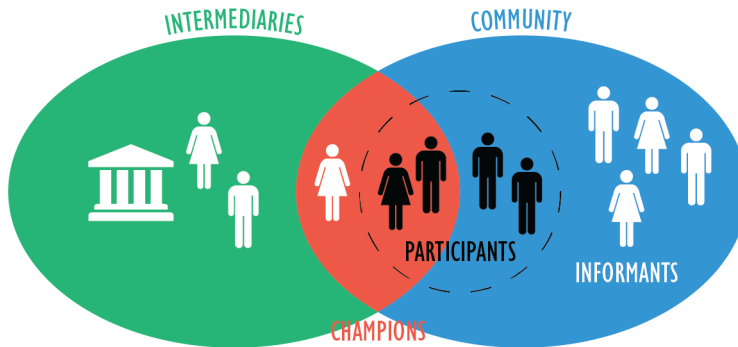
Figure 5.11 The composition of participants in CS1

Participants included community members and community champions, who at the same time served as intermediaries between the researcher and the community. A snowball process starting from the Cape Peninsula University of Technology (CPUT), who acted as the first intermediary, allowed to identify the six *core* participants that matched the sampling criteria and that took part to the case study thoroughly.

Thirty more individuals, however, took part, but only for limited or on-off occasions; these are generally referred to as "participants", or "general participants". Among these, one individual is referred to as "external collaborator", since he joined the core team at a late stage for the specific purpose of helping with the realisation of a video to showcase at the closing event.

The overall snowball process is illustrated in Figure 5.11 below, whereas Table 5.7 details some necessary information about core participants. The comprehensive list of participants is provided in appendix A.3.
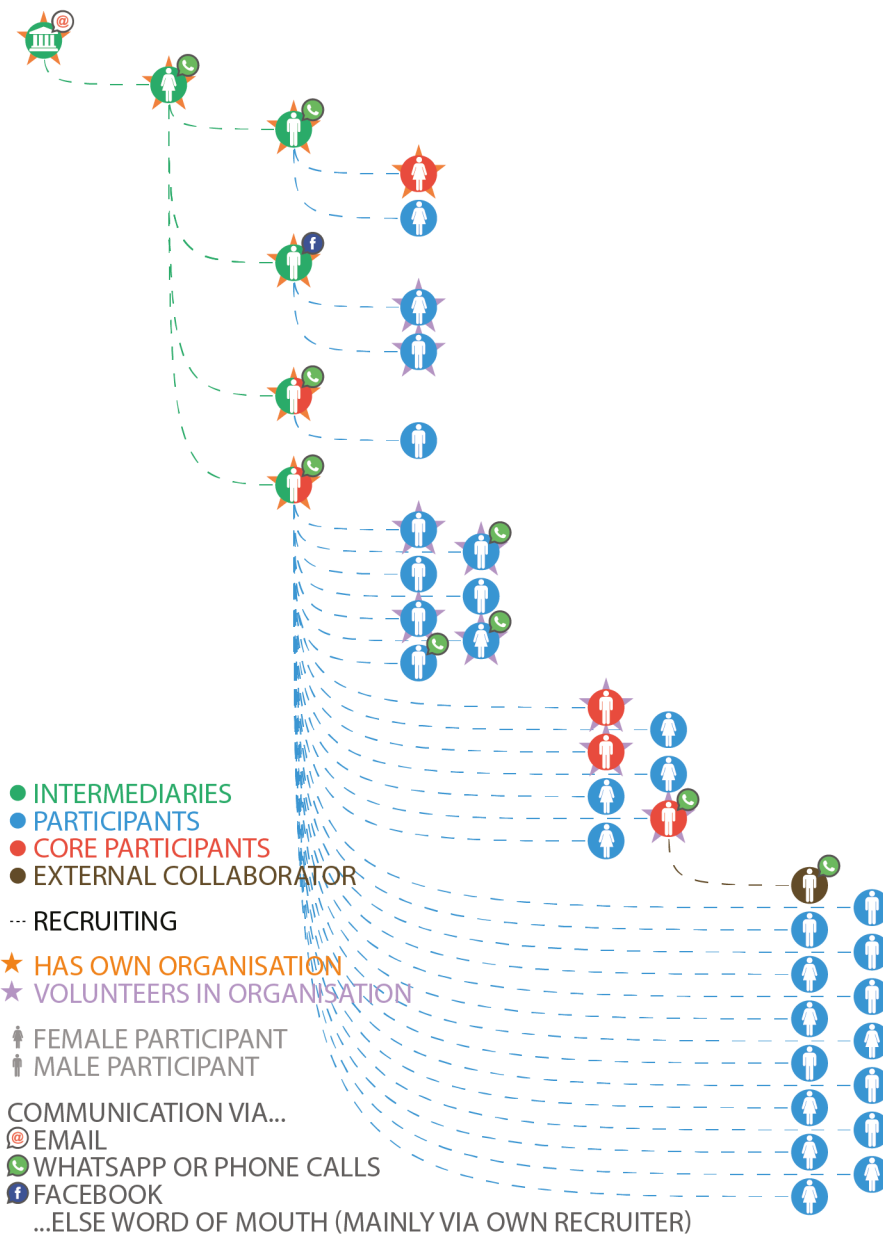
Figure 5.12 Snowball recruitment of participants for CS1

As captured in the illustration, the number of individuals involved increased over time; for the vast majority were involved by one core participant. PART 1, PART 1 off-field, and PART 2 counts respectively 14, 7 and 15 unique new individuals joining the activities overall. All core participants joined during PART 1, though three of them joined at a later stage, during the off-field period of PART 1. Since only one out of six core participants was female, the researcher who put great attention on the group dynamics to make sure she would be given an equal voice during the core group discussions. Core participants are pseudo-anonymised using with the letter "C", whereas participants with the letter "P". Intermediaries are labelled with the initial "I".

Participant	Gender	Age	Occupation
C1	Male	35	Volunteer
C2	Female	22	Volunteer
C3	Male	26	Volunteer
C4	Male	26	Volunteer
C5	Male	22	Volunteer
C6	Male	28	Volunteer

Table 5.7 List of core participants in CS1

5.4 Results and discussion

This section explores the findings of this first case study to evaluate the first iteration of the model generated through the design ethnography, the co-creation workshops, the semi-structured interviews and the focus group. These data sets were organised and interpreted holistically, to provide a rich and comprehensive understanding of the case study; presenting data sets individually would have provided an incomplete and misleading picture, since they all enabled to examine the model but from multiple perspectives. Results are presented and discussed in two main sections. The first focuses on the impact of the model generated onto participants; the second looks at the model from the designer perspective, thus to reflect how the specific elements allowed to generate such impact.

5.4.1 The impact of the model on participants

5.4.1.1 Learned about the issue of drugs and alcohol abuse

Participants in CS1 focused on the local issue of drugs and alcohol abuse (details in section 5.4.2.1). The project was described as a "tough but positive and powerful journey" (C2, semi-structured interview) that allowed to gather a richer picture of the dynamics behind the issue of drugs and alcohol abuse "that we didn't even think about" (P26, semi-structured interview). While discussing how participation to the project changed or enriched their understanding of the issue, participants claimed that the process allowed them to dig deeper "into the why" (C3, focus group) and unveil unknown truths, gathering novel and previously unknown understanding. This was mostly linked to the fact the intervention enabled them to interact with fellow community members and "get out of their comfort zone" (C3, focus group) – to put them in the situation to ask questions in ways they were not used to.

> *"Me, I have learnt that… In our community there is… We are not*
> *realising the point that... How schools... How drugs get in school.*
> *So, it was a new area to us. A new thing to talk about, so... I'm*
> *glad." (P26, semi-structured interview)*

5.4.1.2 Learned new tools

The model aimed to empower design capabilities by teaching two design tools for data collection (cultural probes and the contextual interviews) and one tool for data analysis (clustering). The post-intervention evaluation found that the model successfully achieved this, as participants were taking the tools and the processes learned already.

Core participants, during the post-intervention focus group, claimed to have used and adapted the tools for other projects. In particular, the cultural probes – or "diary" as participants referred to – was used by C2 during her after-school program to understand the domestic situation of those shy girls with whom a direct face-to-face confrontation was not possible. The contextual interview was used by C5 to understand the problematic situation of a fellow community member and his feelings following the loss of his father and to investigate why he would want to drop-out schools as a consequence in a non-judgmental but direct way; the clustering tool became for C1 a system to visualise and organise tasks between members and volunteers in his organisation. This evidenced not only that the model allowed them to learn such tools and processes, and therefore that this learning was retained over time, but most importantly that use-value beyond the intervention was internalised.

> *"How didn't we think about these tools, how didn't we think about*
> *this work (…) because most of the time we work in the community,*
> *but we didn't think about using these tools to understand (…) our*
> *community (…) [participants] were so amazed and they loved it"*
> *(C1, focus group)*

Participants internalised the basic elements of the tools as presented by the researcher, in ways that made it simple for them to memorise them. For example,

the cultural probes tool was introduced in the most basic form as a diary; to participants, the tool became known as "the diary tool" and all prototypes retained a consistent "diary" format (see Figure 5.12).
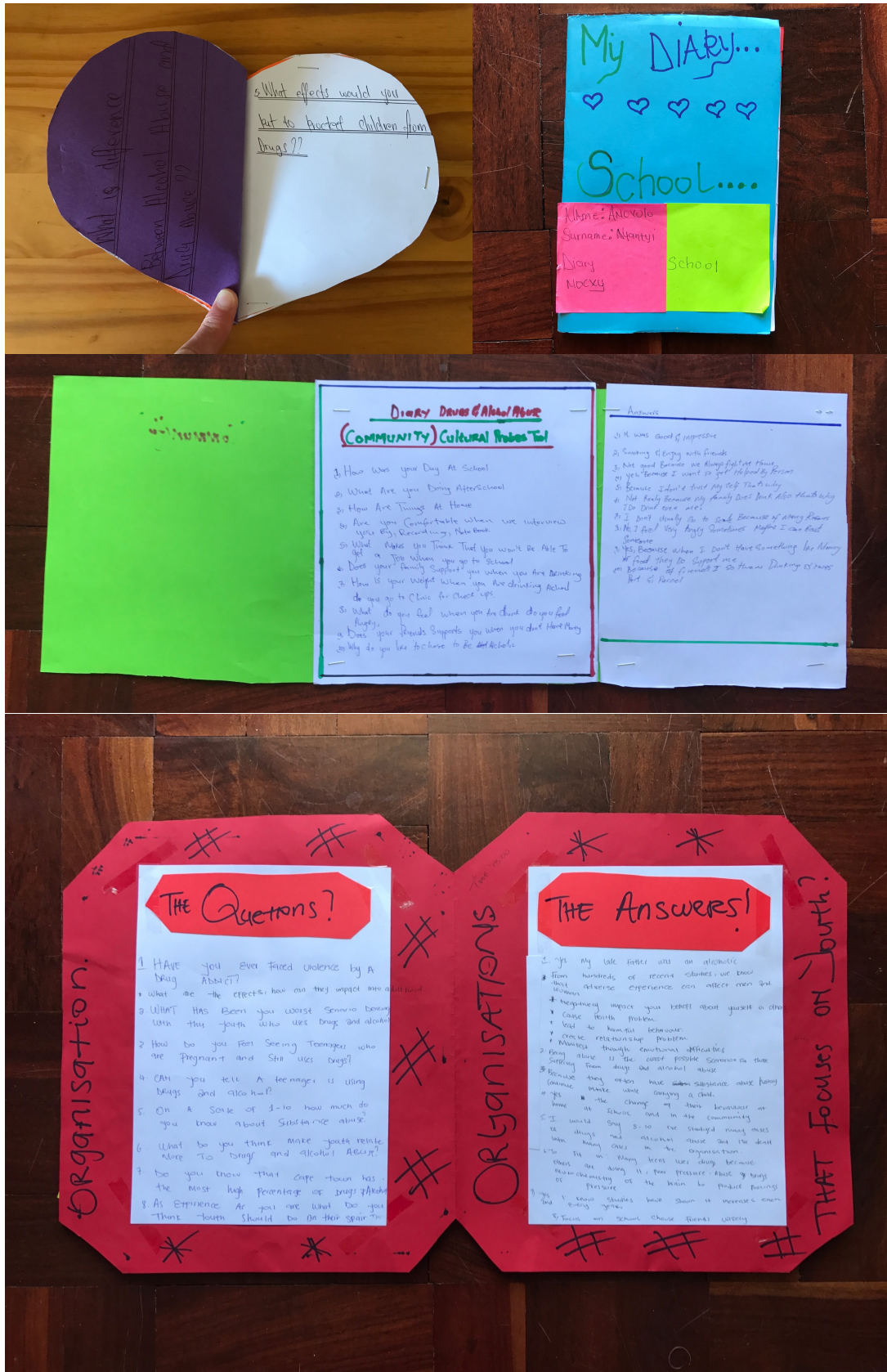
Figure 5.13 Examples of cultural probes prototyped in CS1

On the other hand, this is coherent neuroscientifically speaking. New knowledge is not stored in a vacuum; new pieces of information have to connect and bond

together through use and meaning with previous existing notions (Hattie and Yates, 2013). Participants could thus relate to the new concept of cultural probes via the more familiar idea of the diary; the tool was indeed seen as "another side of the diary" (C2, semi-structured interview). To support this is the fact that the contextual interview tool was internalised straightforwardly, as participants were already familiar with the concept of interviews.

Nevertheless, participants went through a process of vernacularisation – they made sense of the information as opposed to blindly replicating it. While essential elements of the tools were indeed retained, the post-intervention evaluation in fact also found that the tools were tailored. For example, the diaries were entirely prepared in Xhosa (the local language), which was a dramatic change considering all the prototypes during the intervention were prepared in English; in addition, C2 handled the diaries in a controlled environment to be completed individually, but on the spot – as opposed to be taken home as it was done during the intervention. Participants also critiqued the tools and found new meanings for their everyday use beyond the intervention. Cultural probes were considered a colder, decontextualised and judgmental form of enquiry, useful for girls and kids. The contextual interviews tool was perceived to be most useful for an older target but also more challenging to deploy, as it requires to "face the real truth of the situation" (C3, focus group) with direct face-to-face confrontation; the contextual interview was perceived as less judgmental as it enables to read the situation and therefore better empathise with the interviewee and tweak the interview as necessary. The clustering in particular allowed to come up with novel insights and ideas, by providing a procedure to identify patters and look at things from different perspectives systematically; this enabled to generate deep reflections and new directions.

5.4.1.3 Learned about new skills

Besides the tools, the model planned to train a variety of skills seen to be essential for the development of PD projects. First, workshop organisation, facilitation and debriefing skills, as well as skills for organising and facilitating meetings and enabling groups to make decisions effectively. When discussing this point, participants

claimed to have learnt a "new approach to manage things and people (…) to stay calm when dealing with people and problems (…) deal with problems as they arise (…) [and] deal with people with their different attitudes" (C3, semi-structured interview).

Second, the intervention process was framed to limit subjective opinions and build follow-up stages on empirical evidence; thus, to communicate the importance of data to drive decision-making. Once the challenge was established, participants moved quickly to collecting data from fellow community members. Every new finding and insight captured during the data collection process constituted a subsequent starting point – not an arrival one – for follow-up work; collective data analysis, in fact, stressed to discuss what new unknown factors the new piece of information was necessary to investigate further and participants were required to close every collective data analysis discussion with questions, as opposed to answers, to drive subsequent actions. This approach made participants realise the vastity and complexity of the challenge (indeed it was claimed that more work and more understanding was needed moving ahead to understand it more holistically); however, it also enabled them to debunk myths and misconceptions and appreciate the value of gathering evidence.

The findings enabled to identify novel and unanticipated directions that were worth following beyond personal ideas and perspectives, thus training flexibility. The knowledge and insights allowed to "go to the why of the matter" (C3, focus group); this, by looking deeply at the individual stories and circumstances. Thus, to "identify the right problem first before wasting time and money on solving the problem right" (Stickdorn et al., 2018, p.85) – a trivial feature of the design approach. Core participants indeed claimed that process allowed them to change their perspective on what can be done on the issue and understand enough to recognise what to do next; as a consequence of this, it was stressed the recognition of data gathering to lead actions and drive decision-making.

A noteworthy point was made on the fact that "sometimes is not about the answers you getting but then it is about the way that you ask me a question" (C2, focus

group); by reflecting on the data collected, participants noted how data could be misleading if interpreted inaccurately.

> *"What I enjoyed the most was (...) The breaking down of information into sections. 'Cause that's (...) when we decide to go again to the field, you know? And then you come again you break down what you got (...) The breaking down, the (...) going to the "why of the matter" (...) this is where you're trying to put yourself in the shoes of this person that was answering. "Ok, why is this appearing more, why this thing" that's when we discovered that (...) They sell more drugs in school than outside (...) So now (...) you going to do the interview now you change your direction (...) it came out of us breaking down the answers. And then without us breaking down the answers I would never came down to that conclusion" (C3, focus group)*

The third is empathy. Data collection created an opportunity to build productive discussions beyond personal views of participants, by hearing different voices, opinions and truths about the challenge, opening a window of understanding of other fellow's experiences and reasons for using drugs or abusing alcohol and building empathy towards them as a consequence. One interviewee, in particular, claimed that the project taught to see things from different perspectives; that is, by listening and understanding individuals' stories through data collection.

The use of roles more specifically was claimed to have taught how to organise teamwork; this included the value of delegation, transparency and democratic leadership. The shared-leadership approach introduced through the roles was seen to be a novel way to make things "flow easily", trust others and let them "run the show" to make them "feel important and valued" (C1, focus group).

Finally, the approach changed participants' perspective on how to carry out future community work and put together an organisation. Participants acknowledged the value of involving stakeholders and getting them on board by pitching the value of the project when this is finalised; this was claimed to be beneficial as often happens

that funds are found before a vision for the project is refined, and this often led to the founder taking much ownership in shaping the process.

> *"[I learned] how to get the information, how to do the research (…) how to approach someone like (…) these guys (…) that are smoking (…) it's gonna help me in the future to do more about the issue [of drugs and alcohol abuse]… Or to learn more (…) before I must find a way of approaching someone (…) who is in the state of using drugs (…) so I must have a way of talking (…) to connect with those guys, I think is gonna help me, yes" (C6, focus group)*

One of the things that participants emphasised they wanted to improve was the delivery of the project presentation at the closing event. Participants considered the closing event a positive experience, though it was claimed that it did not give justice to the amount of good work and commitment that was done up until that point. In particular, the details of the project were not communicated adequately to stakeholders, who could only grasp the overall picture.

5.4.1.4 Developed aspiration and motivation for change

A pivotal outcome set by the model was to widen participants' aspiration window and foster their motivation and aspiration for change. Although on various occasions participants referred to the role that the big organisations or the government should play to resolve challenging issues, the project experience enabled to grow a sense that concrete individual actions are key; participants learned to appreciate that change can and should come from within the community, by starting small and moving forward with small incremental steps. Despite the fact that it was agreed that the issue of drugs and alcohol abuse is not something that can, or possibly ever will be, solved, participants stated that changing their life and that of their community is indeed possible. Participating in the project strengthened participants' sense of activism or – and most remarkably – enabled those, to consider themselves as activists, which was claimed "it feels great" (C6, semi-structured-interviews). Even E1, who only joined the project at very later stage, claimed that participating allowed him to "feel myself like I'm a part of the community (...) [I'm] doing something for

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the community (…) and helping somebody (…) helping the community" (E1, semi-structured interview). Participants who already considered themselves activists claimed the project strengthened their sense of activism; whereas those individuals who "never thought of (…) helping others" (P26, semi-structured interview), felt like "helping the community" (E1, semi-structured interview) and grew into activists – adding "it feels great" (C6, semi-structured interview).

It was claimed that the project fostered motivation to help the community for two main reasons. First, through the recognition that complex social challenges can be solved, if only they are broken down; second, because the direct involvement of community members reminded them that "without the people you are no one" (C3, focus group). This was achieved by following the three pathways outlined by Ray (2006) to deliberate significant influence on the capacity to aspire and the consequent future-orientation of individuals. Firstly, because "there is no experience quite as compelling as the experience of your immediate family, and more broadly, those in your socio-economic and spatial neighbourhood" (Ray, 2006, p.8), by collecting and discussing experiences of and with fellow community members, the project enables participants to generate a pool of information of the local community, becoming a repository and conveyer of information internally among the community. Secondly, by engaging with local stakeholders and delivering the pool of findings gathered, the group also becomes an external conveyer of that information. Finally, by leading an open, observable promise to solve a social challenge and demonstrating that actions are possible, the group also becomes a coordination device, breaking the aspirational trap and inducing incentives to take action across the community.

While discussing the reasons that upheld the motivation to participate, core participants claimed that the respective intermediaries played a key role. Concerning why they continued to stay, on the other hand, a variety of factors were identified. First and foremost, the drive to help the community and the sense that the project was valuable in that respect, as it involved community members directly; about this, participants claimed they saw the potential and value of the project to bring good to the community, which was worthy of their involvement. Second, the fact that it

offered an entirely different manner to engage and work with the community, which was something unseen before. A third reason was that the project allowed participants to learn about new tools and methods, which they found incredibly valuable also to use on other projects; the fact that the project continuously fulfilled thirst for knowledge and eagerness to self-improve played a crucial role to motivate them to participate consistently. The engagement was finally also explained in terms of understanding of the activities and eagerness to understand. With relevance to those participants that disengaged rapidly, it was claimed "they say they don't understand hundred per cent (…) [but] if you want to understand (…) you should go, ask questions... So that you understand" (C1, focus group).

> *"I think to me it was the value... Because of the community, because... We're helping the community at large. I think to come in these workshops it was the great manner and (…) it helped us (…) [to understand] how to work with people in the community" (C1, focus group)*

When reflecting on why specific individuals engaged more than others, a remark was made on the fact that not everybody was willing to volunteer; the researcher did not pay participants for their participation but only reimbursed and covered all project-related costs. Participants were also seen to benefit from the experience, knowledge, and outputs generated from taking part. As a sign of appreciation for participants' investment in the research, the researcher also offered his time and services for individuals' community-related projects and happened to pay visits to several participants' neighbourhoods, helping them with applications, CVs, and designing logos and websites during the intervention. The researcher informed participants thoroughly of these details as part of the informed consent process. Finally, the researcher was keen not to transmit the image of the wealthy western with a seemingly endless pocket of money that provides when needed; on the contrary, driven by the principles of genuine and democratic participation, money matters also had to be transparent. Based on the expenses of the initial workshops, the researcher estimated an overall budget and notified participants of the availability and that they were in charge of managing it; expenses had to be officially

reported and recorded on some expenses sheet, hence to control expenses and have a clear picture of the remaining budget.

This approach was welcomed by core participants, who claimed during the focus group that it was indeed a more ethical and meaningful approach than direct compensation. Providing wages was seen to generate the risk that people would join solely for the money, with no real interest in doing good; in such a case, the wage would then be the main drive, whereas inspiration and motivation to help should be the main drive. The majority of the non-profit relies on precarious funds, so motivation was seen to be a pre-condition to carry out this type of work as opposed to money. Nevertheless, it was acknowledged, this requires a certain degree of sacrifice to give time and resources away for free. On the other hand, it was also claimed that for some volunteering is a form of exploit "for the majority of people (…) [volunteering is] an issue [because] a lot of organisations came with this type of things, promising solutions and then they bring people together and as soon as they get funding, they drop everyone that we working with and create a new team" (C3, focus group). It was also emphasised that reimbursing expenses was better than providing money in advance to discourage the risk of people using the money for something else, though the majority of the expenses were based on participants' word as proof, as in the township transactions are finalised without issuing any receipts. On various occasions, this caused participants to doubt on certain individual expenses.

5.4.2 The model and the designer performances

5.4.2.1 Framing the challenge

Starting from the "Frame the challenge" activity in WS4 participants identified as pressing macro-level "wicked" to work on: drugs and alcohol abuse, lack of self-esteem and motivation, alcohol abuse, crime and drugs, drugs abuse, low education and lack of information. The group ultimately decided to focus on drugs and alcohol abuse.

Figure 5.14 CS1 participants presenting their challenge proposal in WS4

Two data collection points took place to frame the challenge to identify and define a "tameable" and "solvable" problem to tackle, respectively between WS8 and WS9, and between WS10 and WS11. Around 78% (7 out of 9) of participants completed the first data collection task, while 64% (7 out of 11) the second. A third data collection point was supposed to take place between WS12 and WS13, but this was not completed due to the clash with the organisation of the final event which was prioritised. In the first workshops (WS1 to WS3) participants also collected data while testing their prototypes but on arbitrary challenges, since the project challenge was identified only in the later WS4.

The process focused first on the cultural probes tool, and then on the contextual interviews tool. For the prototype of the cultural probes, participants worked individually, whereas for the other tool in groups. For the third data collection round, participants could decide what tools to use and whether to work individually or in groups.

Figure 5.15 Participants completing the social business model canvas with the help of the researcher in CS1-WS13

Through the rounds of data collection, participants identified a variety of critical issues and new questions to investigate (see Table 5.8 for a summary of these). The group ultimately decided to focus on the issue of drugs dealing inside schools was identified as a basis to develop the project proposal and the social business model canvas presented to stakeholders at the closing event.

Themes	Challenges	Key questions
School and education	Kids doing drugs at school	How can school deal with inside drug dealing? What drugs are available at school? Do school teachers know about it?
	Teacher training	Do school have any relationship with drugs and alcohol abuse? Are teachings trained to deal with this problem and behave appropriately?
	Catching early abusers	How can schools reach out youth who are abusing?
Self-motivation	Drivers	What drives you to do what you do and why? How long does this feel last? How do you feel after this feeling has stopped?
	Hide	Do you use drugs as a booster to perform or to escape from your problems?
	Courage	To what extent are you willing to get or do what you want?

Aspirations and goals	Ambition	How far do you see yourself in the next five years? How will you achieve that vision? What are you doing now that will help you achieve your dream? What is the role of drugs and alcohol in this?
	Career	How do you think the consequences of your behaviours affect the development of your career? How are drugs and alcohol affecting?
Positive influence and hope	Awareness of behaviours	How do you think the consequences of your behaviours affect your community?
	Inspiring youth	Do you want to change our lifestyle? How? How can you inspire yourself before you inspire others?
	Quitting	If you were to quit drugs how would you do it?
	Art	How to use art as a tool for positive influence in the community?

Table 5.8 Summary of challenges and questions identified by participants from the data collection in CS1

5.4.2.2 Workshop facilitation

The researcher took the role of facilitator during the workshops; this focused on enabling dialogic cooperation among participants which included proactive actions to get participants to listen to each other, change their minds, and converge towards a common view (Manzini, 2016). Participants claimed that the researcher was successful in doing so and noted how they felt encouraged to be open and friendly with one another, share their thoughts and comment openly on their experiences – since the very first workshop; core participants stated this helped them to learn from each other and steer the direction of the project.

> *"At the beginning we did not know each other but for first day we*
>
> *even so open, we were so close one all of us from the first day" (C2,*
>
> *focus group)*

In the role of facilitator, the researcher-designer looked to push participants to reflect but without contaminating ideas with his thoughts. He was very careful not to provide answers or ready-made solutions, and instead, enable participants to express their own opinions. This was made possible by creating an environment that welcomed failure. Core participants claimed to have valued this "space for failure", and particularly concerning the roles, from which they could reflect and learn how each individual's part counted towards the collective end.

"You (...) let us (...) fail (...). But you're still "Ok, when you didn't do this, this is what happens. When you didn't take this responsibility this is what happens". You were not saying "Ok I'm gonna, like... Cover for you (...) No. You have to see the effect" (...) and then now we have to know that "Ok, on the next workshop that responsibility needs to be done" So... (...) it's extremely useful, you have no idea" (C3, focus group)

Participants also appreciated how the researcher "coming from the outside did not want to put pressure" (C3, focus group) and allowed much flexibility; this also considering that participation was voluntary. However, it was noted how this made some of the participants "too comfortable" (C1, focus group); a "more strict and authoritative" (C3, focus group) approach could have been beneficial to make all participate more seriously.

Key to the facilitation was creating space for exchanging feedback between one another, between them and the researcher, and between the whole group and the external world; this enables to identify and resolve issues, as well as to identify whether individuals are still happy to participate and commit at the various stages of the process.

On various occasions, the researcher attended the workshops without any additional support. Despite the researcher prepared documents to help follow and maintain control of planned activities and timings, being the sole individual made it impractical to keep things under control. Especially at the beginning of the intervention, when there were no core participants to help with the facilitation, it was extremely challenging to facilitate and at the same time document the workshop.

Most of the times workshop activities did not run as planned. First above all, this was due to a lack of punctuality; many participants showed up even one and a half-hour later than the time of the meeting. This was acknowledged and disapproved by other participants (the core ones in particular), who at various stages reprimanded the behaviour, urging the group to be on time. Secondly, some workshop activities

required more time than anticipated and, as activities were often dependent from one another, stretched over because it was necessary to finish them before moving on. The researcher continuously adjusted and redesigned the workshops in real-time.

The researcher prepared and handled a variety of material to participants. Often the tools handed to participants were challenging to comprehend at first and required to explain different times using different words what they were expected to do. Participants would neither explicitly say they would not understand, nor ask to re-explain activities after the researcher encouraged them to ask questions before the start. The role of the researcher as facilitator resulted key since by going around between participants, he could realise who did or did not understand what to do. Once started, most of the participants engaged deeply with the activities, to the point some complained when the time was up.

> *"All the groups showed good ability to work independently, however with great differences in terms of engagement, effort, understanding, and teamwork. For example, one group was not really engaged and had little comprehension on what they were asked to do. This is believed to be related with the fact that P15 jumped into the second workshop with little interest about the research (for it attended as a guest), and also because P3 struggled to go through the exercise sheet due to visual impairment issues. Only after I re-explained the activity and offered examples on how to answer the questions asked, the group did complete the exercise sheet - yet superficially and without much group interaction."* (Fieldwork notes)

Figure 5.16 The researcher preparing the material to hand out to participants

5.4.2.3 Complexity and complications

The intervention presented participants with challenging tasks, arranged to increase in complexity over time; thus, to build motivation and grow the project organically as opposed to presenting with unsettling unreachable stages of development. Participants recognised that the project grew in complexity over time. However, it was also emphasised that this came as a surprise; participants did not fully understand they were committing to create a tangible project which required "actual work" (C3, focus group) beyond the mere participation to the workshops. More emphasis should thus be put at the beginning to clarify the intention of the intervention to set expectations right.

Both the researcher observational field notes and participants' comments, furthermore, highlighted that some activities were particularly complex. This was especially true at the beginning when participants were presented with novel concepts; participants were very interested but found it challenging to prototype a tool they understood little about. It was a challenge more specifically to those younger participants or those who were easily distracted and not commit fully to the

intervention but participated in one-off workshops. The experiential learning strategy moved participants quickly into hands-on experiences as explained in section 5.3.2.4; introductory information was kept to the minimum when introducing new content so that, for example, when it came to introducing the clustering tool, the researcher started the process by himself "reflecting aloud" (thus eliciting the mental process underpinning the identification and nesting of similar concepts) and then asked participants to continue similarly. This however required participants to fully engage and complete the full process in order to digest the new content and develop understandings on it – which is something not every participant did. Core participants, in fact, claimed that the iterative process left no one behind; everybody had time to learn and understand the tools "unless they're just been lazy" (C3, focus group). Nevertheless, while the general progressive intention of the model seemed useful, the overall structure could be improved to facilitate the delivery and digestion of information with more straightforward tasks, especially at the beginning. Explanations and introductions to key concepts could benefit from further simplification; a multimodal approach, made of interactive videos and images, could also be effective to engage also those younger and less motivated individuals.

5.4.2.4 Using intermediaries

The use of intermediaries allowed the researcher to quickly recruit participants following a snowball approach, though this diminished control of the researcher and caused most participants not to meet the sampling criteria. As pointed out by Ssozi-Mugarura et al. (2017), local intermediaries are useful to broker contacts, comply with language differences, bridge cultural gaps, and provide guidance to implement research activities to fit the cultural context; due to the strong relationships, trust and respect they developed through time with community members, they have a powerful influence and are extremely helpful to identify and recruit appropriate participants and encourage participation. Although the recruitment process started before the arrival on-field, this was finalised only when the researcher met people physically; this is because some intermediaries were either difficult to contact or had any other way to connect if not via face to face.
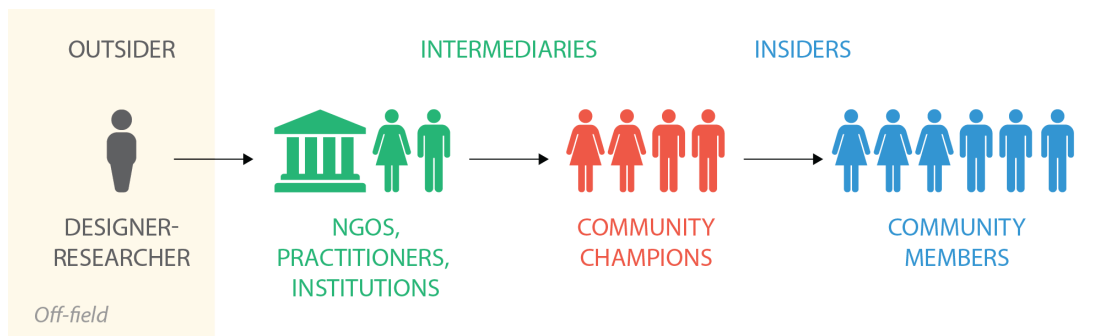
Figure 5.17 The snowball recruitment process in CS1

As shown in Figure 5.16, the local institution – the first point of contact – enabled the researcher to benefit from their vast and established network of fieldwork practitioners and organisations; the local practitioner helped to identify and give access to appropriate local community champions on the ground. Community champions identified and invited community members to take part in the workshops. The researcher benefited from being introduced by intermediaries as owing to their existing relations; he gained legitimacy as it was being introduced from a trusted and reputable source.

For this reason, intermediaries had to put themselves on the line and before doing that, required the researcher to win their trust – especially on the left side of the illustration. In this sense, intermediaries acted as gate-keepers, in that they required the researcher to demonstrate he could be trusted – by auditing the research plan and judging the gain for the community. Genuine goodwill, preparedness, organisation, transparency, humbleness and clarity on the intended benefits of participants and the community proved key to build trust and thus move forward in the process. Despite this process enabled the researcher to quickly and seamlessly recruit an adequate number of participants, on the other, it also decreased control over the recruitment, which resulted in having a small group of individuals matching the sampling criteria set (as outlined in section 5.3.5). Besides, while on the one hand core participants claimed that their initial participation was mostly because they were invited by a known and respectable peer, the authority that community champions exerted on community members meant that many individuals joined when invited without necessarily appreciating and embracing the overall objective and vision of the intervention; as shown in Figure 5.11 and Figure 5.18, a significant number of individuals joined – though only a small group participated consistently.

In line with a truly participatory approach, the researcher, however, maintained openness and inclusiveness and therefore allowed all to participate.

> *"I felt I2 was being protective and wanted to make sure I was not going to do any harm (…) I had to demonstrate my good intentions (…) She urged me to explain specifically "what it's in it for them", with strong statements such as "I don't care about your PhD, only about the communities". I think she has seen a lot of bad researchers and as someone who spent most of her life on field and clearly cares a lot about the people, it's fair for her to be so protective (…) After I talked through my research plan and intentions, which she found "valuable and worthy", she relaxed and agreed to move forward." (fieldwork notes).*

Intermediaries not only brokered access to local community members, they also acted as interlocutors and mediators between the designer-researcher and the community; interaction and consultation with intermediaries before the intervention provided a window into the local culture and dynamics and enabled the researcher to sensitise with the context and provide insights as to how to tailor the intervention to the local context and needs. This was important because if on the one hand, the snowball recruitment allowed the researcher to initiate the intervention within a short time-frame, on the other the researcher had no previous experience in this particular cultural context and needed support to ensure a respectful and as frictionless as possible interaction with community members. The model was intentionally designed to test the extent to which a PD project can still be carried out in a culturally appropriate way and successful in providing deep insight into needs and requirements, but without investing long time to build a relationship with participants and gaining profound knowledge of the local culture and society as put forward by Hussain et al. (2012); this by internally and externally acknowledging his position as outsider and therefore explicitly asking for help and collaboration from cultural insiders to shape the intervention and provide guidance to the researcher to interface with the community. Intermediaries appreciated how the researcher acknowledged limitations and welcomed feedback and

recommendations; throughout these exchanges, the designer indeed drew valuable insights, enriching the organisation and overall robustness of the intervention overall. Meeting in person proved most useful to navigate these conversations and align understandings.

5.4.2.5 The roles, the core group, and other opportunities for leadership and ownership

A key element of the model looked to create opportunities to transfer ownership of the designer-initiated project to participants to achieve long-term sustainability; pivotal to this process was the use of roles.

Figure 5.18 The roles and responsibilities developed for CS1

Roles were created to assign tasks and responsibilities relevant to the planning, undertaking and debriefing of workshop activities and maintenance of the project. Whereas it was planned that all participants would be assigned roles on rotation, thus to resist the oligarchical tendency to concentrate information, knowledge, and decision-making in small leadership elite and therefore ensure the broadest possible participation of all participants during the entire process (Kinyashi, 2006) – and also grow a sense of shared leadership – the discontinuity of attendance demanded to create a small group of "core participants" with which to enact the aforementioned process. Despite having considered the prospect of drop outers, throughout the intervention, the group of participants underwent a drastic and unimaginable reshaping. Overall, thirty-six individuals participated, though the majority for limited or one-off workshops (see Figure 5.18).

Identifier	Title	Participant(s)
	Chair	C1
	Secretary + Caller + Reporter	C2
	Documenter	C5, C6

	Location organiser + Cleaning and setup + Food organiser	C4
	Moderator + Material manager + Timekeeper	C3

Table 5.9 The roles assigned to each core participant in CS1
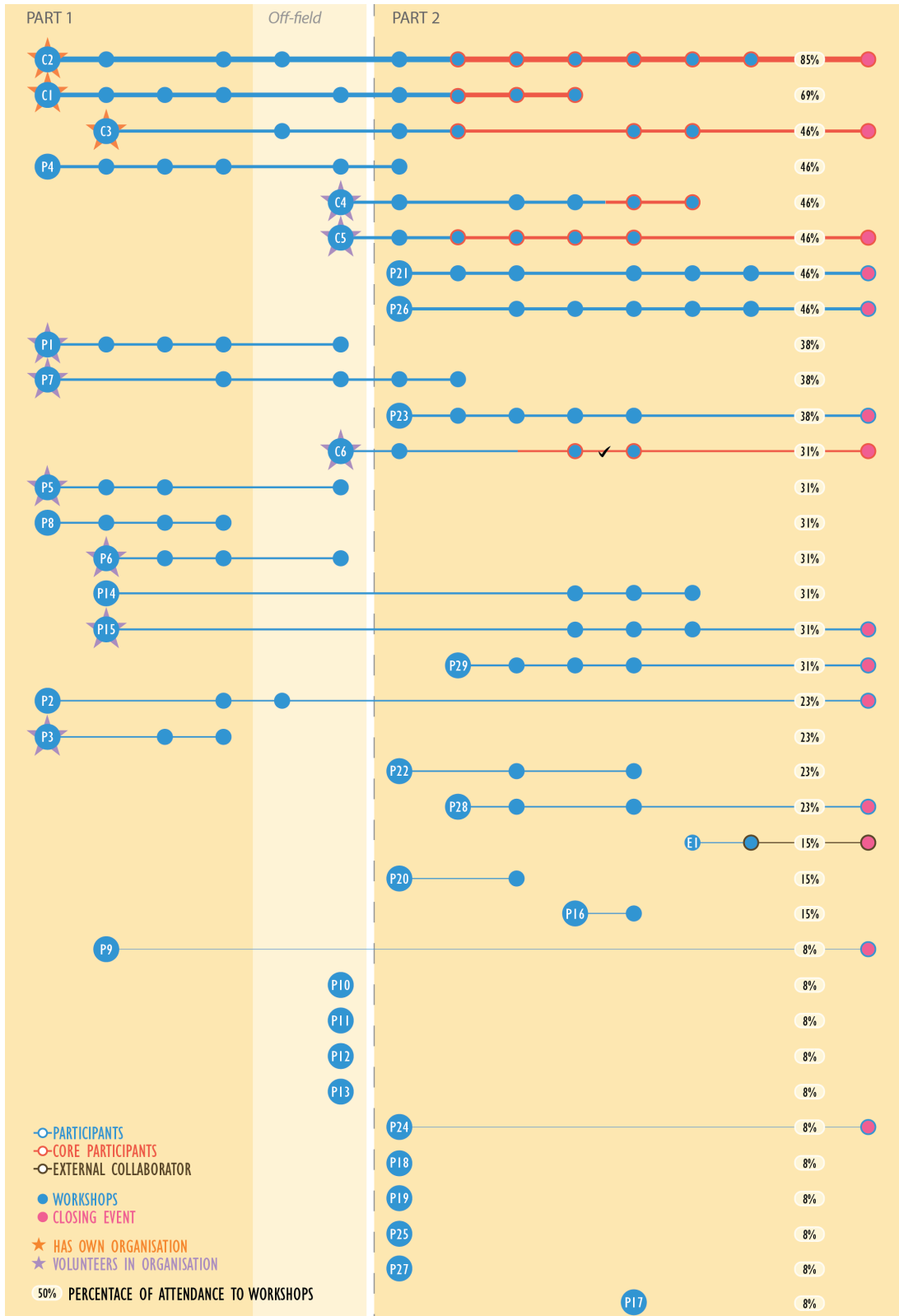
Figure 5.19 Attendance of participants per workshop in CS1

The openness to welcome individuals during the recruitment was retained throughout the intervention; however, this caused new individuals to join endlessly – mainly owing to C1 whom, as community leader and host of the workshops, kept involving known community members as well as youths hanging around the centre (who were supposed to be in school and therefore it was felt they could benefit from taking part). The funding deadlock also played a part. Despite many participants of the first "batch" of workshops showed interest in the project, the loss of momentum caused by the deadlock impacted engagement significantly; even when it was resolved, many had become unavailable due to personal matters or resulted unreachable. These issues rendered problematic the process of widening the aspiration window, which intended to build motivation to move forward by challenging participants with increasingly elaborated tasks workshop after workshop, so as not to hinder engagement by presenting difficult or unreachable stages (Ray, 2006). In order to cope with this, a "core group" of individuals was created, by looking at those who were participating consistently, were most engaged during the workshops and more generally understood and embraced the vision of the project. The creation of this sub-group was effective in creating a balance between allowing an inclusive approach to participation, while at the same time enacting the uptake of the leadership of the project as intended. Coincidently, it was also found that the majority of core participants also featured characteristics outlined in the sampling criteria; they were also already contributing in some form of community work, some of them even as founders of community-led organisations. Their previous experience and motivation to undertake this kind of work possibly enabled them to engage with the intervention fully.

Figure 5.20 Participants leading the clustering activity in CS1-WS10

The post-intervention found that through the roles, core participants acknowledged a transition from being students to leaders; participants referred to it as *their* project and sensed leadership towards "the younger ones" (C2, focus group) participating in the workshops. The designer was still seen as ultimate leader, since he initiated the project, provided the content, held the overall vision, and created the opportunity for leadership through the roles; however, they acknowledged there was no centralisation of power. The roles created a platform for personal and group growth, enabling core participants to feel like a team of leaders with shared power of decision-making; in fact, the distribution and decentralisation of leadership that came with the roles enabled participants to appreciate the importance of trusting each other and the acknowledgement that "You're not a leader alone. You need to let other people to lead you as well" (C1). The fact that responsibilities were shared made participants feel like a group of leaders and allowed them to build trust with one another; besides, it made them reflect that the combination of leadership allowed to achieve ends most effectively.

> *"You gave us another understanding that... You're not a leader alone. You need to let other people to lead you (...) No one was leading alone and we combined our leadership potential" (C1, focus group)*

5.4.2.6 Learning through prototyping

Participants were exposed to a process of discovery and experience to learn the designerly mode to problem identification following Kolb's experiential learning cycle (2015); that was, through prototyping and testing. Prototyping is a creative act used to quickly bring to life an idea for testing (Stickdorn et al., 2018). Design tools are aids to make tacit knowledge and personal views convivial and explicit; they help to find different questions to direct the design process. To design tools was seen to be arduous for non-expert individuals with little to none knowledge on design or data collection. It was considered as a form of meta-design, for it required to think in terms of "how can I facilitate the production of knowledge" as opposed to simply "producing knowledge"; it is a sophisticated form of prototyping than requires to be equipped with conceptual and operational skills and prior knowledge and experience analogous to what is required by trained researchers to design sound surveys or by master artisans to produce intricate handcrafted art. As (Manzini, 2015) puts it, two poles of "being designers" exist; those who are professionally trained and those who are not; he refers to the two respectively as expert design and diffuse design. In these terms, to create design tools across the spectrum of the two poles above, was arguably closer to the expert side.

Figure 5.21 Prototyping session in CS1

The process of prototyping a design tool was thus broken down into steps as described in section 5.3.2.4 (from pre-prototyping, through guided prototyping, to full prototyping) as a way to "carefully opening" the "aspiration window" (Ray, 2006); by following this, participants were able to navigate the broad challenge of drugs and alcohol abuse and identify an issue with drug dealing inside schools, ultimately setting this latter as starting point for the project proposal to present to stakeholders. Only with rough prototypes (see Figure 5.12 above), participants were able to identify problems and opportunities quickly, economically, yet effectively. By breaking down the prototyping into parts, participants could focus on different aspects of their tool – first the overall aim, then the overall questions, then the form, then the deployment process – and implement these pieces one at the time. At each stage, participants were given as little instructions as possible to point them to what they had to do but without telling them how. They were encouraged to play and to experiment with no fear of making mistakes, by reiterating that "there is no wrong answer". Presentations of the work produced always followed the prototyping; by doing this, participants could see the product of their work and that of others, which

resulted highly effective to build motivation. Presentations also offered a playground to foster curiosity by discussing questions and ideas.

Generally speaking, prototyping helped to get things started; it enabled an efficient scalability strategy to which add layers of complexity progressively. The process also allowed participants to interact and empathise with fellow participants as well as community members. Finally, it allowed to move participants closer to the role of expert designers; as described in section 5.4.1.1, participants were able to craft novel tools for other projects.

5.4.2.7 Infrastructuring as enabler

The creation of infrastructures was identified as a fundamental pre-condition to facilitate the creation of sustainable PD interventions; this is referred to as infrastructuring and covers a variety of areas: communication, resources, local actors, and nurturing.

Communication refers to the need to be able to disseminate information between individuals effectively. Participants lacked channels of communication besides face-to-face interactions, which made it incredibly challenging to coordinate the project and halted the on- and off-field work alternation as scheduled initially. Unless individuals attended the workshops, indeed, the only way to pass information was through word-of-mouth; this created a barrier for example, to remind about the data collection tasks to complete, or to circulate dates of follow-up workshops (which needed to be agreed one at a time), but also made it impossible to re-engage those early participants who disengaged during the deadlock (see section 5.3.2.1) – some of these were volunteers for an NPO temporarily based at the community centre where the workshops were held, but once the organisation moved their base elsewhere they could not be traced. Despite participants in the early stages suggested to use WhatsApp to facilitate non-face-to-face communications, in reality, this proved to be an ineffective channel for communication; as shown in Table 5.10, the researcher accounted for about 57% and 52% of all messages sent respectively in the "General group" and the "core group". It was found that, despite the majority

of participants owning a phone or a smartphone, they rarely had credit to receive or respond to messages or miscalls.

General group		Core participants group	
Individual	Messages	Individual	Messages
Researcher	197	Researcher	234
C1	72	C2	100
C2	55	C1	58
C3	38	C3	51
P6	24	P15	22
F1	20	C6	13
I2	18	E1	6
P2	13		
F2	8		
I3	4		
P8	4		
C6	1		
P7	1		
P23	1		

Table 5.10 Analysis of the WhatsApp groups in CS1

The absence of a channel of communication alternative to the word-of-mouth hindered the operationalisation of the on- and off-field alternation. Rather than a single prolonged fieldwork, in line with the design anthropologist approach which, contrarily to classical ethnography, favours shorter field studies and interventions (Otto and Smith, 2013), the case study intended initially to alternate periods of on- and off-field work (see section 5.3.2.1). By "stepping out" of the field, the approach aimed to provide a symbolic but also concrete space for participants to exert their leadership and steer the direction of the intervention; thus, to enable the project to be sustainable after the inevitable departure from the field of the outside designer. While on-field, the designer was to take a stronger lead by bringing the knowledge to feed and support the project; off-field, the designer would interface as an external advisor and consultant, by supporting participants to organise activities, take responsibilities, make decisions, and coordinate self-led action. At the beginning the designer would provide more guidance; however, over time participants' control was to increase over time, so to allow both the project and participants' skills and confidence to act independently to grow organically. Avoiding a long-term fieldwork period also aligned with the external status the designer and the acknowledgement of "the impossibility of gathering a complete and detailed understanding of the

setting at hand" (Hughes et al., 1995, p.61). Short encounters are widespread in the design field, for they have the benefit of quickly gathering and testing ideas where there is a limited amount of time and resources; some examples include the use of design charrettes (Roggema, 2014), design jams (Carlsson et al., 2015), and design sprints (Keijzer-Broers and de Reuver, 2016); on the other hand, they still feature forms of intensity that lead to profound and valid ways of knowing (Pink and Morgan, 2013). The inability to communicate effectively and transfer documentation and material between the designer and participants, however, made it impossible to continue testing this approach. Lack of communication was also seen to be one of the causes that stopped core participants from continuing working on the project after the researcher's departure. Establishing channels of communications that are appropriate to the local context is vital to smooth the coordination and development of peer-based projects; though they may still require to be tested to identify if they work.

This takes to the second point, which is the need for an adequate infrastructure for managing resources. Besides the obvious need for resources in the first place, which absence naturally contributed to halting the advancements of the project once the researcher left the field after the closing event despite core participants' willingness to continue with it, the absence of a way to transfer resources also posed a challenge during the intervention. Participants could not get airtime credit to use WhatsApp, nor print or buy the material needed to undertake workshop activities; they could not pay for transportation or arrange the catering. Even though participants were assigned budget to manage autonomously, the lack of infrastructure required the researcher to provide cash in hand every time; this meant that those individuals who could not pay in advance were cut-off from taking part to the activities. With regards to the actual administration of physical monetary resources to participants, it was recognised that a local community leader would be best practice; as a known and respected individual, participants would defer from being cheeky as they would when asking money to an unknown European researcher. Infrastucturing for resources may mean collaborating closely with intermediaries with a regularly registered organisation to use as a beneficiary for transferring funds when designers

are incapable of being on-field; this was what was being done to enable the first two workshops to take place while the researcher was off-field (WS5 and WS6).

The third is an infrastructure of local actors such as mediators, stakeholders, community leaders and organisations. The mere presence of one local intermediary in WS6 was noted to have increased participants' engagement and motivation noticeably. The final event allowed participants to appreciate the importance of involving stakeholders in the process and pitching to gain their support. Among the reasons why the project did not move forward as intended, a part was played by a lack of a network of local stakeholders supporting the process by providing resources. Participants were able to establish new relationships with other local actors with potential growth of impact of future community work; however, this was only preliminary since only a few stakeholders attended the closing event. Core participants also noted during the focus group discussion that it was essential to involve experienced stakeholders with in-depth know-how on the issue of drugs and alcohol abuse to move the project forward.

The fourth and final is an infrastructure for nurturing. Before the researcher's departure from the field after the closing event, participants via the semi-structured interviews claimed to be comfortable to take the full leadership and continue the project.
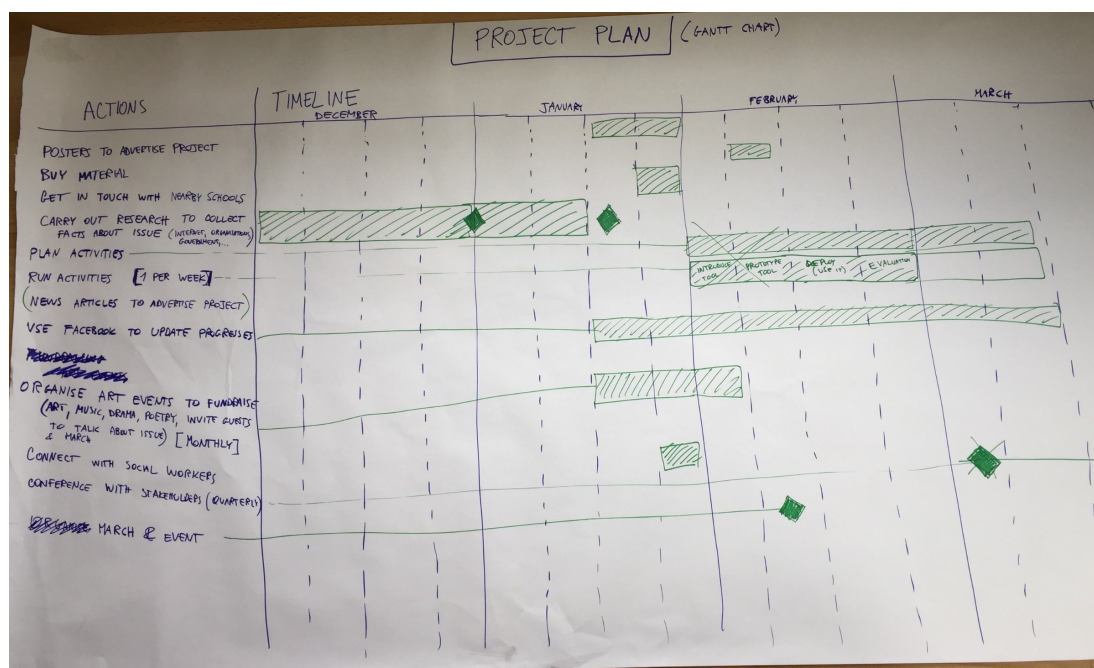

Figure 5.22 Post-intervention plan developed by core participants

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The focus group found that despite a plan was developed, participants claimed they could not operationalise it since they positioned themselves as learners and lacked the confidence to move forward independently. An infrastructure for nurturing thus means creating a way to provide continuous support and encouragement to push individuals to get out their comfort zone and overcome their barriers and challenges.

> *"I can say we've put you at a leader and then you believe that*
> *without you cannot do anything, so... That was the challenge to us.*
> *That's how I felt" (C4, focus group)*

To do so, the analysis of the fieldwork notes, interviews and focus group, highlighted the importance of using practical activities, physical outputs and official acts. In terms of practical activities, the fieldwork notes pinpointed that participants engaged most vividly during those moments when they immersed in first-hand experiences; this included in order the prototyping, the role-playing, the interaction with community members for collecting data, workshop facilitation, and the closing event. These activities enabled participants to grasp concepts and develop motivation and enthusiasm. Above all the closing event, through which core participants presented to and interacted with local stakeholders, enabled to sense the full potential of the project.

> *"What we did it was so amazing, you know? In terms of... We took*
> *the lead. In terms of the event. (...) I see the vision of how we did it.*
> *It was so amazing, and it was so great. Yeah, it was so powerful"*
> *(C1, focus group)*

About the importance of practical activities, core participants during the focus group discussion emphasised the necessity to follow-up data collection interactions with community members with concrete actions, so that interviews are left with a positive outcome after having opened up and shared their story. Core participants also discussed on the need to run pragmatic activities to share the information collected and raise awareness as a follow-up step, by creating a space for former addicts to share stories and inform youths on the danger of addiction.

"now you've just made an impression that you're coming to help, you know? You're asking the type of questions that makes them... think... Stuff. And then now you're just gonna disappear and then... What- Why would you do that, why did you rise their hopes and then- and then you might actually be the reason why they go hide in the drug when they smoke again because you just made them think about all the reason why they smoke" (C3, focus group)
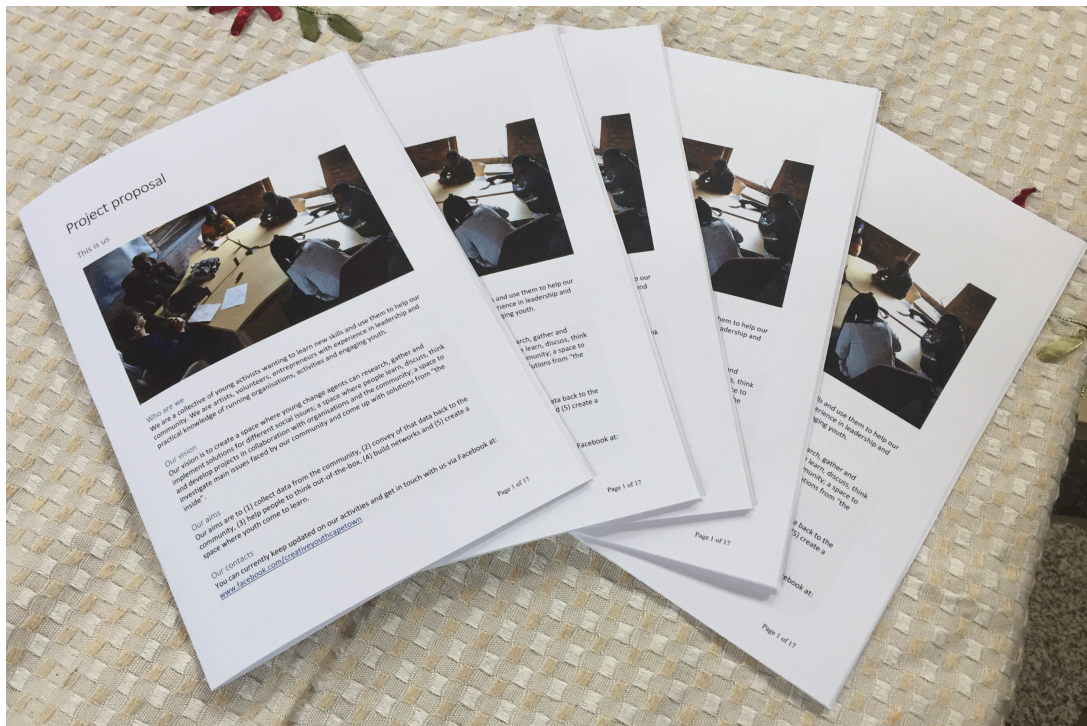
Figure 5.23 The tool book and project booklet produced by participants and handled to stakeholders at the closing event of CS1

As for physical outputs, the booklet developed during the intervention was considered above all to be the most useful "leave behind", as it functioned both as a memento for the project and as a guide for future projects; in fact, it was remarked how it contained the project vision and all the necessary information to move forward, but also and most importantly to initiate new projects or improve existing ones. In particular, it was claimed that "that whole booklet is kind of a manual on how to actually do a project" and was already adopted by his organisation "to make sure (…) we on the right track" (C3, focus group).

The importance of official acts was first identified by observing how participants' attitude changed during the project management-oriented tools used in WS4, which

looked to plan the off-field work; as opposed to the earlier one-off activities, the tools eased participants to reflect on longer-term duties and responsibilities, thus making the project pragmatic and "real". The closing event was also seen to have made the project official. The effect of public commitments also emerged with the conversations to identify a strategy to fully transfer the ownership onto the hands of participants before the researcher field departure. Core participants emphasised the need to be clear on "who's in and who's out" (C1, focus group) and register a non-profit organisation as a way to "officialise the projectness of this thing and (…) take it away from your [the researcher] hands" (C3, focus group); this was considered pivotal to give a powerful sense of ownership, responsibility, and direction. The registration process demands to state explicitly what the project is about; where it starts, where it ends; who is responsible for what; registrants must write and agree on a constitution that "calls to order" (C3, focus group). The officiality of the commitment that would come with the registration was seen to protect the project from being abandoned from other priorities, and also open the doors to further opportunities (such as applying or receiving donations). The importance of officialisation was also discussed concerning the need for a physical presence (such as an office) in order to make things real. Participants discussed how having an official office to hold meetings and be able to host guests would give strength and identity to the project. The lack of an official handover of the designer's role of "leaders of the leaders" also caused an issue, for after the researcher's departure there was no one who took the role of encouraging the group to move forward, reiterating the overall project vision and calling to order.

> *"I'm saying that emphasis is needed (…) emphasis would have been just to say that "Guys this is what you have committed yourself to". (…) 'Cause you cannot run a project if you're not willing to work. (…) Emphasis and the follow up, basically, would have been just to getting in our brain of the steps we have taken and the next ones"*
> *(C3, focus group)*

5.5 Conclusions

The model outlined in Chapter 4 presented a starting point to undertake a PD intervention to attain sustainable, socially progressive ends with marginalised youth in developing countries. Through this first case study, the researcher evaluated the model in a "real-life" scenario, thus identifying challenges and opportunities for the development of a refined version of the model. Section 5.4 presented and discussed the results of this implementation, which enabled the researcher to identify the following conclusions for this first iteration of the model outlined in this section.

Most interestingly, the evaluation found that participants developed a sense of activism and acknowledgement of their role and power as change-agents in their community; this was the result of the process of data collection which, approached in a *designerly* way through prototyping, enabled to empathise with fellow community members and navigate the complexity of the macro-challenge of drugs and alcohol abuse, leading to the recognition that some aspects of the challenge are indeed solvable.

Through the learning process presented in section 5.3.2.4, participants were able to explore and identify novel perspectives and imagine alternative courses of actions on the challenge at hand. The process empowered participants with design capabilities, enabling to vernacularise the tools; participants were already implementing the new tools in personal projects after the conclusion of the intervention. Pragmatic activities, such as the prototyping or the data collection, enabled participants to grow enthusiasm for the project; however, over time, participants lost interest with the data collection.

The researcher approached Co-creative participatory workshops with openness and transparency, which enabled mutual learning and multicultural dialogue. Over time, the group felt like a team and participants as equal partners in the process; this was mostly due to the creation of a "core group" of dedicated individuals. The use of roles enabled core participants to take initiative, retain control, and develop a sense of leadership, enabling shared decision making. The designer was still seen as the "leader of the leaders" (C2, focus group) since he initiated the initiative and provided

the content that enabled the intervention to unfold; a formal ceremonial act was seen to be missing to complete the transfer of ownership from the designer to participants at the end of the intervention – especially considering local stakeholders did not engage as hoped. In this process of collective leadership, participants praised the "space for failure" that the researcher encouraged to grow their sense of responsibility.

It was noted that core participants – those who ultimately engaged the most – had previous or current experience with community work. Their background experience enabled them to appreciate the vision of the intervention, which prompted them to invest their time as volunteers. The original sampling strategy, for this reason, aimed to work with this type of individuals; however, the snowball recruiting run through local intermediaries made it challenging to control the sample of participants.

The use of intermediaries enabled to connect with community leaders quickly and helped to identify participants; this is mostly because participants joined in the form of respect for the person who invited them. However, it also led to the involvement of individuals with no real interest and who did not satisfy the sampling characteristics. Rather than excluding them, the researcher enabled workshops to be accessible and created the "core group" to ensure the intervention could unfold as intended. This also created an opportunity for core individuals to act as leaders concerning those other general participants.

Local intermediaries also enabled the designer to shape the intervention considering local needs. The time and location for the workshops, for example, was decided during the pre-intervention phase with local intermediaries. However, a longer and closer collaboration could benefit from improving workshops arrangements and material design considering local dynamics and understandings. Indeed, it was noted that the material prepared by the researcher was too wordy and complicated for participants to understand fully.

The organisation of the intervention as a project through timelines, tasks and responsibilities enabled participants to scaffold a project plan; through this and the collection of evidence, participants also developed a social business plan and a tool

book, which they then presented to local stakeholders at a closing event. Despite this progression, and despite also the initial presentations given to participants on the scope of the intervention, participants claimed that the project grew in a way that was seen to be unexpected. More frequent moments for collective reflections and feedback could help resolve these misunderstandings.

The closing event was an exciting experience for it made the project official; furthermore, it allowed participants to appreciate the importance of involving stakeholders in the process and pitching to gain their support. However, although many stakeholders confirmed their intention to attend (which included influential change-agents such as the Youth Development Programme of the City of Cape Town) mostly ultimately did not show up; this created frustration and disappointment. Despite participants' willingness to move the project forward, the lack of support from local actors, especially in terms of resources, constituted one of the most significant barriers. Additional forms of engagement may be beneficial to engage with local actors as opposed to a single event, thus to limit the risk of a single point for failure. Besides, resource-gathering activities may be useful to consider to overcome this barrier.

Specifically, in terms of facilitation, the researcher, who was often conducting workshops alone, realised that a minimum of two facilitators is necessary to be able to facilitate activities and document them most efficiently.

Finally, the study initially intended to alternate periods of on- and off-field work; however, this plan had to be changed to the issues encountered such as the transferring of funds and the lack of an infrastructure to communicate while off-field. Future work that aims to approach fieldwork in such a way should ensure to have an existing infrastructure for communicating and transferring funds efficiently.

However, it is important to note that on-field work resulted in critical to enter the participants' world. Face-to-face interactions proved essential to gain trust from intermediaries and more generally to make things happen. Fieldwork required a high degree of flexibility since things very often did not go as planned and required to react promptly; availability of time and resources was critical to allow this.

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5.5.1 Next steps

This case study demonstrated the effectiveness of the model to initiate a PD intervention to attain sustainable, socially progressive ends with marginalised youth in developing countries. The learnings captured from this first implementation enabled to identify challenges and opportunities for the improvement of the model, which will be refined on a second iteration and tested throughout a second case study, presented in the following chapter.

Chapter 6 Case study 2

6.1 Introduction

The previous chapter evaluated the first baseline version of the model developed in this thesis to undertake PD interventions for social innovation in developing countries with marginalised youth. The conclusions drawn from that first case study highlighted the opportunity to make adjustments to the model and evaluate it throughout a second case study. More specifically, this second case study (CS2) was considered for evaluating the model's inherent flexibility. Key variables of the model were identified and maintained, whereas some altered and other removed. The first section of this chapter explains these changes in detail. The rest of the chapter follows the same organisation as the previous. Since the case study adopted the same organisation of case study 1, the part on research methods is limited to capturing the changes of this second case study. The relevant data gathered and analysed is then presented and finally, relevant conclusions are drawn to inform the concluding discussion presented in the following chapter. Since the intervention described featured a considerably smaller number of workshops, shorter overall length and fewer data collection points, this chapter is more succinct as compared to the previous.

6.2 The new model (v2)

The fieldwork experience of CS1 offered an opportunity not only to improve and refine some of the elements of the model baseline (introduced in Chapter 4) but also to reflect on its inherent flexibility. CS1 stretched over a long period and demanded a considerable amount of time and resources from all parties involved, whereas with case study 2 the researcher aimed to evaluate the effectiveness of the model in the opposite scenario; that is when designers work with a community in a short time and with limited resources but aim to maximise the impact and the benefits.

From a high-level view, the model maintained the main elements presented in Chapter 4 and the same overarching of CS1. Most of the tools for framing, scaffolding and building credibility were maintained (see Table 5.3 for the tools used in case study 1, whereas Table 6.4 for those used in CS2), as well as the general learning

process consisting of rounds of prototyping and testing (section 5.3.2.1). To evaluate the inherent flexibility of the model, three types of changes were introduced in the scenario of case study 2, thus creating a different version of the model – namely v2:

1) Macro-changes: significant changes to the structure of the model which altered key variables;

2) Micro-improvements: smaller changes to elements that essentially remained unaltered;

3) Contextual changes: minor adjustments dictated by the context.

Table 6.1 below lists all the macro-changes made to the model v2.

Variable	Summary of macro-change	Expectation from change	Reason for change (from CS1)
Number of participants	Work with a smaller but consistent and well-defined group of participants from beginning to end	Participants complete the intended intervention journey effectively from beginning to end; no need for additional catch-ups with new participants	Openness to participation led to the growing size of "one-offs" attendants and necessity to create a core group of more engaged participants to move across the intended intervention journey
Type of participants	Engage individuals actively involved with a local NGO	Due to their experience participants understand the vision of the intervention and engage consistently	The individuals who engaged the most were actively involved in community work
Length of intervention	Shorten the intervention	The intervention reaches its aim in a short period	The stretched length required all involved individuals to invest a great deal of time and resources; the completion rate of the tasks

Variable	Summary of change	Expectation from change	Reason for change
			decreased over time
Narrative of intervention	Frame the intervention as a training; capture motivations and expectations of participants to identify and clarify misunderstandings	Aim of the intervention is evident to participants	Lack of understanding of the goal of the intervention
Loops of prototyping, data collection and analysis	Removed the first pre-prototyping round but maintained two full rounds	Participants can narrow the challenge in a shorter amount of time	The more participants undertook data collection the lower the completion rate

Table 6.1 Macro-changes introduced in model v2 for CS2

The following table lists all the micro-improvements introduced to the model v2.

Variable	Summary of micro-improvement	Expectation from change	Reason for change (from CS1)
Number of facilitators	Hold workshops with at least two facilitators	More comfortable to facilitate; facilitation and data collection more effective	Facilitating workshops alone and at the same time collecting data for the research was impractical
Feedback exchanges	Frequent pauses to exchange feedback on running activities and asking participants to repeat in their own words	The researcher can better understand when participants have not fully caught up on activities	Some individuals did not fully understand activities but did not ask questions either
Supporting material	Single but light "participants' booklet" with a summary of all activities; included more illustrations, less text and more friendly communication	Easier for participants to navigate and understand the intervention. Booklet becomes their handbook and is used to take notes	Material handed was too "wordy" and "formal"; also participants lost pieces as the material was handed workshop by workshop

Complexity of tasks	Simpler tasks with clearer and longer introductions	Participants understand how to complete tasks	Some participants would fail to understand how to complete tasks fully
Intervention contextualisation	Liaise more extensively with intermediaries to plan the fieldwork	Intervene in a way that is more tailored to the local needs	Intermediaries provided rich insights to tailor the intervention
Attendance of intermediaries	Invite intermediaries to take part in the intervention	Increase legitimacy and engagement	Presence of recognised authority increased engagement
Stakeholders for the final event	Invite individuals known to participants	Reduced risk of absences of invitees, since they come to support	Stakeholders not attending the closing event demoralised participants
Introductory session	Include a PRE workshop session entirely dedicated to introducing the researcher and getting individuals to know each other	Participants fully understand the research; the researcher can identify participants' profile to adjust the intervention	The introduction took longer than expected during CS1-WS1
Introduction to the cultural probes tool	Variety of examples to introduce the cultural probes tool	Participants creating more diverse and creative cultural probes	Participants recreating the diary format shown by the researcher
Introduction to asking questions	Variety of examples to introduce how questions can be asked	Participants prototype tools that generate rich data	Participants with little to none prior knowledge with design methods found it hard to design data collection tools
Ceremonial closure	Formal closure and handover of the project with the reception of a "certificate of attendance"	The project is officially taken away from the researcher's hands, which motivates participants to get a full sense of	Core participants emphasised the need to transfer the ownership of the project onto the hands of participants before the

		ownership, responsibility, and direction	researcher field departure

Table 6.2 Micro-improvements introduced in model v2 for CS2

The contextual changes introduced in the revisited model evaluated in the second case study are summarised in the following table.

Variable	Summary of contextual change	Expectation from change	Reason for change
Language barriers	Pause activities to enable participants to discuss in their first language; then translate to the researcher	Quality of reflections and discussions are enriched	Limited English proficiency of participants led to limited group discussions
Recruitment	Identification and recruitment of participants handled by the local organisation	Participants are highly motivated and capable of taking part	The organisation knows its staff best and is capable of quickly identifying ideal participants
Ethics	Application to San code of ethics before undertaking fieldwork	The researcher demonstrate a keenness to respect the San people while undertaking research	Researchers undertaking fieldwork with the San people need to follow the processes that are set out in our research protocols carefully

Table 6.3 Contextual changes introduced in model v2 for CS2

6.3 The context

The second participatory case study took place in Platfontein, Kimberley, South Africa. This location was identified due to the many challenges the youth of this recently formed community of San people are faced with; in particular, low living standards and education, lack of self-confidence and struggle to get their voice heard to effect meaningful, beneficial change (Schroeder et al., 2019; Grant, 2019). The term San refers to a diverse indigenous group who have genealogical, historical and linguistic connections, who for thousands of years lived a nomadic lifestyle, hunting and gathering for subsistence (Kreniske, 2014; Wyk, 2014; Gebregeorgis, 2014). The San are claimed to be the least capacitated and most politically isolated people in South Africa; they suffer from socio-economic marginalisation, low self-esteem and discrimination (Kreniske, 2014).

Platfontein is a community of about 5500 individuals composed of two non-autochthonous San groups, the !Xun and the Khwe, originally from Namibia, Botswana and Angola, who settled on this area after the purchase of the land in the early 2000s (Uys, 2014; Gebregeorgis, 2014). The land of Platfontein was recently bought with compensation the government granted following a series of displacements the group had been subject to (Grant, 2019). The people there are mostly unemployed and live in poverty as a consequence of their lifestyle change from hunter-gatherers; the majority lives on disability grants and child support and many youths are addicted to local beer; some are found to go as far as stealing money from their parents (Gebregeorgis, 2014).

Figure 6.1 View of Platfontein township

The San communities in this area are supported by the South African San Institute (SASI), a non-governmental organisation (NGO) established in 1996. SASI initially focused on providing legal advice, but since the land claim, it shifted towards community development and livelihood projects, engaging with academia to promote ethical research with indigenous communities (South African San Institute, 2019). The researcher connected with SASI via the partnership provided by the PARTY project (see section 1.7). SASI, in turn, connected the researcher to a local

non-profit organisation (NPO) in Platfontein: the Southern African San Development Organisation (SASDO). The organisation was established in Platfontein by locals with the help of SASI to "educate, empower, uplift and motivate the development of the San communities in Southern Africa" (Southern African San Development Organisation, 2018). SASDO identified the participants for the case study among its staff.

6.4 Methods

The second case study employed the same research methods as in case study 1 consisting of design ethnography, co-creation workshops, semi-structured interviews and a final focus group; please refer to section 5.3 in the previous chapter for a full description of these and of how they were employed. This section highlights the differences, if any, of how the research methods were applied in CS2. A summary of the research methods and design tools employed during the case study is provided in Figure 6.2.
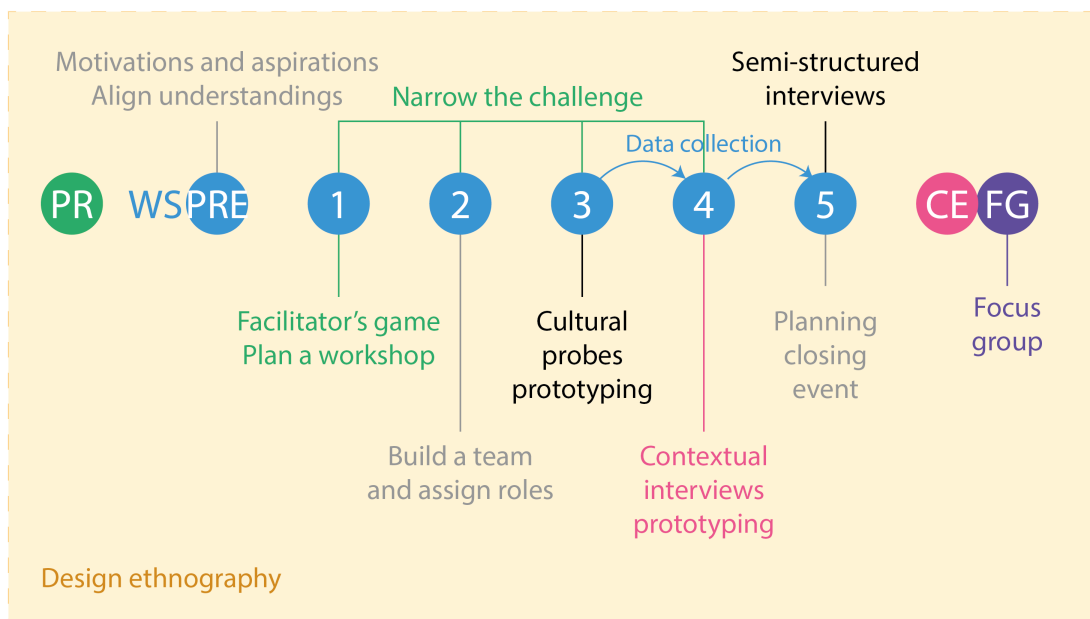

Figure 6.2 Design tools and research methods used in CS2

6.4.1 Design ethnography

Field notes were kept for the whole duration of the case study and analysed following the method described in section 5.3.1.

6.4.2 Co-creation workshops

Although this second case study followed the same overarching structure employed in the first case study, the co-creation workshops were reorganised in CS2 as a result of the changes outlined in section 6.2. The following section captures these fundamental differences.

6.4.2.1 Implementation of the co-creation workshops

CS2 revolved around six workshops. Table 6.4 presents a summary of each workshop, pointing to a full description of each tool used in the appendix.

Workshop	Aim(s)	Activities and tools	Instructions
PRE	For participants to fully understand the research (aim, rationale, plan, their role, rights, gains, etc) before signing their willingness to take part and to acknowledge everybody's motivations and expectations with the research process	Intro to research; Q/A; informed consent	Appendix A.18
		Motivations and expectations	Appendix A.19
		Align understanding	Appendix A.20
WS1	To get to know participants and their skills, to decide on a social challenge to focus on and to understand the role of the facilitator in PD	Narrow the challenge	Appendix A.10
		Facilitator's game	Appendix A.17
		Plan a workshop	Appendix A.21
WS2	To approach a self-documentation design tool to data collection and reflect on its use with the community (simple guided iteration of the design process)	Build a team and assign roles	Appendix A.22
		Cultural probes tool prototyping	Appendix A.23
WS3	To approach a direct enquiry design tool to data collection and reflect on its use with the community	(Narrow the challenge / clustering)	Appendix A.10
		Contextual interviews tool prototyping	Appendix A.24
WS4	To think in terms of project management and plan future actions. Also, to create something	(Narrow the challenge / clustering)	Appendix A.10

	tangible that summarise what was learned to communicate it to outsiders	Action plan	Appendix A.26
		Social business model canvas	Appendix A.25
WS5	To recap on the work carried out and prepare the closing event	Planning closing event	N/A
CE	To present the work done, the insights gathered, the learnings and the outputs produced to fellow community members	N/A	N/A
FEEDBACK	To catch participants' reflections on the intervention	Focus group	A.5

Table 6.4 Tools and activities per workshop in CS2

Workshops were reduced in number but increased in length; activities started in the morning around 9:30, broke for lunch between 13:00 and 14:00, and then continued as required in the afternoon, until 17:00 at most. Snacks and lunch were offered to participants; these were sourced from the community and paid by the researcher as recommended of SASDO. Energisers were conducted both in the morning and after lunch; participants were asked to propose their energisers as well. The FEEDBACK session took place straight after the presentation.

Figure 6.3 Energiser in CS2-WS1

The PRE session included two new activities: "motivation and expectations" and "align understanding". The former aimed to capture what participants expected to gain and their motivations for taking part in the intervention, which was later discussed during the final focus group during the FEEDBACK session. The latter looked at the terminology used throughout the intervention, such as "design", "participation", "empowerment" – to explore participants' understanding of these terms.

Figure 6.4 The completed "Align understanding" activity in CS2-PRE

A further difference with CS1 was that rather than providing guideline sheets at the beginning of each workshop, the researcher prepared a single research guide that included a breakdown of all the activities per each workshop. The booklet was handled during the PRE session and was used throughout the intervention as a guide by both the researcher and participants; it also included a description of the research and participants' rights and role, as well as pages for participants to take notes during the intervention. The instructions were prepared to use as little text as possible and more illustrations. The researcher also included a picture of himself and an introduction to give the booklet a "human touch". The booklet designed for CS2 was developed in consultation with SASI; an excerpt is provided in appendix A.18.

The booklet was handled in a folder that also included a notebook and some pens to keep notes during the workshops.

Figure 6.5 Participants taking notes during CS2-WS3

A second facilitator took part in every workshop – a colleague from the University of Leeds familiar with PD workshop facilitation. A representative of SASI also participated (until WS2) to introduce the researcher and the project and act as a cultural mediator. The facilitation featured frequent exchanges of feedback and moments for participants to discuss in their first language.

The roles developed for CS1 (see section 5.4.2.5) were maintained. Participants self-nominated, as presented in Table 6.5.

Identifier	Title	Responsibilities	Participant(s)
👑	Chair	Oversee workshops and teamwork	P2
☑	Secretary	Take notes	P1
📍	Officer	Venue organisation	P4
📷	Reporter	Take pictures and videos	P5, P6
🎤	Moderator	Facilitate group discussions	P3

Table 6.5 The roles assigned to participants in CS2

6.4.2.2 Ethical considerations

In addition to the ethical process followed in case study 1 (see section 5.3.2.2), the researcher met the requirements of the San Code of Ethics as requested by SASI; meaning, that the San involved were ensured respect, honesty, justice, fairness and care throughout the whole research process (Schroeder et al., 2019). Email exchanges and Skype meetings were held to authorise the fieldwork and ensure that all activities and material handled was appropriate in this sense. As part of the PRE activities, an informed consent video prepared for the PARTY project was shown; the video addressed issues of informed consent using the first languages !Xun and Khwedam of the participating San as well as in English and Afrikaans. The researcher adopted the "poster format" developed throughout CS1 to gain written consent (see section 5.3.2.2).

6.4.2.3 On the location

All activities were held in a self-contained space owned by the local church. The location was suggested and requested by SASDO; the researcher made an offer as a form of recognition at the end of the intervention in the form and amount recommended by SASI.

6.4.2.4 Implementation of the learning process

The learning process followed the overarching structure adopted in case study 1 described in section 5.3.2.1 but was shortened as illustrated in Figure 6.6.
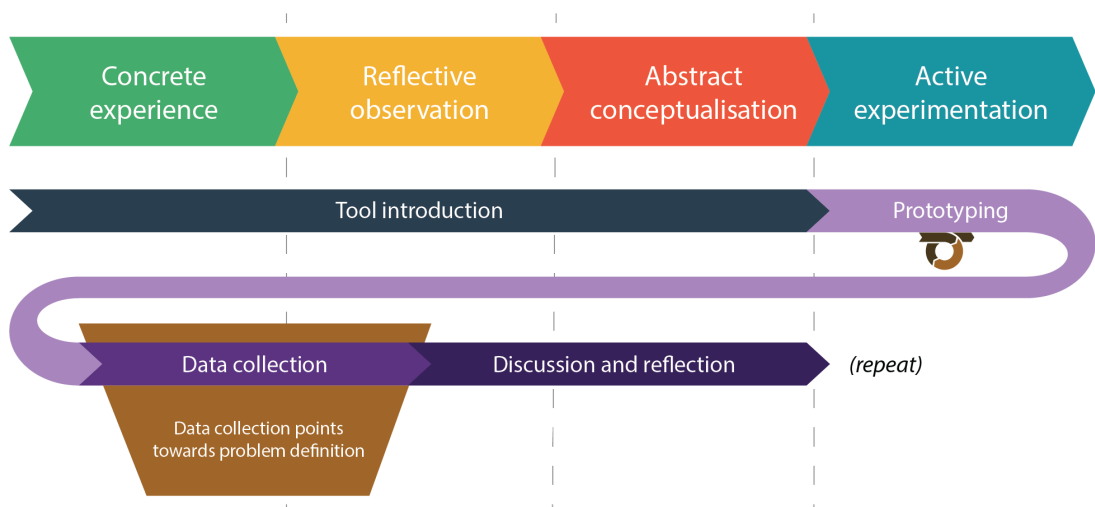
Figure 6.6 Simplified learning process adopted in CS2

The process in CS2 removed the pre-prototyping and guided-prototyping rounds. In CS1, the first pre-prototyping round served to familiarise with the concept of creating a data collection tool. However, considering that the model v2 aimed to test the scalability and reduce the number of activities to the minimum, participants were prompted to prototype directly. An introduction on how to ask questions and gain knowledge before the first prototyping session was included as a substitute (see Figure 6.6).
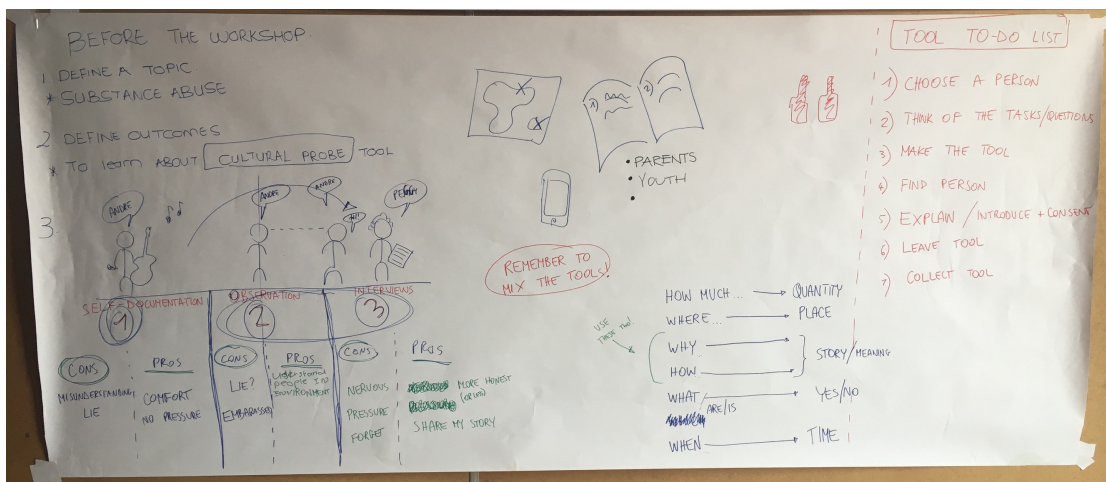
Figure 6.7 Poster created to introduce ways to ask questions and the cultural probes tools in CS2-WS2

In addition, for the session on the cultural probes, many examples of cultural probes tools were pared by the researcher and the facilitators to show the variety of formats that this tool included.
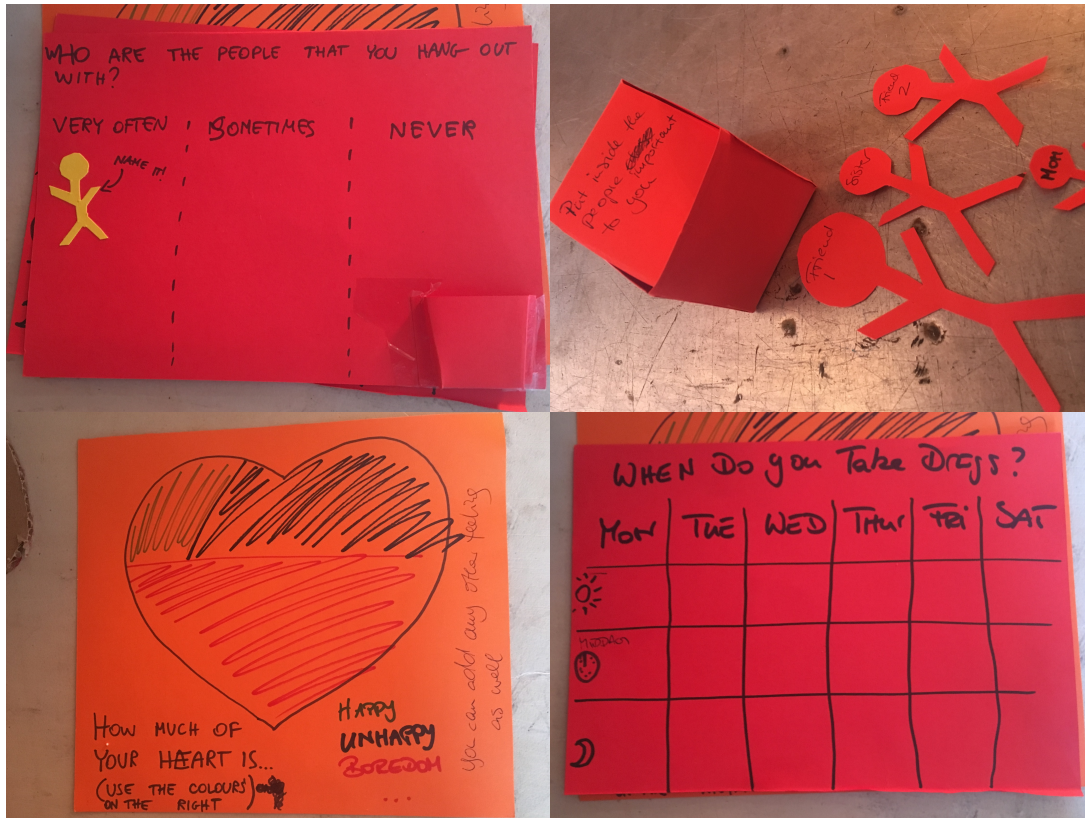
Figure 6.8 Examples of cultural probes prepared for participants in CS2

6.4.3 Semi-structured interviews

Semi-structured interviews followed the same format developed for CS1 (see section 5.3.3). All participants were interviewed. Interviews took place during WS5 while rehearsing the presentation for the closing event.

6.4.4 Focus group

The focus group was conducted as in CS1 (see section 5.3.4); meaning, following the same guide and overarching themes and subthemes to organise the data. In particular, the focus group took place after the closing event with four out of the six participants.

6.4.5 Participants and recruitment

The second case study followed the general sample characteristics and sampling strategy, as described in case study 1, section 5.3.5, but with some minor differences. First, in terms of sample characteristics, model v2 required participants to be part of the staff of a local organisation. Second, the local organisation was invited to identify appropriate participants among its staff; the local organisation, SASDO, was

contacted through a local intermediary, SASI, with whom a relationship existed through the PARTY research project. A total of six participants took part in the intervention; the full list is provided in Table 6.6.

Participant	Gender	Age	Occupation
P1	Female	28	Volunteer
P2	Female	23	Volunteer
P3	Male	25	Volunteer
P4	Female	30	Volunteer
P5	Male	24	Volunteer
P6	Male	20	Volunteer

Table 6.6 List of participants in CS2

6.5 Results and discussion

This section explores the findings gathered throughout the case study to evaluate the second iteration of the model. The first part focuses on the impact that the intervention from the participants' perspective; the second part looks at how the specific elements composing the model allowed to generate such impact; finally, concluding remarks on this second iteration of the model are drawn to inform the conclusions discussed in the following chapter.

The section follows the approach and the structure adopted for CS1 for clarity. Data sets are organised and interpreted holistically to provide a rich and comprehensive understanding of the case study; results are presented and discussed first focusing on the impact of the model from the perspective of participants, and from the designer perspective, thus to reflect how the specific elements of the model allowed to generate such impact.

6.5.1 The impact of the model on participants

Over the course of five workshops, participants prototyped and deployed design tools to investigate a challenge faced in the community, generating the basis for a potential project that aimed to tackle it. In particular, participants decided to focus on the issue of drugs and alcohol abuse, which was considered one of the biggest problems in the community affecting youth; section 6.5.2.1 describes the process followed to identify and narrow the challenge. This section presents and discusses the four primary outcomes of participants' experience with the intervention: the

learning of new tools, the development of skills, the new knowledge acquired on the issue of drugs and alcohol abuse, and the growth of their sense of activism and agency.

6.5.1.1 Learned about the issue of drugs and alcohol abuse and identified new possible solutions

Participants remarked how the process of collecting and analysing data enabled them to dig deeper into the issue of drugs and alcohol abuse and "get closer to the problem" (P1, semi-structured interview). This is of interest considering the relatively small size of Platfontein and the fact that the issue was considered "well known" when discussed at the beginning of the intervention (in WS1). The intervention enabled to connect more deeply with fellow community members and realise that "back then we didn't worry (…) it's not just their habit" (P2, focus group); hence the need to research to dig into the core of the issue. Concerning the issue at hand, participants also claimed that their perception to solve the problem changed. Initially, they "did not think we could solve the problem before. Now we do" (P5, focus group) – although it was also recognised that the whole issue was too complicated, a specific topic within was indeed solvable.

Participants realised the importance of listening to people and look at the "why" of the matter to devise appropriate solutions. As a consequence of the discovery of novel perspectives on the issue, participants were also able to formulate new and more targeted solutions to the problem than those proposed at the beginning in WS1.

> "We find something out that we don't have to judge someone. Maybe there's a problem why they use it… Or why they use alcohol or drugs. So, we found different things. Some of them have family problems. Some of them are depressed. So… it teaches us that there are so many people to be heard, but there's no one… To hear what the problem is? So maybe… from now on we can start something by helping them or telling the community that there are

> *people who needed help in our community. So, we have to take*
>
> *care of them in different ways" (P2, focus group)*

6.5.1.2 Learned new tools

Following the learning process outlined in section 6.4.2.4 participants learned and vernacularised the design tools as in CS1; this despite prototyping was approached "directly" (that is, without progressive steps of pre- and guided-prototyping as in CS1).

Figure 6.9 Participants prototyping their cultural probes tools in CS2-WS2

In particular, the cultural probes were employed as a preliminary exploratory device (Gaver et al., 2004), as well as to exercise participants' creative and visual sensibilities (Broadley, 2012). Through the prototyping of the cultural probes, participants demonstrated great variety of formats and creativity when it came to prototype the cultural probes, although "it took several attempts to get tools right" (fieldwork notes); key in this process was the feedback of facilitators, which helped to reflect critically at the prototypes produced to improve them in ways these could be intuitively used to retrieve useful information. Figure 6.9 presents some of the cultural probes prototyped, which manifest how participants were able to model

material and conceptualise creative ways to capture information through illustrations or three-dimensional tools. For example, on the top, a tool that used drawings and stickers to determine the number of community members who: 1) get abused by a drunk partner; 2) drink because of peer pressure; 3) have no food; 4) hold no money; 5) drink because they are bored. On the bottom left, a diary for kids to capture their daily routine; on the bottom right, a box to fill with stickers representing family and friends, to identify whether people are hanging out with the wrong crowd.
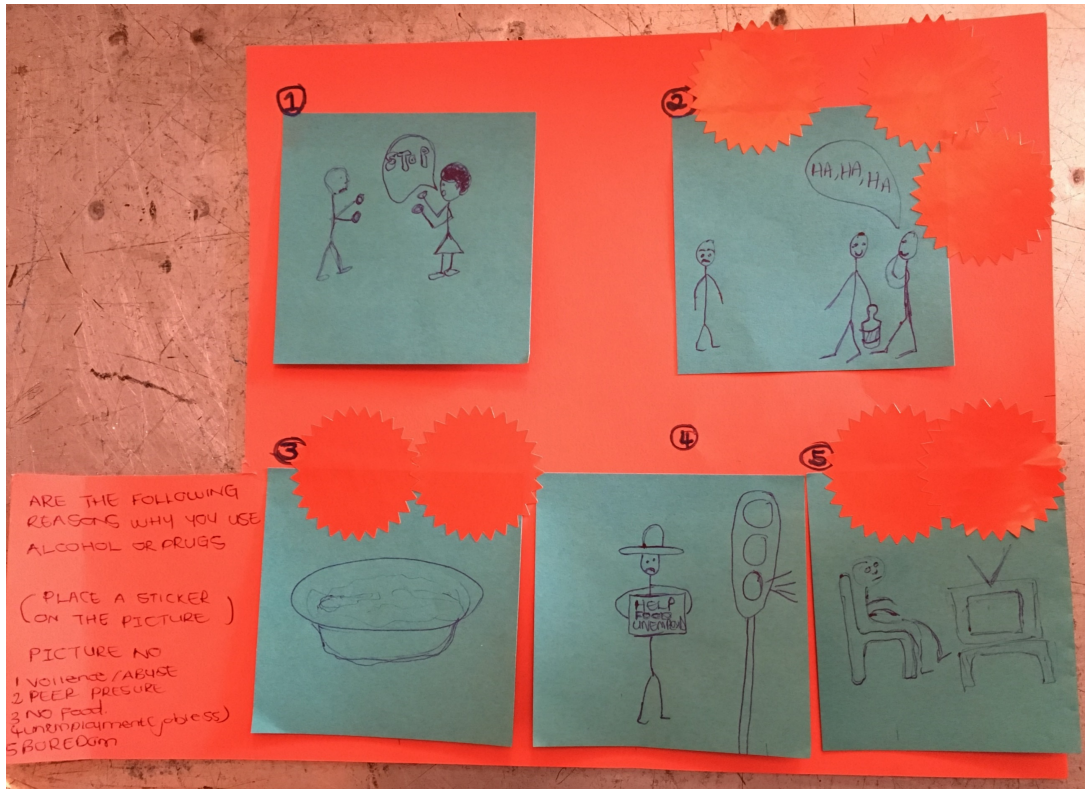
Figure 6.10 Examples of cultural tools prototyped during CS2-WS2

Despite participants enjoyed playing with materials while prototyping the cultural probes more, the contextual interviews tool was claimed during the focus group to be the most useful and exciting tool – as in CS1. The contextual interview, or contextual enquiry, is a form of enquiry that blends interviews with observation – by "watching (…) and talking to them [interviewees] about what they are doing and why" (Beyer, 2010, p.28). It is carried close to the target behaviour, in the

environment and in the moment where the subject of the enquiry takes place and focuses on understanding what subjects "are trying to accomplish, how they go about it, and what gets in their way" (Beyer, 2010, p.28). The contextual interviews tool emphasises relational and interpersonal skills. Indeed, for these two reasons participants claimed the tool was the most interesting; because it enabled to interact directly with fellow community members and connect with them in a way that was seen to be more profound and most effective.

The clustering tool, also referred to as affinity diagram tool or affinity mapping exercise served to review the findings and to derive emerging themes that participants could address. Similarly to CS1, a short demonstration sufficed to get participants to use the tool independently. This reinforced that the previous finding that the tool is intuitively usable also by individuals with little experience with research and analysis processes, thanks to its simplicity.

6.5.1.3 Learned about new skills

Besides the specific tools and activities employed, the semi-structured interviews and the focus group found participants perceived to have captured a variety of other learnings throughout the intervention.

First, the value of triangulating methods; that is, to use more than one method for collecting evidence. Second, participants claimed that the intervention enabled them to train presentation and communication skills. The closing event was seen to be particularly useful to get out of the comfort zone and overcome the fear of presenting in public; this was seen to be a positive and encouraging outcome.

Figure 6.11 Participants presenting at the closing event

Third, communication skills; these were seen to be particularly useful to the point of stating that "it's all about communicating (…) in communication you will find what the problem is (…) you will learn how to communicate with that person… so that they will know what your needs and problems are" (P1, focus group).

> *"I also [learned] to open up in the public. So, for me, it's the first time to talk in front of the people (…) I was nervous and stressed but… it's done now, So… I think I will try to do more after this project. So maybe I will stand up and do something by my own"*
> *(P1, semi-structured interview).*
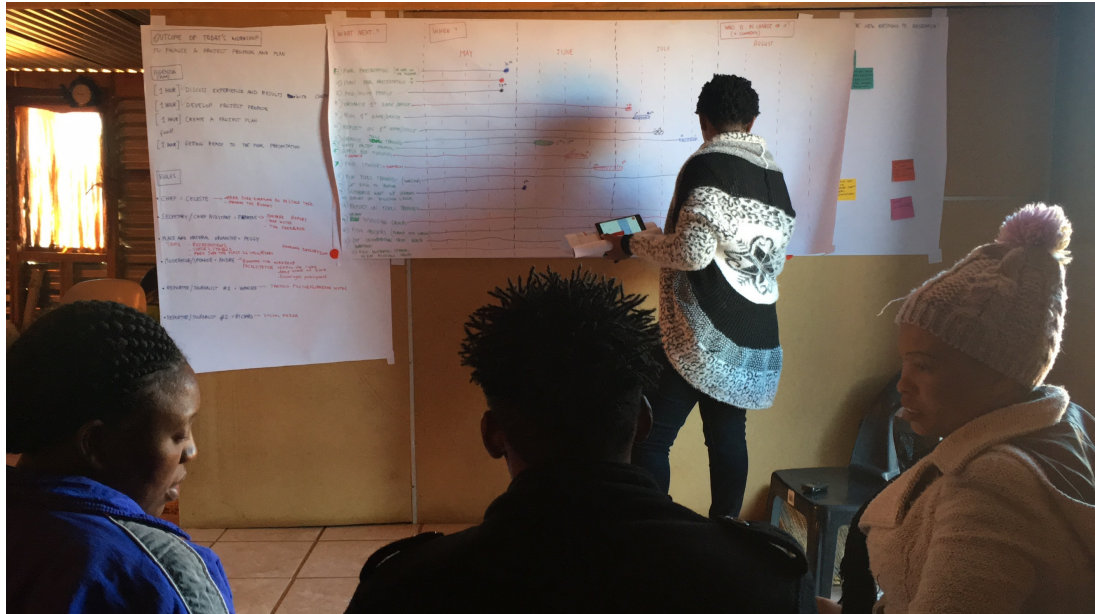
Participants also emphasised how they came to appreciate the value of group discussion and listening:

> *"you have to listen what they need or what their problem is. by listening… You will find out the problems and by listening they will think that you are there and you support them… you care about them. So that's why you are listening what they say" (P6, semi-structured interview)*

Finally, the intervention enabled participants to train problem-solving as well as explore a different side of their creativity, which was seen useful to improve future projects.

6.5.1.4 Developed aspiration and motivation for change

The motivations and expectations of participants gathered in the PRE session, highlighted that participants understood the intervention as an opportunity for development. In particular, participants mentioned "learning and transferring the information to my community"; "opening my mind to do creative things"; "encouraging youth about the importance of development"; and more generally helping the community to solve its challenges. In terms of expectations, participants stressed their keenness to initiate change "like creating something by myself and to motivate my people"; "share what I've learned"; and "apply the tools (…) to tackle

the obstacles [that] occur in our community". Participants hence understood the intervention as an occasion to gain new knowledge to be used to lead positive transformative change in the community, acknowledging their role as change-agents. This confirmed that reframing the narrative of the intervention as a training, as well as the previous experience with development projects, allowed participants to set realistic expectations and adequate motivations.
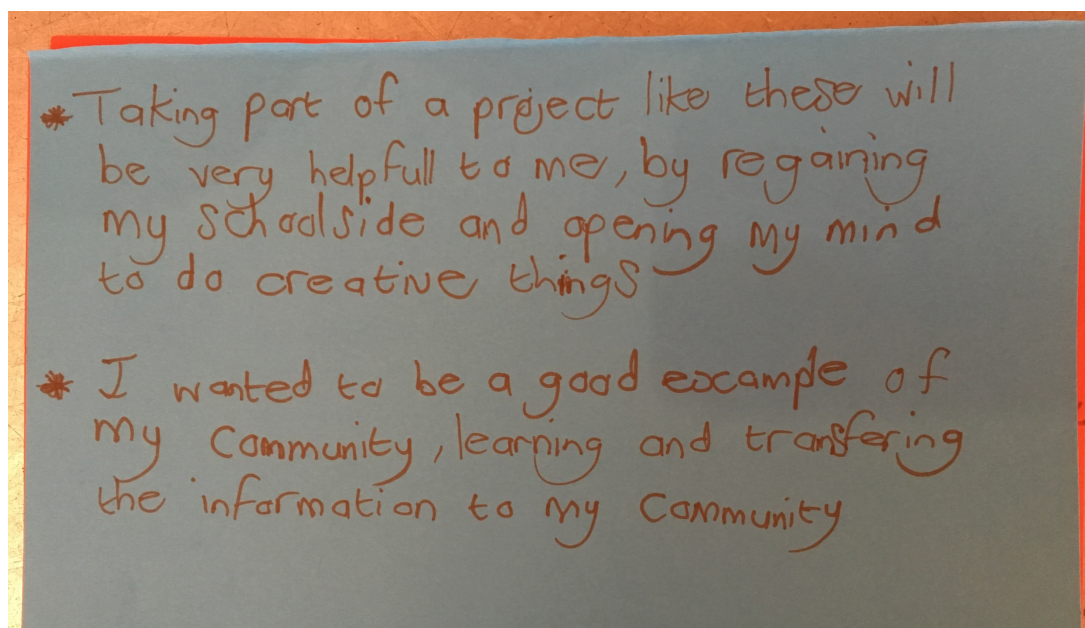
Figure 6.12 An example of motivation for taking part written by a participant in CS2

Although participants already considered themselves activists before the intervention, it was claimed that the participants enhanced their motivation "to help more" the community (P5, focus group). Participants were realistic that no impact could have been possible considering the length of the intervention but emphasised they felt empowered due to an increase in motivation to bring about positive change, which they saw achievable by implementing the learnings in future community projects. This increase of the sense of activism and motivation was seen to be the consequence of three main things: the active role played; the responsibilities experienced, and the new insights gathered. The first two enabled participants to strengthen their role as change-agents, by experiencing that their roles do play a part in making an impact. I1, the local intermediary, also stressed that the critical difference with this intervention, as compared to previous ones, had been to "give them the role of researchers rather than informants" (fieldwork notes). In other words, the approach enabled participants to feel like protagonists as opposed

to antagonists during the intervention. As for the new insights gathered, participants claimed that the process of narrowing enabled to challenge the perception of the issue of drugs and alcohol abuse, which was previously seen as a complex untameable problem, and see it instead as a solvable one, where people are suffering and need help. As expressed by one participant: it "motivated us [participants] to do more researching and find a solution on that… Like they really need help" (P2, focus group).

Participants maintained a high level of engagement throughout the intervention. The one participant who could not attend all sessions apologised to the group, feeling as if she "had to drop you guys" (P1, focus group). Engagement also manifested in terms of punctuality; the majority of participants arrived on time and criticised firmly those who did not. The fact that participants engaged and stayed focused throughout the lengthy sessions, also demonstrates how much they cared. The fact that the workshops took place in English required a lot of concentration and energy since English is participants' third language and for this reason seldom practiced. However, participants' eagerness to learn and use of "fun and playful" (P5, focus group) activities, enabled them to enjoy throughout, even when at times it was hard to concentrate.

6.5.2 The model and the designer performances

The section above described the impact of the model on participants. This section reflects on the role of the designer as a facilitator to enable cultural insiders to achieve those impacts through the specific tools, methods, approaches and strategies selected in the model.

6.5.2.1 Framing the challenge

The process of framing the challenge focused on the first-hand exploration of the local reality to facilitate critical argumentation, debate and conversation; thus, following the Freirean approach to learning as presented in the literature review, whereby learners gain awareness of both the socio-cultural reality and their power as change-agents (Freire, 2000). A preliminary mapping of existing evidence on the local issue of drugs and alcohol abuse was not considered as part of the intervention;

this approach did not intend to assume that no prior knowledge was available but instead aimed to emphasise the importance of primary data collection. As remarked by participants themselves, this approach enabled them to identify new understandings of the challenge by looking at it from new perspectives and fresh eyes (as discussed in section 6.5.1.1).

The process to frame the challenge followed the core principle of the design process, according to which emphasis is put on framing the problem in the right way through a structured succession of prototyping and inquisitive testing stages to understand needs and opportunities as opposed to jumping straight to a solution (Stickdorn et al., 2018). To do so, participants briefly brainstormed first in WS1 the macro-challenges facing the community. Following the structure of the tool also used in CS1, participants presented the factors causing the challenge, the people affected and some potential solutions; concerning the latter participants were asked to explain the reason for proposing the solution, the resources to mobilise and the pieces missing from the picture that need further investigation. The reason for the focus on the solution at such an early stage served to draw a comparison with the solutions advanced at the end of the process; thus, to reflect if and how the thinking evolved throughout the process – intending to strengthen the recognition of the importance of gathering evidence.

Participants talked about teenage pregnancy, unemployment, alcohol abuse, drugs and domestic abuse; the group ultimately decided to work on both drugs and alcohol abuse. This was coincidentally the same challenge chosen by participants in CS1, remarking how much this problem afflicts marginalised communities. In Platfontein, indeed, the abuse of alcohol and drugs is commonly reported (den Hertog et al., 2016).

Figure 6.13 Participants presenting the challenges faced by the community during CS2-WS1

Two data collection points took place to frame the challenge, respectively between WS2 and WS3, and between WS3 and WS4. All participants completed the data collection tasks; the first individually and the second in groups – as in CS1. The level of completion rate confirmed participants' engagement and keenness to make the most out of it for the future benefit of the community. Through the two rounds of data collection, participants identified three themes: the exposure of bad influences and lack of positive role models in the community; the presence of a stigma on the issue and shame to open and share personal experiences; estrangement and lack of support from family affecting early addicts. The group ultimately decided to focus on the second theme.

6.5.2.2 Workshop facilitation

The role of designers in the co-design process plaid an essential role as it enabled to facilitate conversations by fostering the spontaneous circulation of ideas. Following the conception of facilitation as presented by Manzini (2015), the researcher did not passively elicit and capture opinions, but instead engaged to "feed the conversation with visions and ideas (…), listen to the feedback from other interlocutors (…), and

then, in view of the feedback, (…) introduce new, more mature proposals into the conversation" (Manzini, 2015, p.67).

In doing so, the researcher (and the other facilitators) participated in the activities proactively, fully taking the role of participants while doing so. This was particularly useful since on various times participants would wait to see what the others would do before getting involved, to make sure they understood correctly what to do. The fact that other facilitators were taking part in the activities in the quality of "super" participants – that is, participating as participants but also providing support to participants if needed. Facilitators would participate actively, asking questions to the researcher, stating doubts and showing to be also there to learn, and this enabled participants to feel at ease as opposed to "under examination".

On the other hand, facilitators provided advice, comments, reflections; they answered questions as they arose, but always with the intention to help participants reflect critically. The use of pauses was most useful to separate moments of collective participation with moments where the separation between the facilitators-educators and participants was vivid. During these pauses that the researcher called to discuss and reflect collectively on the running activity; these moments served for the researcher to question participants, ask them to explain activities in their own words, as well as praise and congratulate them for the progress achieved. This proved useful to capture misunderstandings, adjust the pace of the workshops, enrich the production of knowledge with a positive impact on the engagement.

As part of the strategies to "feed the conversation", facilitators needed to "leverage" the different personalities. Extrovert participants or more "natural leaders" tended to dominate the conversations, which caused the others to "step back". Facilitators continuously needed to proactively involve everybody to participate – even if this meant politely asking the more talkative individual to allow the rest to speak and take the lead. To support these dynamics, it was most useful to rotate tasks between participants, so that everybody had their chance, for example, to speak in front of the others as well as to write on the big posters. It also helped to maintain a high

level of engagement by continuously alternating more and less active moments throughout the workshops.

The use of playfulness also helped to create an open environment since it made it clear to participants that what they were attending was nothing like school class; indeed, when the researcher emphasised "this is not class", "please do say what you think", "there is no right or wrong" – then participants slowly started to open up.

6.5.2.3 Complexity and complications

The full-day workshops were designed to concentrate a significant number of activities over a relatively short time, thus enabling the intervention to unfold and achieve its aim rapidly as part of the scenario evaluated in this second case study. This intent was indeed achieved; however, participants perceived the workshops as long and tiring, and claimed it was difficult to keep the focus continuously despite the willingness to do so since they were not used to such prolonged activities.

A further complication encountered in this case study was the use of English. Although English and Afrikaans are used as the primary language at schools and public services (Juvonen, 2017), the San people in Platfontein speak primarily !Xun and Khwedam (Pamo, 2011); English and Afrikaans are learnt at a later stage and only spoke as their third and fourth language. The use of English made it additionally onerous for participants to maintain the focus and needed the researcher to slow down the pace of activities; the barriers included the need to adapt to the different accents of the researcher and the facilitators, but most importantly for the vocabulary required. Participants recognised that the content and the terminology used required a high level of English, since "some words are difficult to understand" (P4, semi-structured interview). Although the researcher initially attempted to mitigate this through the sampling strategy, which required participants to be fluent in English, few of the individuals matched this requirement.

Nevertheless, participants were very accommodating to speak in English and keen to converse in a way that the researcher could understand; thus, they claimed, the researcher could contribute and help. On the other hand, at the end of the intervention, they recognised their proficiency did not allow them to express fully

and remarked that "maybe it will be better to do it in our own language. That's the thing. We [participants] want is to say something but it's very hard" (P2, focus group); "For us is very difficult (…) It's very high English with complex words" (P5, focus group). To mitigate this in due course, the researcher slowed down the pace of the workshops and introduced moments for participants to discuss in their language. These however generated further challenges.

First, since the pace was slowed down, the data collection tasks could not be conducted as part of the workshop time frames as initially intended. Workshops took place one day after the other; the completion of data collection was critical to build the progression and "narrow the challenge". This meant that the workload inevitably stretched. Second, participants considered it disrespectful not to use English and so used as much as possible despite at times they did not know "how to put it in English" (P2, focus group). Even when it came to present the work on the final day, participants insisted "we want to do it in English (…) because the people we invited are not that old (…) I think all of them will understand in English, we will try" (P2, semi-structured interviews). Using English was not seen by participants a matter of respect, but also essential to be understood and helped if needed. Nevertheless, every time the researcher gave space to participants to discuss in their language and then summarised their conversation to the researcher in English, this enriched the group discussions considerably.

Complications in this second case study also concerned the cultural differences between participants' and the design culture introduced by the intervention. Cultural differences were explored with intermediaries during the pre-intervention phase. On the outset, despite the intervention was seen to be western-oriented in its structure and terminology (for example, in use of project plans and the very idea of preparing a funding proposal), this was seen as a positive aspect, since "in order to compete with other NGOs and be successful it is helpful (…) to build that bridge (…) go through a very hard learning process of writing proposals" (I1, fieldwork notes). During fieldwork, cultural differences manifested vividly on several occasions. The tool used to identify strengths and weaknesses, for example, which served to identify the best roles and responsibilities to build the team, and more

specifically the sharing of the weaknesses, was not well-perceived at first and participants did not know what to do; this was perhaps due to a fear that exposure of weaknesses may lead to exploitation; trust must be established first with an individual to open up. Once the activity was reframed in terms of exposing lack of confidence, knowledge or resources "so that the others can protect you (…) to make the group stronger", then participants saw the activity as something positive and engaged with it. A further cultural clash was encountered with the facilitator's game. Although participants enjoyed the activity, they also pointed out how they felt in discomfort to be playing "the bad guy" during the game. Since the game aims to spark reflections on some of the negative behaviours that may arise while working in groups, and devise strategies to cope with them, many participants were uncomfortable with acting "like the bad guy" (fieldwork notes).

Participants found it particularly challenging to grasp the concept of the cultural proves and most specifically to create instructions for their users. This despite a more extensive set of exxamples, learning from the CS1. Notably, participants could not understand the value of maps. In the end what helped was to "try and learn" (P2, focus group).

A further difficulty was the "social business model canvas". Participants felt the activity was, again, complicated. Participants found it also challenging to understand the use of the maps; despite the different attempts at explaining them and possible use-cases, participants ultimately understood their value only after they used them as part of their prototypes.

6.5.2.4 Using intermediaries

This second case study relied heavily on the support of the local organisations to identify and recruit participants. While this was seen worthwhile and logical, for local organisations know their staff to determine the most suitable individuals, at the same time, it weighed heavily on them. Besides, it did not necessarily result in participants who matched the requirements since, for example, the proficiency of English was unmet. An additional recruiting process controlled by the researcher on field, with the support of the local organisation, could lead to better-suited

participants – in terms of sampling requirements; this, in addition, would also lift some of the strains otherwise weighting on the local organisations which, often lacking resources, may benefit more than being reimbursed for their efforts.

At the same time, despite the researcher invested a more extended period in collaborating with local organisations to tailor the intervention to local needs, since this process took place off-field, the researcher had limited time to get acquainted with the local context. This caused a limitation and a missed opportunity to further shape the workshops on the needs of participants, their community and their context. Through this process of familiarisation, the researcher created further opportunities to shape the intervention and take advantage of the gaps or interests of participants. Besides, by spending limited time with participants, there was also a limited time for all participants to create a robust and trustworthy relationship with the researcher that would have further contributed to creating a comfortable learning environment.

6.5.2.5 The roles, the core group, and other opportunities for leadership and ownership

While discussing roles and leadership and group dynamics, participants declared they felt as both learners and leaders during the workshops; the fact that they were invited to stand in the front and present was made as a compelling example that made them feel as leaders. The researcher was not seen as a teacher standing above all, because "always asked for our opinions so… we were also deciding on the direction" (P3, semi-structured interview). What helped was also the friendliness with which the researcher approached activities and the "method of teaching (…) with post-its and interactions" (P5, focus group).

Most interestingly, participants recognised that the open and supportive environment enabled them to quickly overcome their initial nervousness "to say the wrong thing" (P2, focus group) and taught them "that we have to stand up in good times and in bad times to say something" (P1, focus group); in particular, participants gained confidence not only to speak out but also "to show that we have fear" (P1, focus group) and say "what we fear" (P2, focus group). A comparison was drawn with

participants' NGO working group, with which although everybody knows each other, they feel less confident to share opinions and disagree with.

The use of roles was seen to be useful to build team spirit and enable the group to feel as equal members – each with a clear set of responsibilities. Still, the designation of roles only was not enough, and it required the researcher to explicitly state and reiterate "I am not going to do it / decide – you are the leaders now".

6.5.2.6 Learning through prototyping

The intervention introduced concepts and methods to participants following Kolb's experiential learning cycle; that is, by relating to or resulting knowledge from concrete, first-hand experience (2015). As the first "align understanding" activity (carried out in the PRE session) highlighted, participants had no prior knowledge with the design process or participatory or visual techniques; as soon as the researcher invited participants to start writing their definitions of the words on the poster, participants did not know what to do and waited for the facilitators "to see what it was all about" (P2, semi-structured interview). The experiential learning process enabled participants nevertheless to derive concepts and assimilate information – as participants themselves demonstrated in the closing event, where they presented all the work done and the tools and methods used. Participants claimed that the process of learning adopted in the intervention was very useful because of its use of practice; it was emphasised that the process "was not just about learning something. We created it" (P5, semi-structured interview).

> *"I think the tool that you used it was better… Creating the things…*
> *It's a better way of learning. Also the game... If we were only doing*
> *writing and so on… Maybe it will be boring for us, so this was the*
> *best, we thing, to learn" (P2, focus group)*

The learning process started with active experimentation, through which participants prototyped their tools. Although participants were only given a brief introduction, they were able to create compelling tools (as shown in section 5.4.1.1); they claimed that this element of "creating the things" was most enjoyable (P2, focus group). As recognised by participants themselves, the subsequent steps of real

experience – testing their prototypes with community members – and reflective observation – stepping back from the task and collectively review the experience with the help of facilitators – enabled them to make sense of the new, previously unknown, abstract knowledge, and conceptualise it. The collective discussions that followed the data collection were critical as they enabled participants to ask questions and clarify doubts to "discuss with you [facilitators] to understand and improve [the tools]" (P1, focus group); those were the moments in which doubts were clarified and the new content was internalised.

A key driver in the whole process was the immediate impact and feedback drawn from the interaction with fellow community members, which generated an emotional response that motivated participants to understand the tools better – as pointed out by participants themselves during the focus group. Besides, much of their enthusiasm was driven by the rounds of prototyping and testing of the tools, which enabled to collect the results of their efforts quickly.

6.5.2.7 Infrastructuring as enabler

Building upon the learnings of case study 1, the element of creating enabling infrastructures to facilitate the creation of sustainable PD interventions was also explored. However, since this second case study was deployed in collaboration with a local organisation, the areas of communication, resources, and local actors discussed in CS1 were not considered; this because it was assumed that as an established local actor, the organisation would have already in place effective channels of communication, adequate infrastructure for managing resources, as well as an existing infrastructure of local actors. Intermediaries confirmed the presence of each of these elements in the pre-intervention phase. For this reason, CS2 focused on the fourth area of nurturing.

More specifically, the designer framed the closing event of CS2 as an occasion to formally close the project and the role of the researcher in the project, to give responsibility for any future developments to participants – as suggested in CS1. As part of this ceremonial act, the researcher handed over to participants a "certificate of participation", as a recognition of their time and efforts; the idea to provide such

recognition was put forward by I1, who stressed its importance as a tangible "leave behind" (fieldwork notes). Participants were optimistic and content to follow-up the intervention, but they also recognised the need for support. Continuing the work initiated was seen to be useful not only to bring a positive impact on the community but also for them – "so that we don't forget what we learned" (P5, focus group). Despite a plan was devised (in WS5), on various occasions, participants remarked they were uncertain as to what to do next (e.g. "we will (…) stick to the plan and see" (P2, focus group) and remarked the need for the researcher to provide "help and advice" (P1, focus group) and "experience" (P5, focus group) following his departure.

Figure 6.14 Participants receiving the certificate of participation in CS2-CE

6.6 Conclusions

Through this second case study, the researcher evaluated the second iteration of the model and more specifically its inherent flexibility. Section 6.2 presented the changes introduced in this second iteration. Section 6.5 discussed the results gathered. This section advances the concluding remarks relevant to this second iteration.

Most notably, despite the scaling down of the model, the evaluation of the case study found that participants strengthened their sense of activism and acknowledgement of their role and power as change-agents in their community as in CS1.

Participants remarked how they were able to identify novel understandings of the issue of drugs and alcohol abuse and change their attitudes towards it. Before the intervention, on the contrary, it was seen as an untameable challenge, whereas after the intervention participants remarked that some aspects of it were indeed solvable. Similarly to CS1, this was owing to the process of empathising with fellow community members, which enabled them to see the problem under new perspectives and reveal new truths. Participants claimed the intervention enabled them to appreciate the value of data collection and more specifically of mixed methods for data collection. The different tools and activities enabled them to train how to conduct productive group discussions, train problem-solving, and strengthen communication skills. Rather than working on a novel challenge, considering participants were actively involved in community projects as part of their NGO work, a novel approach could look to shape the intervention on the things that participants are already working on; this could further increase participants' engagement as it would base the work on something they are currently working on. In such a case, a pre-intervention phase should be implemented to delineate what projects are currently running and define a goal to reach throughout the intervention.

The lengthy co-creative workshops enabled the intervention to unfold as intended but at the expense of participants' effort. Activities necessitated more time to run. Participants never had before experienced tools or methods such as the ones introduced by the researcher and often required time to understand what they were supposed to do adequately; this required time. However, time was limited. This pushed the data collection activities after the workshops in a sort of "homework style". It also required to "freeze" activities repeatedly; thus, to exchange feedback, answer to questions more extensively, and generally make sure that participants were fully understanding. Regular pauses were helpful to reiterate and strengthen the new concepts but also to highlight behaviours and dynamics. Shorter workshops

and days of "break" may help interventions to adjust to the pace of participants. Language barriers most impacted participants. Their lack of fluency made it challenging and complex and necessitated to introduce breaks to enable the group to discuss in their first language; this led to an increase in the quality of the conversations. A longer and lighter approach that gives more time for trial and error would help to better digest and internalise the content.

Participants enjoyed the tools in different ways and for different reasons. The cultural probes enabled to play with the material, whereas the contextual interview was praised for it enabled them to interface directly with other members of the community. Most interestingly, despite participants prototyping without 'middle steps' as in CS1, the fact that they were exposed to many more examples sufficed to generate different prototypes. Participants also enjoyed the role-playing facilitator's game. On the contrary, the activity to "build the team" (see A.22) by identifying strengths and weaknesses, was not well received at first; it was only after the researcher emphasised that exposing weaknesses is useful to enable others to protect you, that participants started opening up. Other tools, such as the "social business model canvas" were completed with difficulty. Again, more time would have enabled to accommodate the pace that participants required to understand activities fully.

Similarly to CS1, participants enjoyed the roles, which enabled them to feel like a group of leaders. The responsibilities, the practical acts of standing and speaking in front of the group, as well as the proactive shared decision-making, enabled them – all resulted being active ingredients to enable participants to feel as both learners and leaders during the intervention. This was supported by creating an environment that allowed failure and encouraged to share fear and doubts without judgements. Contrarily to CS1, participants in CS2 were asked to take the lead since the WS1. The researcher in the very first activity asked participants to lead activities and, even with limited instructions, this enabled them to quickly gather a sense of ownership and leadership over the process.

The role played by local intermediaries was critical in the organisation of CS2. Local organisations helped the researcher in the recruitment process and engaged

extensively in the pre-intervention phase to tailor the intervention and the material to handle to participants. Similarly to CS1, the snowball approach limited the researcher's control over the sampling and led to the identification of participants who did not entirely match the sapling criteria. More specifically, the majority of participants were not fluent in English and this required the researcher to slow down the pace of the workshops. A pre-intervention activity could also be beneficial to ensure that participants are at the right level to deal with the intervention.

As noted by local intermediaries themselves, despite the researcher provided refunds as needed, this approach to recruitment also required a considerable investment on their end, which was not seen to be helpful considering their limited resources available. Rather than sampling participants solely, a more comprehensive approach could also, therefore, consider the identification of characteristics and requirements for the local organisation to ensure they have the resources to invest.

The final presentation generated considerable excitement as it officialised the work carried out. Intermediaries were proud of participants for the work done and participants were happy for the process. The certificate of attendance was also well received.

Interestingly, although the knowledge imparted and the construction of the intervention was western-oriented, local intermediaries found it necessary in order to grow competence for the staff of an NGO and be able to challenge other western NGOs to get, for example, access to funds. A follow-up approach could look into supporting participants to circulate a project proposal across local stakeholders to gain access to resources.

This second case study demonstrated the inherent flexibility of the model, which achieved similar positive results to those identified in CS1. The learnings captured from this second iteration enabled to identify further improvements, which will be presented and discussed in detail in the following concluding chapter.

Chapter 7 Discussion

7.1 Introduction

The previous two chapters presented and discussed the empirical work undertaken to evaluate the model of practice developed in this thesis and introduced in its first, baseline version in Chapter 4. This chapter discusses the findings of the two case studies holistically to answer to the questions posed in the introduction chapter; thus, to explain the implications of these findings relative to the existing body of knowledge of PD and contribute to the advancement of the field.

As presented in the introduction chapter, this research aimed to explore the potential of PD for social innovation within the specific context of marginalised youth in developing countries. The main research question driving this investigation was:

> *How can responsible design practitioners employ Participatory Design with marginalised youth in developing countries to contribute in practice to a process of social innovation?*

Three sub-questions were formulated, looking more specifically at 1) framing the theoretical and practical elements that underpin a PD intervention within the development context for social innovation in developing countries; 2) defining a baseline model of practice made of a configuration of elements to prepare designers undertake this type of work; 3) evaluating the model by undertaking design experiments for refinement and generalisation purposes. The three questions led to the generation of four main objectives. Each objective is presented and discussed in the following section.

7.2 Addressing objective 1

To critically review the literature on PD for social innovation and approaches to sustainable development in developing countries.

The first question was addressed through the review of key review. An extensive literature review was carried out (Chapter 2), looking at the contemporary practice of design for socially progressive ends. Having determined the legitimacy of design

to foster social change and the overall principles employed by practitioners to achieve so, the review focused on PD, which was identified as most suited to undertake work in the context of developing countries, due to its explicit ties with power relationships, mutual learning and democracy (Bratteteig et al., 2013). Concepts of power, participation and social change were found to be tightly interconnected (Desai and Potter, 2014). PD was put forward as a method to tackle wicked and complex social problems (Dalsgaard, 2012; Penin et al., 2015); since it is increasingly adopted to solve solutions beyond commercial objectives, such as activating processes of social change in community settings (DiSalvo et al., 2013). More recently, it was found PD practitioners are growing interest in the field of developing countries (Sabiescu et al., 2014; Ssozi-Mugarura et al., 2017) and in the context of marginalisation (Hussain et al., 2012; Winschiers-Theophilus et al., 2017) to attain empowerment of vulnerable groups (Bannon and Ehn, 2013). However, the definition of what participation is and how it should be carried out in a PD process constitutes an open debate (Iversen et al., 2012; Winschiers-Theophilus et al., 2012; Bratteteig and Wagner, 2016). Starting from the strengths and weaknesses of PD, the review looked at the field of development studies, which is a key field looking to foster positive and sustainable change across poor, disadvantaged and communities in developing countries (Desai and Potter, 2014). Four main areas were thus explored to inform the theory and practice of PD: the role of designers as facilitators in genuine participation; designers as educators to deal with power; designers as mindful travellers across communities and their cultures; designers as enablers of sustainable ends. Finally, the chapter identified key elements to deploy a PD intervention in practice; this included looking at the design process, the use of co-creative workshops as a form of practice, and at specific tools that expert designers use to enable dialogic cooperation – to contribute with visions and ideas; listen to the feedback; and feed conversations with new, more mature proposals (Manzini, 2015).

7.3 Addressing objective 2

To articulate a model of practice made of a selection of tools, methods, approaches, and strategies to deploy PD interventions with communities of marginalised youth in developing countries for social innovation.

A baseline model of practice was assembled and presented in Chapter 4. The articulation of such model addressed the second objective of this study; that is, to identify a system of tools, methods, approaches, and strategies to deploy PD interventions with communities of marginalised youth in developing countries for social innovation. The model presented three main layers. The first, ethos, considered those elements that enable design practitioners to approach a design intervention considering those pre-conditions and overall ethical and strategic considerations to frame the intervention in a way that is mindful of cultural diversity and meaningful to local community members. The layer looked at the concept of cultural sensitivity as a way to offer participants the means to be the protagonists of their development and respect their autonomy to make decisions about what is best for them (Ellerman, 2007); to enable the target community to self-define and self-determine (Tungstall, 2013) and to limit the risks for PD to result in a new form of cultural imperialism by overcontrolling or manipulating the intervention. Cultural sensitivity emphasised a willingness to establish multicultural dialogue, mutual learning and re-negotiation of practices and understandings in local cultural terms (Merry, 2006).

The second element of the first layer concerned genuine participation, considering the concept as formulated by Arnstein (1969) and framed by Kinyashi (2006) in the development context, who argued that at the highest level, participation is *genuine* when participants are empowered to retain control at all levels of the development process and given the means to take the initiative independently. The layer also discussed the notion of empowering design capabilities. To enable exiting the cycle of poverty and oppression, the marginalised need to develop a "capacity to aspire" – to imagine alternative courses of actions and aspire to alternative futures to challenge the status quo (Appadurai, 2004). The idea of empowering design capabilities has also been discussed by Manzini (2015), who pointed out that

although design capabilities are based on inherited human processes, they must be cultivated and promoted to allow individuals to fulfil their needs and build their desired futures. The role of learning in emancipatory processes is critical, as pointed out by educators such as Dewey (2005) and Freire (2000). Kolb's experiential learning model (2015) was identified to form the basis for the development of a "non-authoritative" (Freire, 2000; Opaluwah, 2016), "designerly" way of knowing (Cross, 2006) that uses design to balance instruction and construction on knowledge with reflective thought and action (Miettinen, 2000; Kindon et al., 2007). The final element looked to adopt a grassroots approach. The grassroots approach element intended to ensure the need of those most in needs were at the core of the intervention. To do so, the element considered the use of local intermediaries and fieldwork practitioners to broker the connection with community members and then deal with them directly; this element also emphasised that the focus of the intervention had to be decided and shaped by participants, thus to limit manipulation through pre-set objectives and generate genuine interest of the participating community (Kinyashi, 2006).

The second layer looked more specifically at the practical methods to employ; these included the design process, co-creative workshops, prototyping and a variety of design tools as identified from the literature review. More specifically, the model followed the design process as summarised in the double-diamond framework (Design Council, 2019) up to the generation of a clear problem definition, thus focusing on the exploration of local challenges and pausing at the development and delivery of solutions. The reason for doing this was to build the foundations to solve the right problem "before solving the problem right" (Stickdorn et al., 2018, p.86) and create the basis for participants to take self-initiative for the following phase and co-responsibility of local stakeholders as a an indirect approach to development (Ellerman, 2006) and achieve sustainability (Leal Filho and Brandli, 2016). Co-creative workshops, arranged in succession, were identified to enable participants to participate in the design process (Robertson and Simonsen, 2013) and enable multidisciplinary collaboration with people unfamiliar to practices of co-designing (Akama and Prendiville, 2016). Design workshops encapsulated playful experiences (Schuler and Namioka, 1993) and focused on understanding the problem before

seeking to generate ideas to solve the problem (Visser et al., 2005; IDEO.org, 2015; Mitchell et al., 2016). During the co-creative workshops, the designers took the role of facilitator to help participants express their creativity (Sanders and Stappers, 2008) and enable dialogic collaboration (Manzini, 2015). The layer finally focused on three types of design tools: tools for framing, scaffolding and building credibility. This categorisation was designed by the researcher. Framing tools collected design tools to define and narrow the challenge of the intervention. Scaffolding tools grouped those project-management oriented tools useful to organise and plan the initiative. Building credibility included those tools whose purpose was to move the intervention towards a more open-ended long-term future-oriented initiative by enabling the group to communicate with the public arena (Ray, 2006).

The third and last layer focused on those elements aiming to create long-term impact and sustainability. The first element of this third layer emphasised the importance of fostering engagement and collaboration with local actors in order to enable small-scale initiatives to grow and achieve the sustained effect of community-based knowledge implementation strategies (Eriksson et al., 2017). As part of this, the model emphasised the use of local intermediaries (Jones, 2011; Ibrahim, 2017); communicate information to outsiders (Ray, 2006); and establish a connection with local change-agents to blend bottom-up with top-down approaches (Dalal-Clayton and Bass, 2002; Murray et al., 2010). Secondly, the layer considered the social entrepreneurship orientation in the production of outputs as "exit strategy" (Meroni et al., 2013); thus, to create artefacts that are owned by participants and can be used after the researcher departure from the field focusing on entrepreneurial activity as a way to increase the opportunities of participants to participate in community development and assert youth agency (African Union Youth Division, 2006; African Union Youth Division, 2011; National Planning Commission, 2013; National Youth Development Agency, 2015; Muldoon, 2017).

7.4 Addressing objective 3

To undertake case studies aimed at evaluating, critiquing and refining the model.

The model served as a basis to deploy two PD interventions with marginalised youth in developing countries. Two case studies were conducted to evaluate the model (Chapter 5) and its inherent flexibility (Chapter 6) in real-life scenarios.

More specifically, the first case study was conducted with a group of youth in the Philippi township in the suburbs of Cape Town. The intervention stretched for an extended period and most importantly resulted in the creation of a tool book and project booklet that was claimed by participants to be "kind of a manual on how to actually do a project" (C3, focus group, CS1); the post-evaluation found that the booklet was already adopted by participants in their organisations "to make sure (…) we on the right track" (C3, focus group, CS1). The three layers enabled the researcher to empower participants with design capabilities, which were already in use by them for other projects. It also contributed to a process of social innovation by raising participants' sense of activism and aspiration to solve challenges previously seen as unsolvable. The three layers enabled the researcher to approach the communities responsibly; that is, without manipulating or overcontrolling the unfolding of the interventions; acting as a facilitator in the process of self-discovery of local challenges and possible answers in a way that empowered participants to take leadership and ownership of the process over time. The fieldwork experience, however, also highlighted a range of possible improvements. Among these, the need for multiple facilitators, the necessity to simplify tools and instructions and the importance of formal, ceremonial acts (for a full list see Table 6.2).

Besides these "minor" improvements, the insights gathered from CS1 prompted the researcher to identify an opportunity to evaluate the flexibility of the model; that is, to evaluate the case where designers work with a community in a short time and with limited resources but aim to maximise the impact and the benefits. A new version of the model was then produced, considering its minimal elements (see section 6.2). The model employed in CS2 was revisited to work with staff members of a local NGO in the San community of Platfontein, nearby Kimberly, over a shortened period. The intervention was reframed as a training opportunity and the sample of participants was reduced in size. The model was reduced at the bare minimum activities; iterative rounds of the increased complexity of prototyping were

removed. Only the main elements of the model were retrained. The model under these conditions achieved positive results which mirrored those of CS1. Participants claimed they felt a growth of leadership and knowledge; they were able to identify new understandings, learn new tools and approaches; similarly to CS1, participants claimed they strengthened their sense of activism and acknowledgement of their role and power as change-agents in their community as in CS1.

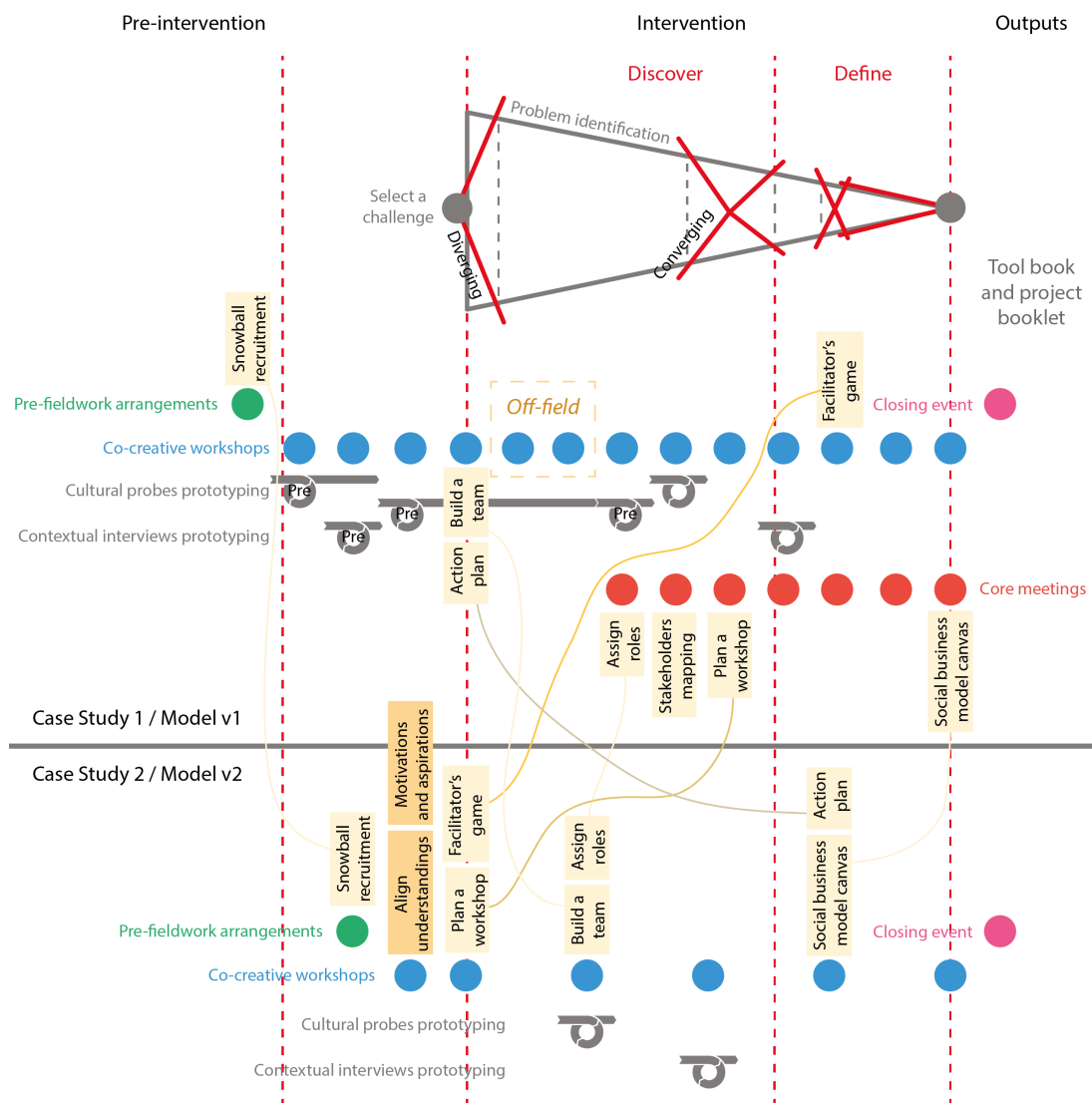Figure 7.1 visualises the differences between the two case studies.

Figure 7.1 From model v1 to model v2

As shown, CS1 featured more workshops, which also stretched over a more extended period as opposed to CS2 (about eight months against two weeks respectively). CS1 also produced a "tool book and project booklet" (Figure 5.23) and planned to engage a wider variety of local stakeholders. Participants in CS1 also

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undertook more rounds of prototyping, which were approached in steps of progressive complexity. However, the actual data collection points towards the narrowing of the challenge were the same, because the first rounds in CS1 focused on the actual prototypes and also because of the changes of participants, which also prompted the creation of a sub-group of "core participants" (see section 5.4.2.5).

7.5 Addressing objective 4: the model revisited (v3)

Addressing objective 4: To evaluate the impact and relevance of this research project's contribution beyond its specific case studies.

The data and insights gathered over the two case studies enabled the researcher to reflect on the model overall and develop a third, revisited version of the model; this section presents this final version, which is discussed comprehensively in the following section and illustrated in Figure 7.2.
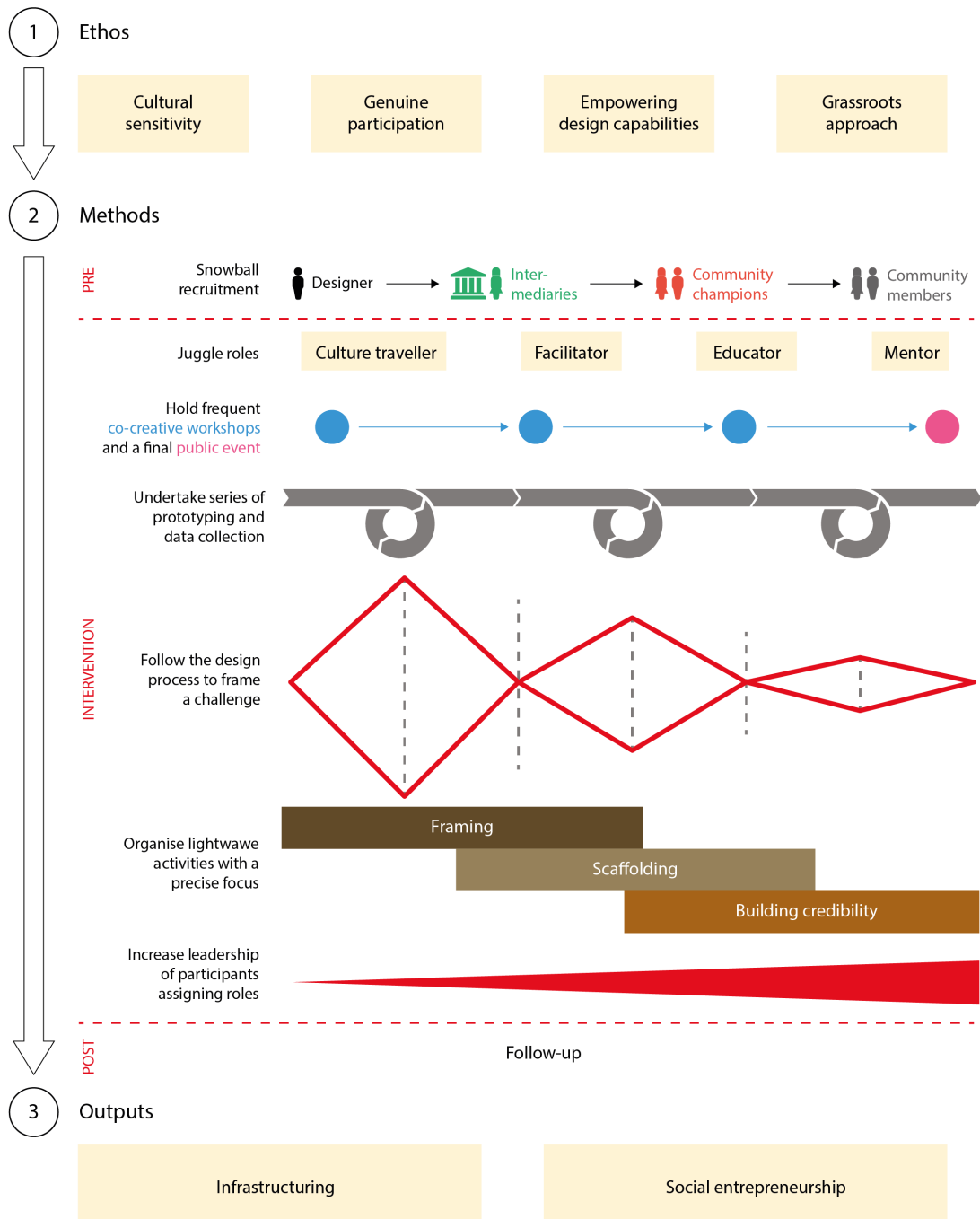
Figure 7.2 The model revisited (v3)

7.5.1 The three layers: ethos, methods, outputs

The three layers provide a set of guiding elements to support PD practitioners to foster meaningful, respectful and sustainable change when working with marginalised communities of youth in developing countries. The layers are arranged in order to enable moving from theory to practice.

The first element of the first layer emphasises cultural sensitivity, sets the basis for genuine participation, encourages empowering design capabilities and frame the intervention with a grassroots approach. Cultural sensitivity calls for a design anthropological approach to fieldwork and demands an attitude that encourages participants to vernacularise the intervention throughout. The former aims to gather knowledge "with" participants, thus closing the gap between understanding and observation (Ingold, 2013). The latter looks to enable participants to reconstruct knowledge by emphasising multicultural dialogue, mutual learning and re-negotiation of understandings in local cultural terms (Merry, 2006). Adopting design anthropology as a fieldwork approach enables the researcher to step into the participants' world and participate in the co-construction of knowledge. The design anthropologist does not document participants' world *from the outside* in an ethnographic manner but instead engaged in a reflexive process of doing research and creating knowledge 'with' them. This approach enables the researcher to create a connection with participants that enables to generate a genuinely democratic and equally inclusive participatory process. By blurring the role of the researcher and that of participants throughout this process, the problems, opportunities, solutions and ideas are created 'with' as opposed to 'for'. The vernacularisation eases the tensions between the researcher-outsider and the cultural-insiders by creating a space to interpret, appropriate, translate and remake tools in local cultural terms and understandings. This process is normalised through rounds of prototyping, where local community members are given a chance to redefine knowledge through their cultural lenses.

Genuine participation demands not only that democratic values are deliberate as PD demands (Ssozi-Mugarura et al., 2017, p.113), but that control of the intervention is transferred to participants; this considers a widened temporal emphasis of the concept of participation beyond the individual collaborative encounters throughout the entirety of the design project and beyond. In the end, the intervention is entirely driven by participants, who are given the means "to take leadership, envision their futures and improve their lives" (Frediani et al., 2019, p.9). The process should

happen in stages, by assigning roles with simple tasks and transparent responsibilities, so that participants can exercise power and move towards the centre of the intervention – to become protagonists of their development processes (Ellerman, 2006). Participants should be given *space for failure* to see the effects of both their actions and non-actions on the group; this was found "extremely useful" (C3, focus group, CS1) to build a sense of responsibility. Indeed, creating a space for failure is considered a core mindset of contemporary design thinking (IDEO.org, 2015). Distributed responsibilities and shared decision-making are critical to enabling participants to shift from learners to leaders in a PD intervention; as remarked by one participant in CS2 "you [the researcher] always asked for our opinions so... we were also deciding on the direction" (P3, semi-structured interview, CS2).

Empowering participants with the means and the capacities to design and to collaborate is "an important task for expert design" (Manzini, 2015, p.154). Empowering people to "innovate together" (Meroni et al., 2017, p.164) – to conceive, develop and produce solutions to social needs in a *designerly* way – is pivotal to foster the innovation capability of society to act (Meroni et al., 2017). Kolb's experiential learning cycle (2014) provides a solid basis for the organisation of "designerly" learning processes (see section 5.3.2.4 and 6.4.2.4) and Freire (2000) a useful compass to shape the pedagogic process in marginalised settings. Designers are faced by the challenging task to resist self-realisation by giving answers to participants as articulated by and instead ensure participants would not feel as listeners waiting to be guided by encouraging them to think critically. Instead, designers "should be at the same time critical, creative, and dialogic. That is, they should feed the conversation with visions and ideas (using their skills and specific culture), listen to the feedback from other interlocutors (as well as, more in general, listening to feedback from the whole environment in which they operate), and then, in view of the feedback, they should introduce new, more mature proposals into the conversation" (Manzini, 2015, p.67). The creation of design tools is a sophisticated form of prototyping since participants have to reflect what information they were after and what was the best way to retrieve it. It is essentially a form of meta-prototyping. However, even when participants have no prior experience in design or

research, the model found that first-hand practice is critical to create and familiarise with such knowledge.

Giving participants the power to determine the focus and direction of the intervention enables to establish the basis for a grassroots approach. In both case studies, the model enabled to bring a design culture and create opportunities for collaborative encounters as advocated by Manzini (2015). Local intermediaries enable to connect with local communities and initiate collaborative encounter at the grassroots level since local actors have the knowledge on the field. Inviting local intermediaries to meetings and workshops also increases the legitimacy and engagement of participants – provided these intermediaries are known and respected by the community. On the other hand, the use of intermediaries should be balanced, to ensure that they are not pressured to invest more resources that they have available to them; for this reason, it is critical that designers invest time on field to establish relationships and own the recruitment process – with the support of intermediaries, who can broker contacts, quickly connect to leaders, comply with language differences, bridge cultural gaps, and provide guidance to implement research activities to fit the cultural context.

7.5.1.2 Methods

The second layer looks at the *designerly* elements that enabled to prepare and undertake the intervention in practice. The methods enable the designer to take a variety of roles: facilitators, culture travellers, educators and mentors.

The facilitator role is taken during the co-creative workshops. Design-facilitators contribute to discussions and activities with visions and ideas, listening to the feedback and stimulating conversations to keep them moving forward (Manzini, 2015). Participants need to feel to be in a safe space where they are allowed to experiment. Participants are encouraged to build on each other's input and provide constructive feedback (Frog, 2016). Frequent pauses for feedback between activities can be extremely beneficial to identify misunderstandings, align understandings, and create spaces for collective reflections. Icebreakers and energisers help to quickly "warm up and bring energy" (Desai, 2018, p.14) and more generally enhance

engagement (Schelle et al., 2015); they were also found to enable facilitators and participants to bond together – to laugh, create physical connections and complicity. The co-creation workshops enable the intervention to unfold. Regardless the number of workshops (13 in CS1 reduced to five in CS2), or the number of participants (36 individuals overall in CS1 whereas six in CS2), co-creative workshops enabled the researcher to bring participants together, spark social conversations, and facilitate exploration of ideas, as suggested by Manzini (2015). The fieldwork experience highlighted that workshops of about three hours achieved the best results with participants. In CS2, where the model was organised around five full-day workshops, participants found it difficult to concentrate; this, however, was also related to the fact that they were not fluent English speakers, which required additional effort. The use of alternation of divergent and convergent phases in co-creative workshops enables to discover new understandings and move from a wide, *wicked* issue to a well-defined, solvable challenge. Oscillating between divergent and convergent modes of thinking is key to creativity and the design process (IDEO, 2012; Desai, 2018). The discovery of new insights motivates participants to move forward in the process, by shifting their perception that challenges or some aspects of it are indeed solvable; this, in turn, drives motivation and aspiration for change, since participants are moved through iterative steps of *breaking down* complex challenges to identify solvable sub-challenges.

Throughout the whole model, designers are continuously challenged to take the role of culture travellers. This role stems from the cultural-sensitivity element of the ethos layer, and from the fact that they are outsiders from the participants' perspective. As culture travellers, designers immerse into fieldwork to understand how to tailor the intervention to the local context. The support of local intermediaries is critical to comply with language differences, bridge cultural gaps, and provide guidance to implement research activities to fit the cultural context; due to the strong relationships, trust and respect they developed through time with community members, they have a powerful influence and are extremely helpful to identify and recruit appropriate participants and encourage participation (Ssozi-Mugarura et al., 2017). It is through the culture traveller lens, for example, that the researcher discarded entirely the idea to compensate participants with economic

rewards. Direct forms of payment were discouraged by participants to ensure participation is driven by inner motivation. It is by embracing an inquisitive traveller mind that the researcher fully realised the extent to which participants lacked resources to cover for airtime credit to communicate with each other. Methods of design anthropology are most useful to immerse into the culture in a namely "accelerated form" (Ventura and Bichard, 2017, p.2) with sensitivity.

The designer took the role of an educator during the prototyping process. Prototyping enables to shift between the abstract and physical dimensions, unlock imaginary and creative skills, and open the mind to new possibilities (Brown and Katz, 2009). Prototyping enables participants to participate and contribute to the project by creating those powerful tools that allow navigating the challenge. Interestingly, regardless to whether the researcher provided building blocks or progressive levels of complexity for prototyping, participants in both case studies were able to explore those abstract and previously unknown design tools concepts and create tangible useful tools. Prototyping also enables to foster understandings, since it creates opportunities for participants to discuss their understandings of the challenge at hand that led to prototype tools in the way they were prototyped. As educators, designers have the responsibility to respect the autonomy of participants. The prototyping enables to co-create knowledge so that it is not imparted passively or authoritatively.

Finally, in the role of mentors, designers support the intervention to interface with the broader ecosystem by providing or helping to provide, resources and structures to expand participants' efforts beyond the micro-level. This role relates to the provision of design tools, which serve "to trigger, support, and summarize social conversations" (Manzini, 2015, p.133). The model groups design tools into framing, scaffolding and building credibility. The categorisation enables the practitioner to organise activities to build a meaningful progression, moving from the collection of insights, through project organisation, to future-oriented activities. As for framing, the cultural probes tool is the most challenging to conceptualise, although the most intuitive to create. The cultural probes are an ideal instrument to explore a topic and exercise their creative self, although it may raise concerns for the quality of the data

collected. The contextual interview tool, on the other hand, although it is more challenging to create, features a direct relational aspect that enables participants to connect with fellow community members at a deep level and "face the real truth of the situation" (C3, focus group, CS1). The scaffolding tools create opportunities to make the project real. Seemingly simple acts such as writing down names and responsibilities, planning activities and practising facilitation skills, enables participants to realise that the project and their participation are real. Tools for building credibility enable to generate pragmatic outputs through which participants understand the horizon of possibilities ahead of them. The social business model canvas enables to take stock of the situation by summarising and reframing the content, and the value of the work carried in terms of a possible future project.

7.5.1.3 Outputs

The model looks to create a more favourable enabling ecosystem for social innovations to thrive by fostering engagement with local actors; this is summarised with the concept of infrastructuring. This features a final, public, closing event to present the work carried out, the insights gathered, the tools learned, and the future plans. This closing event is particularly important, as it enables participants to reflect on the extent of the work carried and to realise the potential of the intervention. It is the culmination of the process of leadership; participants decide whom to invite and lead the organisation and presentation. It constitutes a ceremonial act of holding power over the project and an opportunity for participants to demonstrate what they learnt.

The social entrepreneurship element looks to produce tangible leave-behinds supporting the condition for participants to take the initiatives further as "exit strategy" (Meroni et al., 2013). The co-creation of tangible outputs creates the condition for participants to collect and put aside the knowledge that can help to take the initiatives further. Tool books and project summaries are best suited to achieve this.

As shown in Figure 7.2, the model is complemented in a threefold process. Specifically, the pre-intervention stage looks to establish contact with local

intermediaries and initiate the snowball recruitment process, which is most effective when controlled by designers while being on-field. The post-intervention, on the other hand, emphasises the necessity to proactively follow-up the intervention with concrete actions and formal acts that enables participants to take the initiative further.

Chapter 8 Conclusions

This chapter provides overall concluding remarks based on the arguments discussed in detail in the previous chapter and presents the original contribution to knowledge generated in this thesis. The last section outlines the limitations and sets the recommendations for future work.

8.1 Overall conclusions and contribution to knowledge

PD is increasingly adopted as a research discipline and a design practice to develop solutions for and with socially marginalised people in developing countries. However, despite nearly 50 years of practice and research, the definition of the structures, methods and objectives of social innovation through PD constitute an ongoing debate. Furthermore, the plurality of resources available, and in particular the scattered dichotomous landscape of the existing of knowledge, which tends to polarise either on theoretical or practical aspects, makes it challenging for design practitioners to design and deploy interventions that activate processes of social change in community settings and address real-life challenges in ways that are mindful of local meanings and sustainable beyond the intervention period.

With this in mind, this research explores a model of PD practice to initiate clusters of social entrepreneurships with communities of marginalised youth in developing countries by intervening through a series of collaborative encounters. The model focuses on problem framing and looks in particular at the case of outsider practitioners acting as responsible change-agents looking to promote social change by empowering participants to take control of the intervention; thus, to limit the risk of overcontrolling and determining pre-set objectives as a way to achieve sustainability.

A set of elements are identified from a review of key literature and practice and arranged over three layers labelled respectively ethos, methods, and outputs. These are designed to shift from theory to practice and consider pre-, during-, and after-intervention aspects. In particular, the first layer (ethos) sets the foundations to frame the intervention in a way that is mindful of cultural diversity, meaningful to local community members, and that offers the means for the voiceless to determine

themselves and be the protagonists of their own social change processes. The second layer (methods) provides a portfolio of elements drawn from contemporary PD practice enabling designers to organise the practical aspects of the intervention. The third layer (outputs) urges forward-thinking and prompt design practitioners to reflect on the outputs of the intervention and the legacy to leave before departing, thus enabling the intervention to maintain its momentum and transition towards sustainable ends.

The practice undertaken over the course of two case studies enabled to evaluate and refine the model, which is presented in its final form in Figure 7.2 and discussed in Chapter 7; in addition, the appendix provides a complementary set of tools and resources designed by the researcher over the course of two case studies. This constitutes the first and main contribution to knowledge that this thesis offers. The model provides a primer to deploy PD interventions for sustainable social innovation with marginalised youth in developing countries by guiding design practitioners to go beyond good intentions, build capacity and empower participants. In particular, the originality consists in its being a first comprehensive resource that links the theoretical and practical dimensions, which tends to be presented separately by scholars and practitioners in the field and often presents either philosophical stances or collection of tools for designers to 'cherry-pick'. On the contrary, the model presents a comprehensive solution that enables design practitioners to move from theory to practice and follow a pre-defined set of elements and coherent tools and activities to deploy an effective intervention.

The second contribution to knowledge is that, through the model, this thesis enriches the debate concerning the definition of the structures, methods and objectives of social innovation through PD and the preparation of designers to address real-life challenges. In particular, the model sheds new understandings of the concept of participation by introducing the concept of genuine participation in PD; that is when participants are ultimately empowered to own and lead the intervention through progressive opportunities for leadership and knowledge-transfer. Most notably, the process of transferring ownership is fully accomplished through formal ceremonial acts, which ought to take place before the designer's

departure from the field. In addition, the thesis reflects on four many roles taken by PD practitioners during an intervention: facilitators, culture travellers, educators and mentors. As facilitators, designers embrace flexibility; thus, to be ready to react and change plans continuously in response to unexpected challenges. As designers travel across different cultural contexts, they need to engage deeply in a process of sensitisation that enables them to connect with the participants' world and sensitise with their understanding of the world. As educators, designers have the responsibility to respect the autonomy of participants; knowledge should be co-created and never imparted passively or authoritatively. Finally, in the role of mentors, designers support the intervention to interface with the broader ecosystem by providing or helping to provide resources and structures to expand participants' efforts beyond the micro-level.

The third contribution relates to the fact that the practice undertaken throughout the two case studies demonstrated that the model can build capacity and empower participants. In particular, the model puts forward a mode of undertaking practice that progressively shifts the roles between designers and participants, whilst engaging in a process that slowly develops design capabilities. Initially, designers initiate and lead activities throughout; their role however is to assist the organisation of the platform that will govern decision-making processes, ensuring the broadest possible participation of all members, resolving conflicts and power dynamics as expressed by Kinyashi (2006). As the series of collaborative encounters unfold, participants are engaged in the co-production of knowledge as well as in the co-production of the tools that enables them to produce knowledge. Decision-making and responsibilities are shared to the point where participants hold full control of the intervention. The process culminates with the final public event, where the designer becomes a spectator whilst participants presents their work to local stakeholders. The approach makes participants aware of their agency to choose and create their reality, thus echoing Freire's (2000) work on emancipatory education, which stresses that empowerment cannot simply be handed over but has to be owned by the marginalised. The practice puts forward in the model presented in this thesis enable participants to fully control the design process; they not only participate but effectively lead the planning, management and evaluation processes

of their activities. This enables to generate sustainable initiatives, since they become maintained by participants, although initiated by designers.

The fourth and final contribution relates to the research paradigm and the fact that the intervention framed by the model situated this research across different paradigms simultaneously. As explained in Section 3.2, the researcher approached the research from a constructivist-interpretivist paradigm; this because the focus of this thesis on the model development rather than on emancipatory action. In addition, the model concentrated on problem identification; the development and implementation of a solution was considered beyond the scope of the model and therefore achieving transformative action was not considered. However, the nature of the model does intersect with the participatory paradigm, in that it emphasises bottom-up participation and action and research is not conducted 'on' but 'with' people (Denzin and Lincoln, 2018). As an outcome of the case studies, many participants felt a growth of their sense of agency and, the co-creative workshops did also generate empowering and emancipatory activity. In addition, the model could also be used within a feminist paradigm, since it sits within the area of social change and could be employed with a central aim of empowering women. The work of the design practitioners as framed by the model presented in this thesis thus sits within a novel paradigm: a cross-paradigm; one that is not constrained within the frames of a single paradigm but that liberates practitioners to move fluidly between them as most suitable.

8.2 Limitations of the research

The researcher identified four limitations throughout the researcher process. First, as a practice-led research enquiry, the results are strongly influenced by the subjective understanding of the researcher. The use of complementary rounds of semi-structured interviews and focus group aimed to limit this dynamic by gathering the participants' perspective. However, the way interviews were conducted, how participants were observed, and how field notes were recorded were ultimately influenced by the researcher's interpretation.

Second, although a sampling strategy was designed, the majority of participants did not fully match the criteria for both case studies.

Third, the deadlock in case study 1 did not enable to evaluate the alternation of on- and off-field work periods. The difficulties with transferring funds led the researcher to abandon the idea and focus on on-field work only.

Fourth, the lengths of the case studies did not allow an evaluation of the long-term impact of the interventions.

8.3 Recommendations for future work

Future academic and professional work is necessary to evaluate the model beyond the two case studies presented in this thesis. This chapter outlined further improvements and recommendations, which also require to be evaluated. An opportunity also exists to change the tools used or evaluate the model in different contexts, further developing its flexibility and usefulness for practitioners. There is scope to evaluate a follow-up intervention to the one proposed in this model, that is, looking more specifically at implementing solutions to activate long-term change. Measuring long-term impacts of the model could help better identify key elements to implement. Future work should also look at whether on- and off-field alternation may provide a valuable middle-point to cope with limited resources but stretched over more extended periods.

List of references

Africa Unite 2017. Celebrating our cultural heritage. [Accessed 29 September 2019]. Available from: https://www.facebook.com/UmojaWaAfrica/photos/a.499505466371/101547 15679216372/?type=3&theater.

African Union Youth Division 2006. *African Youth Charter* [Online]. Addis Ababa. Available from: https://www.africa-youth.org/base/wp-content/uploads/resources/African-Youth-Charter_en.pdf.

African Union Youth Division 2011. *State of the African Youth Report 2011* [Online]. Addis Ababa. Available from: https://www.africa-youth.org/base/wp-content/uploads/resources/state-report2011_en.pdf.

Aguirre, M., Agudelo, N. and Romm, J. 2017. Design Facilitation as Emerging Practice: Analyzing How Designers Support Multi-stakeholder Co-creation. *She Ji: The Journal of Design, Economics, and Innovation*. **3**(3), pp.198–209.

Akama, Y. and Prendiville, A. 2016. Embodying, enacting and entangling design: A phenomenological view to co-designing services. *Swedish Design Research Journal*. **9**, pp.29–40.

Alam, A. 2014. The Economics of South African Townships. *World Bank Group*. [Online]. [Accessed 8 August 2018]. Available from: http://www.worldbank.org/en/country/southafrica/publication/the-economics-of-south-african-townships-special-focus-on-diepsloot.

Alderson, P. and Morrow, V. 2006. Multidisciplinary research ethics review: is it feasible? *International Journal of Social Research Methodology*. **9**(5), pp.405–417.

Alderson, P. and Morrow, V. 2011. The Ethics of Research with Children and Young People: A Practical Handbook.

Alkire, S. 2002. *Valuing Freedoms* [Online]. Oxford: Oxford University Press. Available from: http://www.oxfordscholarship.com/view/10.1093/0199245797.001.0001/acprof-9780199245796.

Ambert, A.-M., Adler, P.A., Adler, P. and Detzner, D.F. 1995. Understanding and Evaluating Qualitative Research. *Journal of Marriage and the Family*. **57**(4), p.879.

Anderson, V., Azari, S. and Wyk, A. van 2014. *Philippi Community Profile* [Online]. Available from: http://www.saep.org/download/philippi-community-

profile/?wpdmdl=11447.

Anyon, J. 1994. The Retreat of Marxism and Socialist Feminism: Postmodern and Poststructural Theories in Education. *Curriculum Inquiry*. **24**(2), pp.115–133.

Appadurai, A. 2001. *Globalization*. London: Dake University Press.

Appadurai, A. 1996. *Modernity at large: cultural dimensions of globalization*. Minneapolis: University of Minnesota Press.

Appadurai, A. 2004. The Capacity to Aspire: Culture and the Terms of Recognition *In*: V. Rao and M. Walton, eds. *Culture and public action*. Stanford: Stanford University Press, pp.59–84.

Appadurai, A. 1986. *The Social life of things: commodities in cultural perspective* (A. Appadurai, ed.). Cambridge: Cambridge University Press.

Archer, L.B. 1965. *Systematic method for designers*. London: C.o.l.D.

Armstrong, L., Bailey, J., Julier, G. and Kimbell, L. 2014. *Social Design Futures: HEI Research and the AHRC* [Online]. London. Available from: https://mappingsocialdesign.files.wordpress.com/2014/10/social-design-report.pdf.

Arnstein, S.R. 1969. A Ladder Of Citizen Participation. *Journal of the American Institute of Planners*. **35**(4), pp.216–224.

Balka, E. 2013. Influencing technology design, practice and policy through Participatory Design *In*: J. Simonsen and T. Robertson, eds. *Routledge international handbook of participatory design*. London: Routledge, pp.257–280.

Bang, M. and Vossoughi, S. 2016. Participatory Design Research and Educational Justice: Studying Learning and Relations Within Social Change Making. *Cognition and Instruction*. **34**(3), pp.173–193.

Bannon, L.J. and Ehn, P. 2013. Design Matters in Participatory Design *In*: J. Simonsen and T. Robertson, eds. *Routledge international handbook of participatory design*. London: Routledge, pp.37–63.

Bardi, A. and Goodwin, R. 2011. The Dual Route to Value Change: Individual Processes and Cultural Moderators. *Journal of Cross-Cultural Psychology*. **42**(2), pp.271–287.

Bayazit, N. 2004. Investigating Design: A Review of Forty Years of Design Research. *Design Issues*. **20**(1), pp.16–29.

Beckman, S.L. and Barry, M. 2007. Innovation as a Learning Process: Embedding Design Thinking. *California Management Review*. **50**(1), pp.25–56.

Bentley, J.P. 2004. The influence of risk and monetary payment on the research participation decision making process. *Journal of Medical Ethics*. **30**(3), pp.293–298.

Beyer, H. 2010. User-Centered Agile Methods. *Synthesis Lectures on Human-Centered Informatics*. **3**(1), pp.1–71.

Bidwell, N. and Hardy, D. 2009. Dilemmas in situating participation in rural ways of saying *In*: *Proceedings of the 21st Annual Conference of the Australian Computer-Human Interaction Special Interest Group on Design: Open 24/7 - OZCHI '09* [Online]. New York, New York, USA: ACM Press, p.145. Available from: http://portal.acm.org/citation.cfm?doid=1738826.1738850.

Biggs, R., Westley, F.R. and Carpenter, S.R. 2010. Navigating the Back Loop: Fostering Social Innovation and Transformation in Ecosystem Management. *Ecology and Society*. **15**(2).

Binder, T. and Brandt, E. 2017. Design (Research) Practice *In*: L. Vaughan, ed. *Practice-Based Design Research* [Online]. New York: Bloomsbury Academic, pp.101–110. Available from: https://www.dawsonera.com:443/abstract/9781474267823.

Bjögvinsson, E., Ehn, P. and Hillgren, P.-A. 2012. Design Things and Design Thinking: Contemporary Participatory Design Challenges. *Design Issues*. **28**(3), pp.101–116.

Bødker, K., Kensing, F. and Simonsen, J. 2013. Participatory IT design designing for business and workplace realities.

Bogdan, R.C. and Biklen, S.K. 1998. *Qualitative research for education: an introduction to theory and methods* 3rd ed. London: Allyn and Bacon.

Bordenave, J.D. 1994. Participative communication as a part of building the participative society *In*: S. A. White, K. S. Nair and J. Ascroft, eds. *Participatory communication: working for change and development*. Thousand Oaks, California: Sage Publications, pp.35–48.

Boyer, B., Cook, J.W. and Steinberg, M. 2011. *In Studio: Recipes for Systemic Change*. Sitra.

Braa, J. and Sahay, S. 2013. Participatory Design within the HISP network *In*: J. Simonsen and T. Robertson, eds. *Routledge international handbook of participatory design*. London: Routledge, pp.235–256.

Bradbury, H. and Reason, P. 2014. The Sage handbook of action research : participative inquiry and practice.

Brandt, E., Binder, T. and Sanders, E.B.-N. 2013. Ways to engage telling, making and

enacting *In*: J. Simonsen and T. Robertson, eds. *Routledge international handbook of participatory design*. London: Routledge, pp.145–181.

Bratteteig, T., Bødker, K., Dittrich, Y., Mogensen, P.H. and Simonsen, J. 2013. Methods: organising principles and general guidelines for Participatory Design projects *In*: J. Simonsen and T. Robertson, eds. *Routledge international handbook of participatory design*. London: Routledge, pp.117–144.

Bratteteig, T. and Wagner, I. 2010. Spaces for participatory creativity *In*: *Proceedings of the 11th Biennial Participatory Design Conference on - PDC '10* [Online]. New York, New York, USA: ACM Press, p.51. Available from: http://portal.acm.org/citation.cfm?doid=1900441.1900449.

Bratteteig, T. and Wagner, I. 2016. Unpacking the Notion of Participation in Participatory Design. *Computer Supported Cooperative Work (CSCW)*. **25**(6), pp.425–475.

Braun, V. and Clarke, V. 2013. *Successful qualitative research: a practical guide for beginners*. London: SAGE.

Braun, V. and Clarke, V. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology*. **3**(2), pp.77–101.

Brinkmeier, M. 2010. 0000023 | Rainbow United FC | Marc Brinkmeier | Flickr. [Accessed 10 October 2019]. Available from: https://www.flickr.com/photos/dafosten/5182015582/sizes/c/.

Broadbent, J. 2003. Generations in Design Methodology. *The Design Journal*. **6**(1), pp.2–13.

Broadley, C. 2012. Island Exports: Cultural probe creation as a method of design organisation and collaboration *In*: *28th EGOS Colloquium*. Helsinki, Finland: The Glasgow School of Art, pp.1–30.

Bronner, S.E. 2011. Critical theory: a very short introduction. , p.145.

Brouwer, H. and Woodhill, J. 2015. *The MSP Guide: How to design and facilitate multi-stakeholder partnerships* [Online] (B. Murray, ed.). Centre for Development Innovation. Available from: http://www.mspguide.org/sites/default/files/case/msp_guide-digital-pages_brouwer.pdf.

Brown, T. and Katz, B. 2009. *Change by design: how design thinking transforms organizations and inspires innovation*. New York: HarperCollins Publishers.

Brown, T. and Wyatt, J. 2010. Design Thinking for Social Innovation. *Stanford Social Innovation Review*. (Winter).

Bryman, A. 2006. Integrating quantitative and qualitative research: how is it done? *Qualitative Research*. **6**(1), pp.97–113.

Bryman, A. 2012. *Social Research Methods* 4th ed. Oxford, UK: Oxford University Press.

Buchanan, R. 2001a. Design Research and the New Learning. *Design Issues*. **17**(4), pp.3–23.

Buchanan, R. 2001b. Human Dignity and Human Rights: Thoughts on the Principles of Human-Centered Design. *Design Issues*. **17**(3), pp.35–39.

Buchanan, R. 1992. Wicked Problems in Design Thinking. *Kepes*. **8**(2), pp.5–21.

von Busch, O. and Palmås, K. 2016. Social Means Do Not Justify Corruptible Ends: A Realist Perspective of Social Innovation and Design. *She Ji: The Journal of Design, Economics, and Innovation*. **2**(4), pp.275–287.

Candy, L. 2006. *Practice Based Research: A Guide*. University of Technology, Sydney: Creativity & Cognition Studios.

Carlsson, A., Hjelm, O., Baas, L., Eklund, M., Krook, J., Lindahl, M. and Sakao, T. 2015. Sustainability Jam Sessions for vision creation and problem solving. *Journal of Cleaner Production*. **98**, pp.29–35.

Charmaz, K. 2006. *Constructing grounded theory*. Thousand Oaks, CA: Sage.

Cohen, L., Manion, L. and Morrison, K. 2017. *Research Methods in Education* 8th ed. London: Routledge.

Collins, A., Joseph, D. and Bielaczyc, K. 2009. Design Research: Theoretical and Methodological Issues. *Journal of the Learning Sciences*. **13**(1), pp.15–42.

Collis & Associates 2014. Tsoga Environmental Centre. [Accessed 29 September 2019]. Available from: http://www.collisassociates.net/project/tsoga/.

Condon, P.M. 2008. *Design Charrettes for Sustainable Communities*. Washington, DC: Island Press.

Cooper, D.R. and Schindler, P.S. 2011. *Business research methods*. Singapore ; London : McGraw-Hill, 2011.11th ed., International ed.

Corbin, J.M. and Strauss, A.L. 2015. *Basics of qualitative research: techniques and procedures for developing grounded theory* 4th ed. London: SAGE.

Corubolo, M., Meroni, A. and Rossi, M. 2016. The social innovation journey toolbox. [Accessed 9 December 2016]. Available from: http://transitionproject.eu/learning-outcomes/.

Creswell, J.W. and Creswell, J.D. 2018. *Research design : qualitative, quantitative,*

and mixed methods approaches. Los Angeles: Sage.

Creswell, J.W. and Poth, C.N. 2018. *Qualitative inquiry & research design: choosing among five approaches*.

Cross, N. 2006. *Designerly ways of knowing*. London: Springer.

Csikszentmihalyi, M. and Halton, E. 2002. *The Meaning of Things: Domestic Symbols and the Self* [Online]. Cambridge University Press. Available from: http://books.google.co.uk/books?id=8bcLAQAAQBAJ&pg=PT28&dq =intitle:The+meaning+of+things+inauthor:csikszentmihalyi&hl=&cd =1&source=gbs_api.

Dalal-Clayton, B. and Bass, S. 2002. *Sustainable Development Strategies: A Resource Book* [Online]. Routledge. Available from: http://www.tandfebooks.com/isbn/9781849772761.

Dalsgaard, P. 2012. Participatory Design in Large-Scale Public Projects: Challenges and Opportunities. *Design Issues*. **28**(3), pp.34–47.

Dearden, A., Rizvi, H., DePaula, R., Oyugi, C. and Winschiers-Theophilus, H. 2008. Participatory Design and International Development *In*: *Proceedings of the Tenth Anniversary Conference on Participatory Design 2008* [Online]. PDC '08. Indianapolis, IN, USA: Indiana University, pp.293–294. Available from: http://dl.acm.org/citation.cfm?id=1795234.1795306.

Denzin, N.K. and Lincoln, Y.S. 2018. *The SAGE handbook of qualitative research*.

Desai, M. 2018. *Introduction to Rights-based Direct Practice with Children* [Online]. Singapore: Springer Singapore. Available from: http://link.springer.com/10.1007/978-981-10-4729-9.

Desai, V. and Potter, R. 2014. *The Companion to Development Studies* 3rd ed. (V. Desai & R. Potter, eds.). New York: Routledge.

Design Council 2007. *11 lessons: managing design in 11 global brands* [Online]. London. Available from: http://www.designcouncil.org.uk/sites/default/files/asset/document/ElevenL essons_Design_Council %282%29.pdf.

Design Council 2015. DeSID report examines the growth of service design. [Accessed 1 December 2015]. Available from: http://www.designcouncil.org.uk/news-opinion/desid-report-examines-growth-service-design.

Design Council 2014. *Design methods for developing services* [Online]. Available from: http://www.designcouncil.org.uk/resources/guide/design-methods-developing-services.

Design Council 2019. The Design Process: What is the Double Diamond? [Accessed 15 June 2019]. Available from: https://www.designcouncil.org.uk/news-opinion/design-process-what-double-diamond.

Dewey, J. 2005. *Democracy and education: an introduction to the philosophy of education*. New York: Cosimo Classics.

DiSalvo, C., Clement, A. and Pipek, V. 2013. Participatory Design for, with and by communities *In*: J. Simonsen and T. Robertson, eds. *Routledge international handbook of participatory design*. London: Routledge, pp.182–209.

DiSalvo, C., Louw, M., Holstius, D., Nourbakhsh, I. and Akin, A. 2012. Toward a Public Rhetoric Through Participatory Design: Critical Engagements and Creative Expression in the Neighborhood Networks Project. *Design Issues*. **28**(3), pp.48–61.

Donaldson, K. 2008. Why to Be Wary of 'Design for Developing Countries'. *Ambidextrous*. (9), pp.35–37.

Dorst, K. 2011. The core of 'design thinking' and its application. *Design Studies*. **32**(6), pp.521–532.

Drydyk, J. 2008. Durable empowerment. *Journal of Global Ethics*. **4**(3), pp.231–245.

Dulani, B. 2003. How participatory is participation in social funds? An analysis of three case studies from the Malawi Social Action Fund, (MASAF). *Participation From Tyranny to Transformation Exploring New Approaches to Participation in Development*. [Online], pp.1–22. [Accessed 3 July 2016]. Available from: http://www.participatorymethods.org/resource/how-participatory-participation-social-funds-analysis-three-case-studies-malawi-social.

Ehn, P. 2008. Participation in Design Things *In*: *Proceedings of the Tenth Anniversary Conference on Participatory Design 2008* [Online]. PDC '08. Indianapolis, IN, USA: Indiana University, pp.92–101. Available from: http://dl.acm.org/citation.cfm?id=1795234.1795248.

Ehn, P. and Ullmark, P. 2017. Educating the Reflective Design Researcher *In*: L. Vaughan, ed. *Practice-Based Design Research* [Online]. New York: Bloomsbury Academic, pp.77–86. Available from: https://www.dawsonera.com:443/abstract/9781474267823.

Elizabeth, B.N.S. 2002. From user-centered to participatory design approaches *In*: *Design and the Social Sciences* [Online]. CRC Press, pp.1–8. Available from: http://dx.doi.org/10.1201/9780203301302.ch1.

Ellerman, D. 2006. *Helping people help themselves: from the World Bank to an alternative philosophy of development assistance*. Ann Arbor: The University of

Michigan Press.

Ellerman, D. 2007. Helping self-help: The fundamental conundrum of development assistance. *The Journal of Socio-Economics*. **36**(4), pp.561–577.

Eriksson, L., Bergström, A., Hoa, D.T.P., Nga, N.T. and Eldh, A.C. 2017. Sustainability of knowledge implementation in a low- and middle- income context: Experiences from a facilitation project in Vietnam targeting maternal and neonatal health B. Young, ed. *PLOS ONE*. **12**(8), p.e0182626.

Esque, S., Roth, M. and Arati, D. 2013. Education as Social Innovation *In*: T. Osburg and R. Schmidpeter, eds. *Social Innovation: Solutions for a Sustainable Future*. Berlin, Heidelberg: Springer Berlin Heidelberg, pp.209–216.

Faden, R.R. and Beauchamp, T.L. 1986. *A History and Theory of Informed Consent*. New York: Oxford University Press.

Fantom, N., Khokhar, T. and Purdie, E. 2016. The 2016 edition of World Development Indicators is out: three features you won't want to miss. *Data Blog*. [Online]. [Accessed 22 March 2018]. Available from: http://blogs.worldbank.org/opendata/2016-edition-world-development-indicators-out-three-features-you-won-t-want-miss.

Findeli, A., Denis Brouillet, Sophie Martin, Christophe Moineau and Richard Tarrago 2008. Research Through Design and Transdisciplinarity: A Tentative Contribution to the Methodology of Design Research *In*: S. D. Network, ed. *Focused - Current Design Research Projects and Methods*. Swiss Design Network, pp.67–91.

Flick, U. 2014. *The SAGE handbook of qualitative data analysis*.

Flicker, S., Travers, R., Guta, A., McDonald, S. and Meagher, A. 2007. Ethical Dilemmas in Community-Based Participatory Research: Recommendations for Institutional Review Boards. *Journal of Urban Health*. **84**(4), pp.478–493.

Foglieni, F., Villari, B. and Maffei, S. 2018. *Designing Better Services: A Strategic Approach from Design to Evaluation* [Online]. Cham: Springer International Publishing. Available from: http://link.springer.com/10.1007/978-3-319-63179-0.

Frayling, C. 1993. Research in Art and Design. *Royal College of Art Research Papers*. **1**(1).

Frediani, A.A. 2010. Sen's Capability Approach as a framework to the practice of development. *Development in Practice*. **20**(2), pp.173–187.

Frediani, A.A., Clark, D.A. and Biggeri, M. 2019. Human Development and the Capability Approach: The Role of Empowerment and Participation *In*: A. A.

Frediani, D. A. Clark and M. Biggeri, eds. *The capability approach, empowerment and participation: concepts, methods and applications*. London: Palgrave Macmillan, pp.3–36.

Freire, P. 2000. *Pedagogy of the oppressed* 30th anniv. New York: Continuum.

Friedman, K. 2003. Theory construction in design research: criteria: approaches, and methods. *Design Studies*. **24**(6), pp.507–522.

Frith, A. 2011. Philippi.

Frog 2016. Collective Action Toolkit. [Accessed 30 March 2016]. Available from: http://www.frogdesign.com/wp-content/uploads/2016/03/CAT_2.0_English.pdf.

Fry, T. 2012. *Becoming human by design*. New York: Bloomsbury Academic.

Fry, T. 2005. Design, Design Development and Questions of Direction. *Design Philosophy Papers*. **3**(4), pp.265–281.

Fuad-Luke, A. 2009. *Design activism: beautiful strangeness for a sustainable world*. London: Earthscan.

Gallagher, M. 2008. 'Power is not an evil': rethinking power in participatory methods. *Children's Geographies*. **6**(2), pp.137–150.

Gaver, B., Dunne, T. and Pacenti, E. 1999. Design: Cultural probes. *interactions*. **6**(1), pp.21–29.

Gaver, W. 2012. What should we expect from research through design? *In*: *Proceedings of the 2012 ACM annual conference on Human Factors in Computing Systems - CHI '12* [Online]. New York, New York, USA: ACM Press, p.937. Available from: http://dl.acm.org/citation.cfm?doid=2207676.2208538.

Gaver, W.W., Boucher, A., Pennington, S. and Walker, B. 2004. Cultural probes and the value of uncertainty. *interactions*. **11**(5), p.53.

Gebregeorgis, M.Y. 2014. Endogenous conflict resolution mechanisms of the San people at Platfontein. *The Journal for Transdisciplinary Research in Southern Africa*. **10**(4).

Gelinas, L., Largent, E.A., Cohen, I.G., Kornetsky, S., Bierer, B.E. and Fernandez Lynch, H. 2018. A Framework for Ethical Payment to Research Participants. *New England Journal of Medicine*. **378**(8), pp.766–771.

Gibbs, G. 2007. *Analyzing Qualitative Data* [Online] (U. Flick, ed.). London: SAGE Publications, Ltd. Available from: http://methods.sagepub.com/book/analyzing-qualitative-data.

Giorgi, A. 2009. *The descriptive phenomenological method in psychology: A modified Husserlian approach*. Pittsburgh, PA: Duquesne University Press.

Gordon, O. 2010. The Philippi Tsoga Community Project Western Cape, South Africa. *African Sustainable Energy Association*. [Online]. [Accessed 28 September 2019]. Available from: https://afsea.org/the-philippi-tsoga-community-project-western-cape-south-africa/.

Grant, J. 2019. Language and Education: Photovoice Workshops and the !Xun and Khwe Bushmen. *Critical Arts*., pp.1–17.

Gray, D., Brown, S. and Macanufo, J. 2010. *Gamestorming: A Playbook for Innovators, Rulebreakers, and Changemakers* 1st ed. O'Reilly Media, Inc.

Gregory, J. 2003. Scandinavian Approaches to Participatory Design. *International Journal of Engineering Education*. **19**(1), pp.62–74.

Gruber, T.R. 1993. A translation approach to portable ontology specifications. *Knowledge Acquisition*. **5**(2), pp.199–220.

Gunning, I.R. 1991. Arrogant Perception, World-Travelling and Multicultural Feminism: The Case of Female Genital Surgeries. *Columbia Human Rights Law Review*. **23**(189), pp.189–248.

Gupta, A. and Ferguson, J. 1997. *Culture Power Place: Explorations in Critical Anthropology*. Durham: Duke University Press.

Gusfield, J.R. 1975. *The community: A critical response*. New York: Harper Colophon.

Hacking, I. 1999. *The social construction of what?* London: Harvard University Press.

Hannerz, U. 1992. *Cultural complexity: studies in the social organization of meaning*. New York: Columbia University Press.

Hargreaves, T., Hielscher, S., Seyfang, G. and Smith, A. 2013. Grassroots innovations in community energy: The role of intermediaries in niche development. *Global Environmental Change*. **23**(5), pp.868–880.

Hargrove, R. 2012. Fostering creativity in the design studio: A framework towards effective pedagogical practices. *Art, Design & Communication in Higher Education*. **10**(1), pp.7–31.

Hart, R.A. 1992. *Children's Participation: From tokenism to citizenship. Innocenti Essays No. 4*. Florence: International Child Development Centre.

Hattie, J. and Yates, G.C.R. 2013. *Visible Learning and the Science of How We Learn*. London: Routledge.

Head, E. 2009. The ethics and implications of paying participants in qualitative

research. *International Journal of Social Research Methodology*. **12**(4), pp.335–344.

Heeks, R. 1999. *The Tyranny of Participation in Information Systems: Learning from Development Projects*. Manchester.

Heron, J. and Reason, P. 1997. A Participatory Inquiry Paradigm. *Qualitative Inquiry*. **3**(3), pp.274–294.

den Hertog, T.N., de Jong, M., van der Ham, A.J., Hinton, D. and Reis, R. 2016. "Thinking a Lot" Among the Khwe of South Africa: A Key Idiom of Personal and Interpersonal Distress. *Culture, Medicine, and Psychiatry*. **40**(3), pp.383–403.

Hikido, A. 2018. Entrepreneurship in South African township tourism: the impact of interracial social capital. *Ethnic and Racial Studies*. **41**(14), pp.2580–2598.

Holbraad, M. 2011. The Whole beyond Holism: Gambling, Divination, and Ethnography in Cuba *In*: T. Otto and N. Bubandt, eds. *Experiments in Holism: Theory and Practice in Contemporary Anthropology* [Online]. Oxford, UK: Wiley-Blackwell, pp.67–85. Available from: http://doi.wiley.com/10.1002/9781444324426.ch5.

Holcim Foundation 2007. *Tsoga Environmental Center: Community center in South Africa* [Online]. Available from: https://src.lafargeholcim-foundation.org/dnl/1dc41191-3de0-4f57-8190-5046abe7ae4b/Tsoga_web.pdf.

Holloway, I. and Todres, L. 2003. The Status of Method: Flexibility, Consistency and Coherence. *Qualitative Research*. **3**(3), pp.345–357.

Hughes, J., King, V., Rodden, T. and Andersen, H. 1995. The role of ethnography in interactive systems design. *interactions*. **2**(2), pp.56–65.

Hussain, S., Sanders, E.B.-N. and Steinert, M. 2012. Participatory design with marginalized people in developing countries: Challenges and opportunities experienced in a field study in Cambodia. *International Journal of Design*. **6**(2), pp.91–109.

Hyper Island 2016. Hyper Island Toolbox. [Accessed 20 January 2016]. Available from: http://toolbox.hyperisland.com.

Ibrahim, S. 2017. How to Build Collective Capabilities: The 3C-Model for Grassroots-Led Development. *Journal of Human Development and Capabilities*. **18**(2), pp.197–222.

IDEO.org 2015. *The Field Guide to Human-Centered Design*.

IDEO 2012. *Design Thinking for Educators* [Online] 2nd ed. Available from:

http://www.designthinkingforeducators.com/DTtoolkit.zip.

Ingold, T. 2013. *Making*. Oxford, UK: Routledge.

Ishishinilam 2018. ITALIAN ART DAY / INKCUBEKO YETHU 2nd edition – March 24 | Tsoga Centre of Samora Machel | Philippi. [Accessed 28 September 2019]. Available from: https://ishishinilam.wordpress.com/2018/04/12/italian-art-day-inkcubeko-yethu-2nd-edition-march-24-tsoga-centre-of-samora-machel-philippi/.

Iversen, O.S. and Dindler, C. 2014. Sustaining participatory design initiatives. *CoDesign*. **10**(3–4), pp.153–170.

Iversen, O.S., Halskov, K. and Leong, T.W. 2010. Rekindling values in participatory design. *Proceedings of the 11th Biennial Participatory Design Conference.*, pp.91–100.

Iversen, O.S., Halskov, K. and Leong, T.W. 2012. Values-led participatory design. *CoDesign*. **8**(2–3), pp.87–103.

Jackson, M. 1995. *Software requirements & specifications: a lexicon of practice, principles and prejudices*. Harlow: Addison-Wesley.

Jenner, C. 2013. Entrepreneurship and Youth Unemployment *In*: T. Osburg and R. Schmidpeter, eds. *Social Innovation: Solutions for a Sustainable Future*. Berlin, Heidelberg: Springer Berlin Heidelberg, pp.217–227.

Johnson, D.H. and Johnson, F.P. 2014. *Joining Together: Group Theory and Group Skills* 11th ed. Harlow, Essex: Pearson.

Johnson, D.W. and Johnson, R.T. 2009. An Educational Psychology Success Story: Social Interdependence Theory and Cooperative Learning. *Educational Researcher*. **38**(5), pp.365–379.

Jones, H. 2011. *Taking responsibility for complexity: How implementation can achieve results in the face of complex problems*. London.

Juvonen, T. 2017. PARTY – Field Work and research among San Youth in South Africa. [Accessed 10 January 2018]. Available from: https://yhteisillatulilla.weebly.com/arkisto/party-field-work-and-research-among-san-youth-in-south-africa.

Kagitçibasi, Ç. 2005. Modernization Does Not Mean Westernization: Emergence of a Different Pattern *In*: W. Friedlmeier, P. Chakkarath and B. Schwarz, eds. *Culture and human development: the importance of cross-cultural research for the social sciences*. Hove: Psychology Press, pp.230–245.

Kania, J. and Kramer, M. 2011. Collective impact. *Stanford Social Innovation Review*.

9(1), pp.36–41.

Kapuire, G.K., Winschiers-Theophilus, H. and Blake, E. 2015. An insider perspective on community gains: A subjective account of a Namibian rural communities' perception of a long-term participatory design project. *International Journal of Human-Computer Studies*. **74**(0), pp.124–143.

Keijzer-Broers, W.J.W. and de Reuver, M. 2016. Applying Agile Design Sprint Methods in Action Design Research: Prototyping a Health and Wellbeing Platform *In:*, pp.68–80. Available from: http://link.springer.com/10.1007/978-3-319-39294-3_5.

Kelley, T. and Kelley, D. 2013. *Creative confidence : unleashing the creative potential within us all*. London: William Collins.

Khokhar, T. and Serajuddin, U. 2015. Should we continue to use the term "developing world"? *Data Blog*. [Online]. [Accessed 22 March 2018]. Available from: http://blogs.worldbank.org/opendata/should-we-continue-use-term-developing-world.

Kindon, S.L., Pain, R. and Kesby, M. 2007. *Participatory action research approaches and methods: connecting people, participation and place*. London: Routledge.

Kinyashi, G.F. 2006. Towards genuine participation for the poor.

Knapp, J., Zeratsky, J. and Kowitz, B. 2016. *Sprint: How to Solve Big Problems and Test New Ideas in Just Five Days*. New York: Simon & Schuster.

Kolb, D.A. 2015. *Experiential Learning: Experience as the Source of Learning and Development* 2nd ed. Pearson.

Kolb, D.A., Boyatzis, R.E. and Mainemelis, C. 2014. Experiential Learning Theory: Previous Research and New Directions *In*: R. J. Sternberg and L. Zhang, eds. *Perspectives on Thinking, Learning, and Cognitive Styles* [Online]. New York: Routledge, pp.227–248. Available from: https://www.taylorfrancis.com/books/9781135663629/chapters/10.4324/9781410605986-9.

Kouprie, M. and Visser, F.S. 2009. A framework for empathy in design: stepping into and out of the user's life. *Journal of Engineering Design*. **20**(5), pp.437–448.

Kreniske, P. 2014. How the San of Southern Africa Used Digital Media as Educational and Political Tools. *Journal of Interactive Technology and Pedagogy*. (6).

Krippendorff, K. 1989. On the Essential Contexts of Artifacts or on the Proposition That 'Design Is Making Sense (Of Things)'. *Design Issues*. **5**(2), pp.9–39.

Krippendorff, K. 2006. *The semantic turn : a new foundation for design*. Boca Raton,

Fla. ; London .: CRC Press, Taylor & Francis Group.

Kubow, P.K. 2018. Exploring Western and non-Western epistemological influences in South Africa: theorising a critical democratic citizenship education. *Compare: A Journal of Comparative and International Education*. **48**(3), pp.349–361.

Kuhn, T.S. and Hacking, I. 2012. *The structure of scientific revolutions* 4th ed. Chicago: The University of Chicago Press.

Kumar, R. 2011. *Research methodology: a step-by-step guide for beginners* 3rd ed. London: SAGE.

Kumar, V. 2013. 101 design methods: a structured approach for driving innovation in your organization.

Leal Filho, W. and Brandli, L. 2016. Engaging Stakeholders for Sustainable Development *In*:, pp.335–342. Available from: http://link.springer.com/10.1007/978-3-319-26734-0_21.

Legros, C. 2018. Designing Cultural Probes: How to get unique insights and exceptional engagement from research participants. *Medium*. [Online]. [Accessed 24 September 2018]. Available from: https://medium.com/@catherinelegros/designing-cultural-probes-31f2c62b9dcf.

Lorini, M.R., Zyl, I. Van and Chigona, W. 2015. Digital technology for inclusion: a critical discourse analysis of urban poor groups in South Africa *In*: J. Steyn and D. van Greunen, eds. *ICTs for Inclusive Communities in Developing Societies*. Cambridge Scholars Publishing, p.380.

Maccoby, E.E. and Maccoby, N. 1954. The interview: A tool of social science *In*: G. Lindzey, ed. *Handbook of social psychology*. Cambridge, MA: Addison-Wesley, pp.449–487.

Malan, N. and Campbell, A.D. 2014. Design, Social Change and Development: A Social Methodology *In*: A. Breytenbach and K. Pope, eds. *Design with the other 90%: Cumulus Johannesburg Conference Proceedings*. Greenside Design Center.

Manzini, E. 2015. *Design, when everybody designs: an introduction to design for social innovation*. Cambridge, Massachusetts: The MIT Press.

Manzini, E. 2016. Design Culture and Dialogic Design. *Design Issues*. **32**(1), pp.52–59.

Manzini, E. 2014. Making Things Happen: Social Innovation and Design. *Design Issues*. **30**(1), pp.57–66.

Margolin, V. 2015. *Design for the Good Society* (M. Kirkpatrick & B. John, eds.). Rotterdam: nai010.

Margolin, V. and Margolin, S. 2002. A "Social Model" of Design: Issues of Practice and Research. *Design Issues*. **18**(4), pp.24–30.

Markussen, T. 2017. Building Theory through Design *In*: L. Vaughan, ed. *Practice-Based Design Research* [Online]. New York: Bloomsbury Academic, pp.87–98. Available from: https://www.dawsonera.com:443/abstract/9781474267823.

Marshall, Catherine Rossman, G.B. 2011. *Designing qualitative research* 5th ed. London: SAGE.

Martin, R. and Osberg, S. 2007. Social Entrepreneurship: The Case for Definition. *Stanford Social Innovation Review*. (Spring), pp.29–39.

Martin, R.L. 2009. *The design of business : why design thinking is the next competitive advantage*. Boston: Harvard Business Press.

Mason, J. 2002. *Qualitative Researching*. Manchester: Sage Publications.

Mbiti, J.S. 1990. *African Religions and Philosophy* 2nd ed. Heinemann.

McKenzie, G.W., Powell, J. and Usher, R. 1997. *Understanding social research: perspectives on methodology and practice*. London: Falmer Press.

McMillan, D.W. and Chavis, D.M. 1986. Sense of community: A definition and theory. *Journal of Community Psychology*. **14**(1), pp.6–23.

McMillan, J.H. and Schumacher, S. 2010. *Research in education: evidence-based inquiry* 7th ed. Boston: Pearson.

Meroni, A. 2007. *Creative Communities: People Inventing Sustainable Ways of Living*. Milan, Italy: POLI.design.

Meroni, A., Corubolo, M. and Bartolomeo, M. 2017. The social innovation journey: Emerging challenges in service design for the incubation of social innovation *In*: D. Sangiorgi and A. Prendiville, eds. *Designing for Service* [Online]. Bloomsbury Publishing Plc, pp.163–181. Available from: https://www.bloomsburydesignlibrary.com/encyclopedia-chapter?docid=b-9781474250160&tocid=b-9781474250160-chapter12.

Meroni, A., Fassi, D. and Simeone, G. 2013. Design for social innovation as a form of designing activism: An action format *In*: NESTA, ed. *Social Frontiers, The next edge of social innovation research*. Glasgow.

Meroni, A. and Sangiorgi, D. 2011. *Design for services: Design for social responsibility*. Farnham: Gower.

Merry, S.E. 2006. *Human Rights and Gender Violence: Translating International Law into Local Justice*. Chicago.

Mertens, D.M. 2005. *Research methods in education and psychology: integrating diversity with quantitative & qualitative approaches* 2nd ed. Thousand Oaks: Sage.

Miettinen, R. 2000. The concept of experiential learning and John Dewey's theory of reflective thought and action. *International Journal of Lifelong Education*. **19**(1), pp.54–72.

Mitchell, V., Ross, T., May, A., Sims, R. and Parker, C. 2016. Empirical investigation of the impact of using co-design methods when generating proposals for sustainable travel solutions. *CoDesign*. **12**(4), pp.205–220.

Mogajane, D. 2018. Why SA must integrate townships with growth centres. *BusinessDay*. [Online]. [Accessed 8 August 2018]. Available from: https://www.businesslive.co.za/bd/opinion/2018-04-23-why-sa-must-integrate-townships-with-growth-centres/.

Mohan, G. 2014. Participatory development *In*: V. Desai and R. Potter, eds. *The Companion to Development Studies*. New York: Routledge, pp.205–211.

Moles, A.A. 1986. The Legibility of the World: A Project of Graphic Design. *Design Issues*. **3**(1), pp.43–53.

Molyneux, S., Mulupi, S., Mbaabu, L. and Marsh, V. 2012. Benefits and payments for research participants: Experiences and views from a research centre on the Kenyan coast. *BMC Medical Ethics*. **13**(1), p.13.

Mookherji, S. and LaFond, A. 2013. Strategies to maximize generalization from multiple case studies: Lessons from the Africa Routine Immunization System Essentials (ARISE) project. *Evaluation*. **19**(3), pp.284–303.

Morelli, N. 2007. Social Innovation and New Industrial Contexts: Can Designers "Industrialize" Socially Responsible Solutions? *Design Issues*. **23**(4), pp.3–21.

Moustakas, C. 1994. *Phenomenological research methods* [Online]. 2455 Teller Road, Thousand Oaks California 91320 United States of America: SAGE Publications, Inc. Available from: http://methods.sagepub.com/book/phenomenological-research-methods.

Muldoon, R. 2017. Perspectives, norms, and agency. *Social Philosophy and Policy*. **34**(01), pp.260–276.

Mulgan, G. 2007. Social Innovation: what it is, why it matters, how it can be accelerated.

Mulligan, G. 2016. The young entrepreneurs trying to help South Africa's townships. *BBC*. [Online]. [Accessed 18 September 2019]. Available from: https://www.bbc.co.uk/news/business-36902221.

Murphy, K.M. and Marcus, G.E. 2013. Epilogue: Ethnography and design, ethnography in design... ethnography by design *In*: W. Gunn, T. Otto and R. Charlotte-Smith, eds. *Design Anthropology: Theory and Practice*. London: Bloomsbury, pp.251–268.

Murray, R., Caulier-Grice, J. and Mulgan, G. 2010. *The Open Book of Social Innovation: Ways to Design, Develop and Grow Social Innovations* [Online]. NESTA. Available from: https://youngfoundation.org/wp-content/uploads/2012/10/The-Open-Book-of-Social-Innovationg.pdf.

National Development Plan 2019. *South Africa Voluntary National Review*.

National Planning Commission 2013. *National Development Plan 2030* [Online]. Available from: https://www.gov.za/sites/default/files/NDP-2030-Our-future-make-it-work_r.pdf.

National Youth Development Agency 2015. *National Youth Policy 2015-2020*.

Nelson, H.G. and Stolterman, E. 2012. *The Design Way: Intentional Change in an Unpredictable World* [Online]. Mit Press. Available from: http://www.jstor.org/stable/j.ctt5hhcsk.

NESTA 2014. *DIY - Development Impact and You: Practical Tools to Trigger and Support Social Innovation*. NESTA.

News24 2017. Art attack at Tsoga Centre in Philippi. [Accessed 29 September 2018]. Available from: https://www.news24.com/SouthAfrica/Local/City-Vision/art-attack-at-tsoga-centre-in-philippi-20170322.

Norman, D.A. 2004. *Emotional design: why we love (or hate) everyday things*. New York: Basic Books.

Norman, D.A. 1999. Rapid ethnography *In*: H. Aldersey-Williams, J. Bound and R. Coleman, eds. *The Methods Lab: User Research for Design*. Design for Ageing Network (DAN), pp.24–25.

Nussbaum, M.C. 2005. *Cultivating humanity: a classical defense of reform in liberal education*. Cambridge, Mass.: Harvard University Press.

O'Leary, Z. 2013. *The essential guide to doing your research project* 2nd ed. Los Angeles, California: SAGE.

Opaluwah, A.O. 2016. Participatory Development: A Tool of Pedagogy. *Exchanges: The Interdisciplinary Research Journal*. **4**(1), p.120.

Osburg, T. and Schmidpeter, R. 2013. *Social Innovation: Solutions for a Sustainable Future* [Online]. Berlin, Heidelberg: Springer. Available from: http://libproxy.dundee.ac.uk/login?url=http://dx.doi.org/10.1007/978-3-642-

36540-9.

Osler, A. 1996. *Learning to Participate: Human Rights, Citizenship and Development in the Local Community.* Birmingham: Development Education Centre.

Otto, T. and Smith, R.C. 2013. Design Anthropology: A Distinct Style of Knowing *In*: W. Gunn, T. Otto and R. Charlotte-Smith, eds. *Design Anthropology: Theory and Practice.* London: Bloomsbury, pp.1–29.

Pamo, B. 2011. San Language Development for Education in South Africa: The South African San Institute and the San Language Committees. *Diaspora, Indigenous, and Minority Education.* **5**(2), pp.112–118.

Papanek, V. 1985. *Design for the real world: human ecology and social change* 2nd ed. London: Thames & Hudson.

Patton, M.Q. 2002. *Qualitative Research & Evaluation Methods* 3rd ed. Thousand Oaks, CA: Sage.

Penin, L., Staszowski, E. and Brown, S. 2015. Teaching the Next Generation of Transdisciplinary Thinkers and Practitioners of Design-Based Public and Social Innovation. *Design and Culture.* **7**(3), pp.441–450.

Penin, L., Staszowski, E. and Tonkinwise, C. 2009. Design and Social Innovation in the US. Amplifying Creative Communities in Design for Social Innovation in the United States *In*: *Proceedings of the 2nd International Symposium on Sustainable Design (II ISSD).* São Paulo, Brazil: Brazil Network on Sustainable Design - RBDS.

Pink, S. and Morgan, J. 2013. Short-Term Ethnography: Intense Routes to Knowing. *Symbolic Interaction.* **36**(3), pp.351–361.

Potter, R.B. 2014. Measuring development: From GDP to the HDI and wider approaches *In*: V. Desai and R. Potter, eds. *The Companion to Development Studies.* New York: Routledge, pp.104–109.

Preisendörfer, P., Perks, S. and Bezuidenhout, F.J. 2014. Do South African townships lack entrepreneurial spirit? *International Journal of Entrepreneurship and Small Business.* **22**(2), p.159.

Pretty, J.N. 1994. Alternative Systems of Inquiry for a Sustainable Agriculture. *IDS Bulletin.* **25**(2), pp.37–49.

Pretty, J.N. 1995. Participatory learning for sustainable agriculture. *World Development.* **23**(8), pp.1247–1263.

Rapport, N. and Overing, J. 2000. *Social and cultural anthropology : the key concepts.* London: Routledge.

Ray, D. 2006. Aspirations, Poverty, and Economic Change *In*: *Understanding Poverty* [Online]. Oxford: Oxford University Press. Available from: http://dx.doi.org/10.1093/0195305191.003.0028.

Reed, M.S. 2008. Stakeholder participation for environmental management: A literature review. *Biological Conservation*. **141**(10), pp.2417–2431.

Riessman, C.K. 2008. *Narrative methods for the human sciences*. Boston College, USA: SAGE Publications, Inc.

Rittel, H.W.J. and Webber, M.M. 1973. Dilemmas in a general theory of planning. *Policy Sciences*. **4**(2), pp.155–169.

Ritzer, G. 2007. *The blackwell encyclopedia of sociology*. Oxford: Blackwell.

Robertson, T. and Simonsen, J. 2012. Challenges and Opportunities in Contemporary Participatory Design. *Design Issues*. **28**(3), pp.3–9.

Robertson, T. and Simonsen, J. 2013. Participatory Design: An Introduction *In*: J. Simonsen and T. Robertson, eds. *Routledge international handbook of participatory design*. London: Routledge, pp.1–17.

Robson, C. and McCartan, K. 2016. *Real world research : a resource for users of social research methods in applied settings*. Chichester, UK: John Wiley & Sons.

Rodil, K., Winschiers-Theophilus, H. and Jensen, K.L. 2012. Enhancing cross-cultural participation through creative visual exploration *In*: *Proceedings of the 12th Participatory Design Conference on Research Papers: Volume 1 - PDC '12* [Online]. New York, New York, USA: ACM Press, p.81. Available from: http://dl.acm.org/citation.cfm?doid=2347635.2347647.

Roggema, R. 2014. *The Design Charrette* [Online] (R. Roggema, ed.). Dordrecht: Springer Netherlands. Available from: http://link.springer.com/10.1007/978-94-007-7031-7.

Rosner, D.K., Kawas, S., Li, W., Tilly, N. and Sung, Y.-C. 2016. Out of Time, Out of Place: Reflections on Design Workshops as a Research Method *In*: *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing - CSCW '16* [Online]. New York, New York, USA: ACM Press, pp.1129–1139. Available from: http://dl.acm.org/citation.cfm?doid=2818048.2820021.

Rust, C., Mottram, J. and Till, J. 2007. *Practice-Led Research in Art, Design and Architecture*.

SA-Venues 2019a. Cape flats, Cape Town. [Accessed 18 September 2019]. Available from: https://www.sa-venues.com/attractionswc/cape-flats.htm.

SA-Venues 2019b. Philippi, Cape Flats. [Accessed 18 September 2019]. Available

from: https://www.sa-venues.com/attractionswc/philippi.php.

Sabiescu, A.G., David, S., van Zyl, I. and Cantoni, L. 2014. Emerging spaces in community-based participatory design. *Proceedings of the 13th Participatory Design Conference on Research Papers - PDC '14.*, pp.1–10.

Sanders, E.B.-N., Brandt, E. and Binder, T. 2010. A framework for organizing the tools and techniques of participatory design *In*: *Proceedings of the 11th Biennial Participatory Design Conference on - PDC '10* [Online]. New York, New York, USA: ACM Press, p.195. Available from: http://portal.acm.org/citation.cfm?doid=1900441.1900476.

Sanders, E.B.-N. and Stappers, P.J. 2008. Co-creation and the new landscapes of design. *CoDesign*. **4**(1), pp.5–18.

Sangiorgi, D. 2011. Transformative services and transformation design. *International Journal of Design*. **5**(2), pp.29–40.

Sanoff, H. 2007. Special issue on participatory design. *Design Studies*. **28**(3), pp.213–215.

Sassen, S. 2000. *Cities in a World Economy* 2nd ed. Thousand Oaks, California: Pine Forge Press.

Schelle, K.J., Gubenko, E., Kreymer, R., Naranjo, C.G., Tetteroo, D. and Soute, I.A.C. 2015. Increasing Engagement in Workshops *In*: *Proceedings of the Mulitimedia, Interaction, Design and Innnovation on ZZZ - MIDI '15* [Online]. New York, New York, USA: ACM Press, pp.1–8. Available from: http://dl.acm.org/citation.cfm?doid=2814464.2814481.

Schön, D.A. 1991. *The reflective practitioner : how professionals think in action*. New York: Basic Books.

Schöning, M. 2013. Social Entrepreneurs as Main Drivers of Social Innovation *In*: T. Osburg and R. Schmidpeter, eds. *Social Innovation: Solutions for a Sustainable Future*. Berlin, Heidelberg: Springer Berlin Heidelberg, pp.111–118.

Schroeder, D., Chatfield, K., Singh, M., Chennells, R. and Herissone-Kelly, P. 2019. The San Code of Research Ethics *In*:, pp.73–87. Available from: http://link.springer.com/10.1007/978-3-030-15745-6_7.

Schroeder, J. 2012. Vandals trash city-owned asset. *Pressreader*. [Online]. [Accessed 29 September 2019]. Available from: https://www.pressreader.com/south-africa/cape-argus/20120202/282995396764497.

Schuler, D. and Namioka, A. 1993. *Participatory design: principles and practices* [Online]. Hillsdale, N.J.: L. Erlbaum Associates. Available from: http://www.loc.gov/catdir/enhancements/fy0745/92027297-d.html.

Selloni, D. 2017. *CoDesign for Public-Interest Services* [Online]. Cham: Springer International Publishing. Available from: http://link.springer.com/10.1007/978-3-319-53243-1.

Sen, A. 1999. *Development as freedom*. Oxford: Oxford University Press.

Servaes, J. 2008. Communication for Development Approaches of Some Governmental and Non-Governmental Agencies *In*: J. Servaes, ed. *Communication for Development and Social Change*. New Delhi: Sage Publications India Pvt Ltd.

Seyfang, G. and Smith, A. 2007. Grassroots innovations for sustainable development: Towards a new research and policy agenda. *Environmental Politics*. **16**(4), pp.584–603.

Silverman, D. 2017. *Doing qualitative research*.

Simon, H.A. 1996. *The sciences of the artificial* 3rd ed. Cambridge: MIT Press.

South African History Online 2011. Philippi. [Accessed 18 September 2019]. Available from: https://www.sahistory.org.za/place/philippi.

South African San Institute 2019. About Us. [Accessed 29 December 2018]. Available from: https://www.sasi.org.za/about-us.

Southern African San Development Organisation 2018. About Us. [Accessed 22 December 2018]. Available from: https://sasdowebsite.wixsite.com/website/about.

Sparke, P. 2004. *An introduction to design and culture: 1900 to the present* [Online] 2nd ed. London: Routledge. Available from: http://ezproxy.leedsmet.ac.uk/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=cat00621a&AN=leeds.313241&site=eds-live&scope=site.

Sperber, D. 1996. *Explaining culture: a naturalistic approach*. Oxford: Blackwell.

Ssozi-Mugarura, F., Blake, E. and Rivett, U. 2017. Codesigning with communities to support rural water management in Uganda. *CoDesign*. **0882**(April), pp.1–17.

Statistics Division United Nations 2018. Developing Regions. [Accessed 13 December 2018]. Available from: https://unstats.un.org/unsd/methodology/m49/#fn4.

Statistics South Africa 2011. Philippi.

Steen, M., Manschot, M. and Koning, N. De 2011. Benefits of Co-design in Service Design Projects. *International Journal of Design*. **5**(2), pp.53–60.

Stevenson, A. 2010. *Oxford Dictionary of English* [Online] 3rd ed. Oxford: Oxford University Press. [Accessed 24 August 2018]. Available from:

http://www.oxfordreference.com/view/10.1093/acref/9780199571123.001.0
001/acref-9780199571123.

Stickdorn, M., Hormess, M., Lawrence, A. and Schneider, J. 2018. *This is service design doing: applying service design thinking in the real world: a practitioner's handbook*.

Stickdorn, M. and Schneider, J. 2010. *This is service design thinking: basics, tools, cases*. Amsterdam: BIS.

Stones, M. and McMillan, J. 2010. Payment for participation in research: a pursuit for the poor? *Journal of Medical Ethics*. **36**(1), pp.34–36.

Terzidis, K. 2007. The Etymology of Design: Pre-Socratic Perspective. *Design Issues*. **23**(4), pp.69–78.

Then, K.L., Rankin, J.A. and Ali, E. 2014. Focus Group Research: What Is It and How Can It Be Used? *Canadian Journal of Cardiovascular Nursing*. **24**(1), pp.16–22.

Thirlwall, A.P. 2014. Development and economic growth *In*: V. Desai and R. Potter, eds. *The Companion to Development Studies*. New York: Routledge, pp.61–65.

Tonkinwise, C. 2017. Post-Normal Design Research: The Role of Practice-Based Rsearch in the Era of Neoliberal Risk *In*: L. Vaughan, ed. *Practice-Based Design Research* [Online]. New York: Bloomsbury Academic, pp.29–39. Available from: https://www.dawsonera.com:443/abstract/9781474267823.

Tran, V.D. 2013. Theoretical Perspectives Underlying the Application of Cooperative Learning in Classrooms. *International Journal of Higher Education*. **2**(4).

Trigg, R. and Ishimaru, K. 2013. Integrating Participatory Design into everyday work at the Global Fund for Women *In*: J. Simonsen and T. Robertson, eds. *Routledge international handbook of participatory design*. London: Routledge, pp.213–234.

Tungstall, E. 2013. Decolonizing Design Innovation: Design Anthropology, Critical Anthropology, and Indigenous Knowledge *In*: W. Gunn, T. Otto and R. Charlotte-Smith, eds. *Design Anthropology: Theory and Practice*. London: Bloomsbury, pp.232–250.

United Nations 2014. Secretary-General Calls on All with Influence to Prioritize Nearly 2 Billion Young People in Development Plans, Easing Critical Transition to Adulthood. *Press release*. [Online]. [Accessed 16 October 2018]. Available from: https://www.un.org/press/en/2014/sgsm16005.doc.htm.

United Nations, Department of Economic and Social Affairs and Population Division 2017. *World Population Prospects: The 2017 Revision, Key Findings and Advance Tables*. New York.

United Nations Development Programme 2014. *Human Development Report 2014: Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience*. New York: United Nations Pubns.

United Nations Development Programme 2019. *Human Development Report 2019*. New York.

University of Lapland 2018. PARTY project. [Accessed 22 November 2018]. Available from: https://www.ulapland.fi/EN/Webpages/PARTY/Project-info.

Uys, I. 2014. *Bushmen Soldiers: The History of 31, 201 & 203 Battalions During the Border War 1974-90*. Helion and Company.

Vaajakallio, K. and Mattelmäki, T. 2014. Design games in codesign: as a tool, a mindset and a structure. *CoDesign*. **10**(1), pp.63–77.

VanderStoep, S.W. and Johnston, D.D. 2009. *Research methods for everyday life: blending qualitative and quantitative approaches* 1st ed. San Francisco, CA: Jossey-Bass.

Vaughan, L. 2017a. Designer/Practitioner/Researcher *In*: L. Vaughan, ed. *Practice-Based Design Research* [Online]. New York: Bloomsbury Academic, pp.9–17. Available from: https://www.dawsonera.com:443/abstract/9781474267823.

Vaughan, L. 2017b. Introducing Practice-Based Design Research *In*: L. Vaughan, ed. *Practice-Based Design Research* [Online]. New York: Bloomsbury Academic, pp.1–6. Available from: https://www.dawsonera.com:443/abstract/9781474267823.

Ventura, J. and Bichard, J.-A. 2017. Design anthropology or anthropological design? Towards 'Social Design'. *International Journal of Design Creativity and Innovation*. **5**(3–4), pp.222–234.

Verganti, R. 2011. Radical Design and Technology Epiphanies: a new focus for research on design management. *Journal of Product Innovation Management*. **28**(3), pp.384–388.

Verran, H., Christie, M., Anbins-King, B., Van Weeren, T. and Yunupingu, W. 2007. Designing digital knowledge management tools with Aboriginal Australians. *Digital Creativity*. **18**(3), pp.129–142.

Vezzani, V. and Tang, T. 2014. Investigating the Potential of Design Jams to Enhance Sustainable Design Education *In*: *The 10th biannual NordDesign Conference – Creating Together* [Online]. Available from: http://m.designsociety.org/index.php?menu=31&action=36248.

Visser, F.S., Stappers, P.J., van der Lugt, R. and Sanders, E.B.-N. 2005. Contextmapping: experiences from practice. *CoDesign*. **1**(2), pp.119–149.

Walker, S. 2011. *The spirit of design : objects, environment and meaning*. London: Earthscan.

Walker, T. and Beranek, F. 2013. Social Innovation by Giving a Voice *In*: T. Osburg and R. Schmidpeter, eds. *Social Innovation: Solutions for a Sustainable Future*. Berlin, Heidelberg: Springer Berlin Heidelberg, pp.239–249.

Wei, Y. 2007. Model-Based Reasoning in Cognitive Science *In*: L. Magnani and P. Li, eds. *Model-Based Reasoning in Science, Technology, and Medicine* [Online]. Berlin, Heidelberg: Springer Berlin Heidelberg, pp.273–291. Available from: https://doi.org/10.1007/978-3-540-71986-1_16.

Weisberg, M. 2007. Who is a Modeler? *The British Journal for the Philosophy of Science*. **58**(2), pp.207–233.

White, R. 1994. Participatory Development Communication as a Social-Cultural Process *In*: S. A. White, K. S. Nair and J. Ascroft, eds. *Participatory communication: working for change and development*. Thousand Oaks, California: Sage Publications.

Whiteley, N. 1994. *Design for Society*. London: Reaktion Books.

Winschiers-Theophilus, H., Bidwell, N.J. and Blake, E. 2012. Community Consensus: Design Beyond Participation. *Design Issues*. **28**(3), pp.89–100.

Winschiers-Theophilus, H., Chivuno-Kuria, S., Kapuire, G.K., Bidwell, N.J. and Blake, E. 2010. Being participated: a community approach *In*: *Proceedings of the 11th Biennial Participatory Design Conference on - PDC '10* [Online]. New York, New York, USA: ACM Press, p.1. Available from: http://portal.acm.org/citation.cfm?doid=1900441.1900443.

Winschiers-Theophilus, H., Zaman, T. and Stanley, C. 2017. A classification of cultural engagements in community technology design: introducing a transcultural approach. *AI & SOCIETY*.

World Bank 2002. Empowerment and Poverty Reduction: a sourcebook.

World Bank Group 2014. *Economics of South African Townships: Special Focus on Diepsloot* [Online] (S. Mahajan, ed.). The World Bank. Available from: http://elibrary.worldbank.org/doi/book/10.1596/978-1-4648-0301-7.

World Bank Group 2018. Where do the world's poorest people live today? [Accessed 20 November 2018]. Available from: http://datatopics.worldbank.org/world-development-indicators/stories/where-do-the-worlds-poorest-people-live-today.html.

Wyk, A. Van 2014. The militarisation of the Platfontein San (!Xun and Khwe): The initial years 1966–1974. *The Journal for Transdisciplinary Research in Southern*

Africa. **10**(3), pp.133–151.

Yang, C. and Sung, T. 2016. Service Design for Social Innovation through Participatory Action Research. *International Journal of Design*. **10**(1), pp.21–36.

Yee, J. and Bremner, C. 2011. Methodological bricolage: What does it tell us about design? *In*: *Doctoral Design Education Conference* [Online]. Hong Kong. Available from: http://nrl.northumbria.ac.uk/8822/.

Yin, R.K. 2018. *Case study research and applications: design and methods*.

Zimmerman, J., Forlizzi, J. and Evenson, S. 2007. Research through design as a method for interaction design research in HCI *In*: *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems - CHI '07* [Online]. New York, New York, USA: ACM Press, pp.493–502. Available from: http://dl.acm.org/citation.cfm?doid=1240624.1240704.

Appendix A. Case study 1

A.1. Sample consent form

<div style="border:1px solid">

Consent form

Alessandro Medici *

April 3, 2017

	Add your initials next to the statement if you agree
I confirm that I have read and understand the information sheet explaining the research project and I have had the opportunity to ask questions about the project.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline.	
I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research. I understand that my responses will be kept strictly confidential.	
I agree for the data collected from me to be stored and used in relevant future research.	
I understand that other genuine researchers will have access to this data only if they agree to preserve the confidentiality of the information as requested in this form.	
I understand that other genuine researchers may use my words in publications, reports, web pages, and other research outputs, only if they agree to preserve the confidentiality of the information as requested in this form.	
I understand that relevant sections of the data collected during the study, may be looked at by individuals from the University of Leeds or from regulatory authorities where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.	
I agree to take part in the above research project and will inform the lead researcher should my contact details change.	

Name of participant	
Participants signature	
Date	
Name of lead researcher	
Signature	

---
*University of Leeds, UK

</div>

A.2. Consent form poster

The poster was prepared prior to every workshop and positioned where the activities were taking place. The researcher was making sure that every individual by

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the end of the workshop would sign the poster and for those new participants to explain why this was important.

Information included in the informed consent poster
• Greetings (and researcher information)
• Research rationale (explained briefly)
• Aim of the (current) workshop
• Participants' rights, data privacy and confidentiality
• Date (of the day in which the workshop was taking place) and signature (of researcher)
• A table for participants to sign, divided between:
○ Name
○ Surname
○ (tick for) willingness to take part
○ (tick for) permission for the researcher to record and collect data during the workshop
○ (tick for) permission to share and publish findings and data collected
○ (tick for) permission to share and publish material created during the workshop
○ Signature
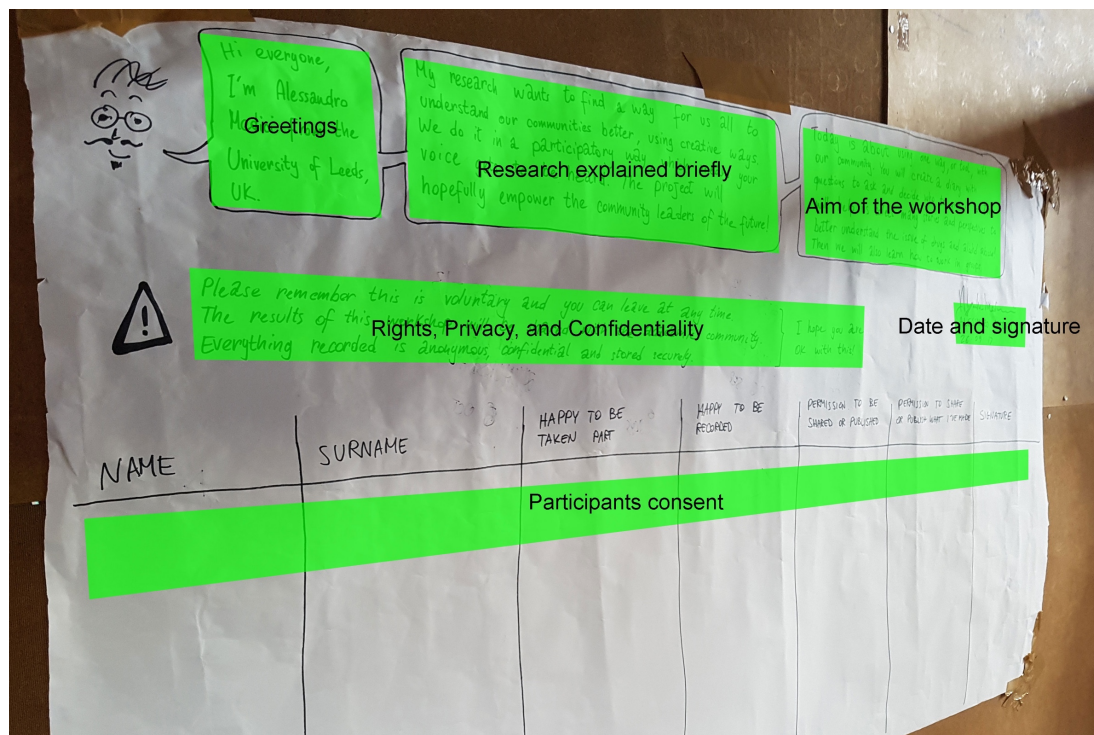
A.3. Full participants list

Participant	Gender	Age	Occupation
P1	Male	20	Volunteer
P2	Female	24	Student and volunteer

P3	Female	27	Volunteer
P4	Male	30	Entrepreneur
P5	Male	26	Student and volunteer
P6	Male	29	Artist
P7	Male	27	Entrepreneur
P8	Male	30	Student
P9	Male	29	Volunteer
P10	Female	28	Volunteer
P11	Female	24	Volunteer
P12	Female	24	Volunteer
P13	Female	29	Volunteer
P14	Male	20	Student
P15	Female	30	Volunteer
P16	Male	23	Student
P17	Male	23	Student
P18	Male	25	Student
P19	Female	22	Student
P20	Female	22	Student
P21	Male	22	Student
P22	Female	20	Student
P23	Female	20	Student
P24	Female	21	Student
P25	Male	20	Student
P26	Male	23	Volunteer
P27	Male	23	Student
P28	Female	20	Student
P29	Female	20	Student
E1	Male	21	Entrepreneur

A.4. Semi-structured interview guide

1. Tell me a little about this project experience

2. Do you feel confident to continue this work without me? What will you need from me? How will you move forward?

3. What do you think about the workshops? What would you change or improve?

4. What do you think about the tools that we used? Would you change them? Or would you change something in the way you learned about them?

5. What have you learned from this project experience? How do you think this will help you in the future?

6. Did you consider yourself an activist? And do you now?

7. What do you think about the issue of drugs and alcohol abuse?

8. How do you think your community is affected?

9. What is the cause of this problem?

10. Do you think can you solve this problem? How?

11. Do you have any idea about the consequences of drugs and alcohol abuse?

A.5. Focus group guide

1. The project

   a. was this the first project of this kind? Or have you ever done anything similar to this? How was this project different?

   b. What was the most interesting thing for you?

   c. 3 things that liked about the workshops

   d. 3 things that disliked about the workshops that can be improved

2. Creative thinking/learning

   a. What do you think is the best way of learning? (to plan, do/try/play, reflect)

   b. Do you think what we did was "creative"? How?

   c. Do you think of yourself as creative?

3. Motivations and aspirations

   a. what do you think of the work we did together? Did it meet your expectations?

   b. After the first few days, what made you coming back here?

   c. Do you now feel less, same or more motivated to help your community?

   d. What are your motivations and expectations about this project now?

4. Skills development

   a. How much do you think you remember of what you learned during these workshops?

   b. Do you think that the work together helped you learn any skill?

   c. Do you think that the work together helped you in any way?

   d. How do you think you will use in the future the skills you have learned?

      e.   What do you think is the best way for solving problems?

5. Leadership, entrepreneurship, ownership over the process

      a.   You have made a plan. Will you continue this work? What do you see happening now?

      b.   Is there anything that you will need from me to carry on with the project? What would you like me to do next?

      c.   Do you think the tools will help you to get information from your community? How?

6. Genuine participation and engagement

      a.   During the workshops did you feel as a learner? Or as a leader? Or both?

      b.   Did you ever feel in charge of leading the project? Or do you think I was deciding everything?

      c.   Did you feel you had to be perfect before doing or saying anything?

7. Personal development

      a.   What do you think it was the purpose of this project together?

      b.   What have you learned from this project experience? How do you think this will help you in the future?

      c.   How do you feel about sharing your ideas during the workshop? Were you afraid? Why?

      d.   Do did you feel about challenging mine or other people's work and ideas?

8. Sense of agency and activism

      a.   What do you now think about the issue of substance abuse in your community?

      b.   Do you think you can help it? How?

      c.   Before this project, did you ever consider yourself an activist in your community?

      d.   And do you consider yourself an activist now?

9. My role as researcher/facilitator/trainer

      a.   How do you think I managed the project?

      b.   3 things that you liked about me or the way I interacted with you

c. 3 things that you disliked about me or the way I interacted with you

A.6. Sample material handled to workshops

Figure A.2: WS1 activities as scheduled VS their actual implementation

A.2   Proceedings

A.2.1   Welcoming and setup

While waiting for participants to arrive, the researcher prepared the room and the material (see figure A.3). The room was set up using 4 separate tables with 3 seats each, thus to result in having 4 groups ready-made for the prototyping and to facilitate interaction among participants.

Figure A.3: WS1 preparation

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A.8. Cultural probes prototyping

A.8.1. Pre-prototyping

What do you want to find out?

Who is your target? How many people to involve?

What does the tool consist of? What materials are needed to use it?

How can you ensure people will use the tool?

How is the tool going to be delivered? How will people know how to use it?

How are people goign to give you the information back? How often? For how long?

What are the specific instructions, tasks or activities that people have to follow? (what-how-when)

How does the process work (before-during-after)?

Made by:

Date:

Q1	What do you want to find out?
Q2	Who is your target? How many people to involve?

Q3	What does the tool consist of? What materials are needed to use it?
Q4	How can you ensure people will use the tool?
Q5	How is the tool going to be delivered? How will people know how to use it?
Q6	How are people going to give you the information back? How often? For how long?
Q7	What are the specific instructions, tasks or activities that people have to follow? (what-how-when)
Q8	How does the process work? (before-during-after)

A.8.2. Guided-prototyping

The guided-prototyping activity presented participants with a list of question categories. Participants had to copy-paste the templates to use as a guide to make their questions to use as a basis for their tools.

Type of question	Examples
Ask his/her feelings	• Image your kids on drugs, what would you do? • How do you feel about your job at this situation?
Ask a question	• Why do you think children participate in drugs? • What effects would you put to protect children from drugs?
Ask to take a picture	Take a picture of the kids in the morning and another one after lunch to see the difference
Ask personal details	• Date of birth • Name • Residence • Dependents
Ask to reflect on something	• Is there anyone in your family who is on drugs? • Have you ever faced violence by a drug addict? • Why do you have strong feelings against drugs?
Ask to take notes of something	Take note of the different symptoms that different drugs present
Ask to make a list	Make a list of challenges drugs bring to school
Ask a question before doing something	What would you like to achieve with this activity?
Ask a question after doing something	Do you achieve what you wanted to achieve from this activity?
Ask to imagine something	What is the worst scenario having to deal with a 10-year old who's drunk?

A.9. Contextual interviews prototyping

A.9.1. Pre-prototyping

What specifically do you want to know more about?

Who do you want to interview? And why exactly?

How will you record the answers?

Where should the interview take place? And for how long?

How will you approach and motivate this person to participate?

Anything else that is important to keep in mind?

What specific questions do you want to ask? Write 5-10 questions

Contextual interview tool template completed by: _ Date: _ _ _ _ _ _ _ _ _

CREATE YOUR CONTEXTUAL INTERVIEW TOOL AND TEST IT WITH THE YOUTH

Team name: Date

Use this side of the page to think about your contextual interview. What is it about the youths that you want to understand more about? How to make it fun for them? Which questions are you going to ask? What is to observe? You have 15 minutes to discuss with your team and complete the first 3 questions. Then you have 30 minutes to complete question 4 and organise and prepare your interview to be tested!

Use questions 5 to 8 to take notes while testing your tool. Use it also as a base to organise your thoughts and prepare the presentation.

2) Why using this tool?

4) Which questions? Write 3-5

1) What do you want to find out?

3) How is going to work?

5) What works well?

6) What does not work as expected?

7) What can you observe?

8) What are the findings?

A.10. Framing the challenge

A.11. Starter activity

The "frame the challenge" tool was designed to quickly generate a list of macro-challenges, or "wicked problems" afflicting the community. The tool consisted of a series of questions to elicit thinking and form the basis for a group discussion.

Question	Rationale
What is a problem of the youth that you want to solve and why?	To choose a challenge among those known that is of most interest and concern
What factors contribute to generating this problem?	To reflect on the underlying dynamics of the challenge
Who else does this problem affect?	To identify all the stakeholders linked with the challenge
How do you see this problem being solved? What is your idea?	To see what, if any, thinking has been done in terms of solutions to the challenge
What is good about your idea and why?	To understand the rationale behind the solution
What are the limitations of your idea?	To look at fallacies in the solution proposed
What will you need for your idea to be successful?	To determine the feasibility of the solution
What do you need to investigate to develop your idea?	To elicit thinking on what is still unknown and needs further investigation

FRAME THE CHALLENGE

You have 15 minutes to do this. Write your answers using post-it notes and stick them in the relevant spaces. Use multiple post-it for the same answer to separate sentences or items. Try to be the most possible specific and clear!

Name   Date

1) What is a problem of the youths that you want to solve and why?

2) What factors contribute to generate this problem?

3) Who else does this problem affect?

4) How do you see this problem being solved? What is your idea?

5) What is good about your idea and why?

6) What are the limitations of your idea?

7) What will you need for your idea to be successful?

8) What do you need to investigate to develop your idea?

A.12. Clustering

The researcher designed a process to facilitate clustering and elicit reflection on the findings gathered. First, each participant or team would present the answers gathered. Per each answer the group would come up with a keyword or short phrase

that catches the essence of the answer; this would be written on a sticky note and put on a poster.

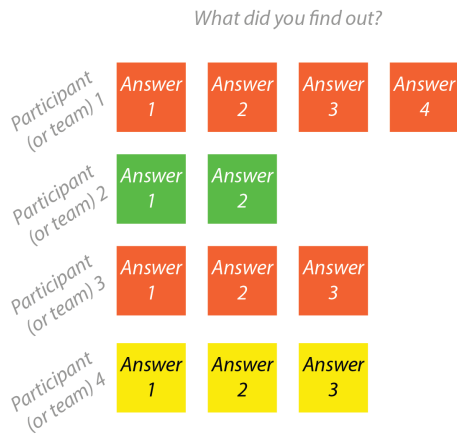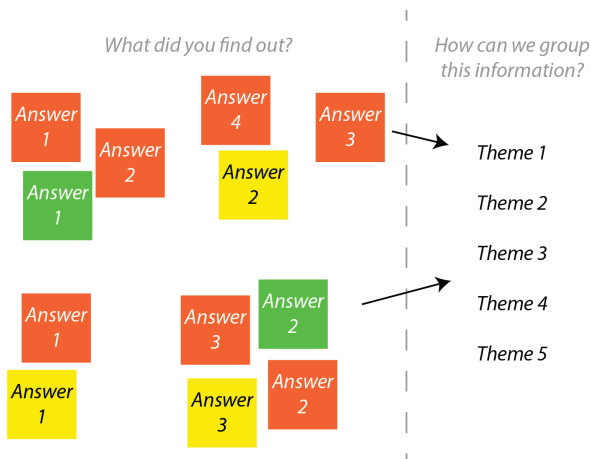The group would then look for ideas that seem related and move the sticky notes accordingly to generate groups or clusters of information. A title would be generated to capture the theme of each group.

The themes generated would constitute the basis for the follow-up enquiry. An additional discussion would take place to capture reflections on "good things" (opportunities), "bad things" (challenges), and possible solutions plus any additional consideration (e.g. who is this problem for? Who does it affect? What factors shape this problem? How do you want to address this problem?); thus, to help deepen and enrich the discussion on the findings gathered prior to the generation of new directions of enquiry.
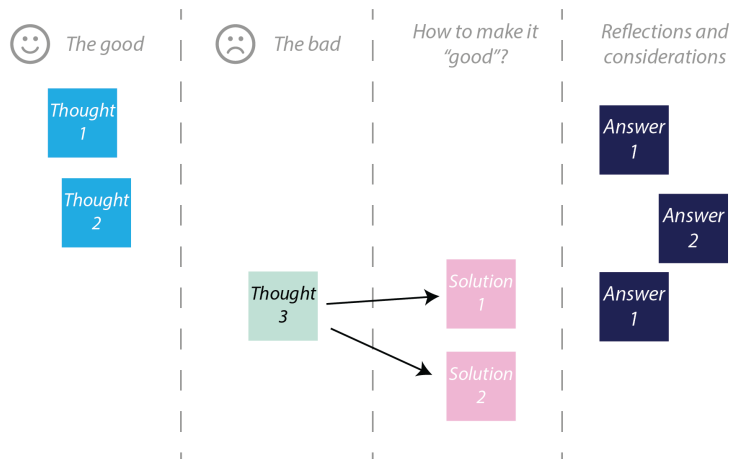
Now, with an abundant aggregation of evidence and thoughts, the group would list the themes again and come up with new questions that need answers. These new questions would guide the successive iteration of data collection.

On top of the clustering process to analyse collected data, participants were always also prompted to reflect on their experience of collecting data and on the tool that they used. Probing questions in this sense included:

- Whom did you interview?

- What did you do to get in touch with him/her?

- How did you explain the research and the tool?

- What did this person say? How did he/she react?

- How was your experience overall?

- What challenges did you encounter?

A.13. Building a team

The "Build a team" tool aimed to build team spirit and create the basis for assigning roles among team members for the project. Using the "speed dating" principles as a basis, participants were asked to sit one to one among each other to identify their strengths and weaknesses; in addition, the exercise served to collect some necessary demographic information (such as name, age and occupation) and availability of time and resources to use as basis to organise meeting and workshop activities.

The "Build a team" tool would help identify "best fit" for specific roles according to strengths, weaknesses and resources available. So, for example, a participant with a camera, a right eye for details and not good at speaking publicly would best fit the role of the "documenter".

BUILD A TEAM

Name   Date

Move from one person to the other until you have talked with everybody.
You have 2 minuts in total per each person to ask your questions.

Name, age and occupation	Good at	Not so good at	Time and resources availability

A.14. Action plan

The "Action plan" tool was developed to provide with a way to collectively agree on things to do for the project and to identify responsibilities and critical dates.

CREATE A PROJECT PLAN

Idenatify what tasks and activities are going to be carried out, when, by who, and what is needed in order to complete them.

April

Mon	Tue	Wed	Thu	Fri	Sat	Sun
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

May

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

June

Mon	Tue	Wed	Thu	Fri	Sat	Sun
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

Main task	Resources needed	People involved	When

July

Mon	Tue	Wed	Thu	Fri	Sat	Sun
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

August

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3	4	5	6

Mon	Tue	Wed	Thu	Fri	Sat	Sun
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Main task	Resources needed	People involved	When

A.15. Social business model canvas

| Social challenge	Values	Key activities	Costs
What is the problem we are trying to solve? What are the	What is our mission? What value are we creating?	What programme activities will	What are our expenses? What do we

causes of this problem?		we be carrying out? What is the format of our intervention?	need money for?

Core competencies and key resources What are the core competencies of the team? Also, essential resources (that we need)? What core competencies and key resources do we lack (that we need to outsource)?			**Financial sustainability** How will we get finances (grant, donation, crowdfunding, …)?
Key stakeholders and partners Who are the essential groups we need to involve? Do we need exclusive access or permission?	**Channels** How are we reaching stakeholders/partners? How will we approach them to obtain their support? How will we maintain a relationship with them?	**Impact** What are the social, economic, environmental, cultural impacts?	**Assessment** How do we measure our impact? How will we show that we are creating an impact?

A.16. Assign roles

As part of the transition of ownership of the project and achieve genuine participation, the researcher planned to get participants quickly to take responsibility for aspects of the project and its management. Each offered the opportunity for leadership and learned by doing about facilitation.

Identifier	Title	Description of duties
	Chair	Introduces and closes each activity. Oversees individuals' roles, looks after the group's money and keeps the researcher updated.
	Material manager	Prepares all the material needed to carry out the workshop.
	Food organiser	Makes arrangements for the food.
	Caller	Reminds the others about the forthcoming workshop and any approaching assignment's deadline.
	Location organiser	Books the space for the workshop. Makes sure it is kept clean and no damages are being done.

	Cleaning and setup	Arrives before the others to prepare the space for the workshop and cleans it afterwards.
	Secretary	Administer the contacts register. Makes sure that all participants have signed their presence and the expenses register by the end of the workshop.
	Documenter	Makes sure that the workshop is being documented with (either or a combination of) pictures/videos/audio recordings.
	Timekeeper	Prepares the workshop's agenda and makes sure the schedule is being respected.
	Moderator	Introduces activities, keeps discussions on topic, makes everybody speak and mediates tensions.
	Reporter	Makes sure a follow-up plan is being agreed on and convey to "the outside world" what happened during the workshop.
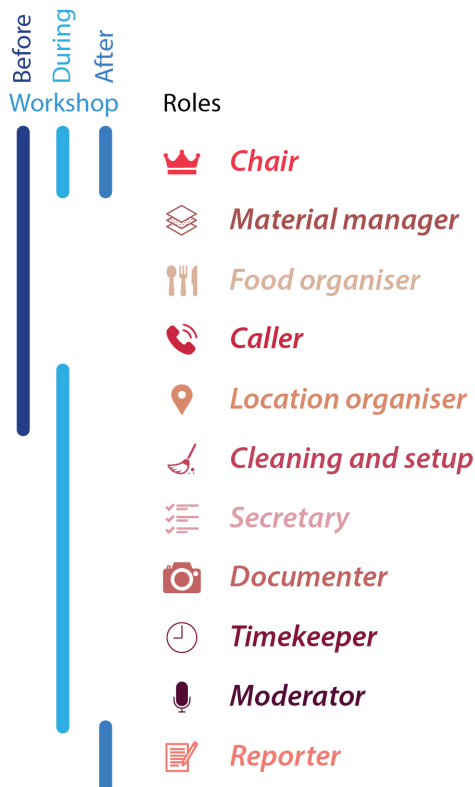
When devised the roles, the designer-researcher limited hierarchies and focused on cooperation, meaning that each would be accountable for completing (or neglecting) some specific duties (without needing to "report" to anybody); at the same time, in order to fulfil their role, it was required that participants interacted and cooperated with each other. So, for example, in order for the "Caller" to remind the group about future workshops or assignments, she would need to contact the "Secretary" for a

most updated version of individuals' contact details. Alternatively, else, the "Documenter" would need to provide to the "Reporter" all the media material to enable her to do her task. The privation of hierarchies meant that individuals had to take responsibility for their actions. If one did not complete a task nobody else would be taking her duty and responsibility (unless internally and informally agreed between individuals), which in turn allowed individuals to see the effects of their cooperation (or non-cooperation). At the same time, it was essential to have somebody looking at the "big picture" (beside the researcher) and therefore focused solely on harmonising roles coordination and acting as "master motivator"; for these reasons the "Chair" role was created.
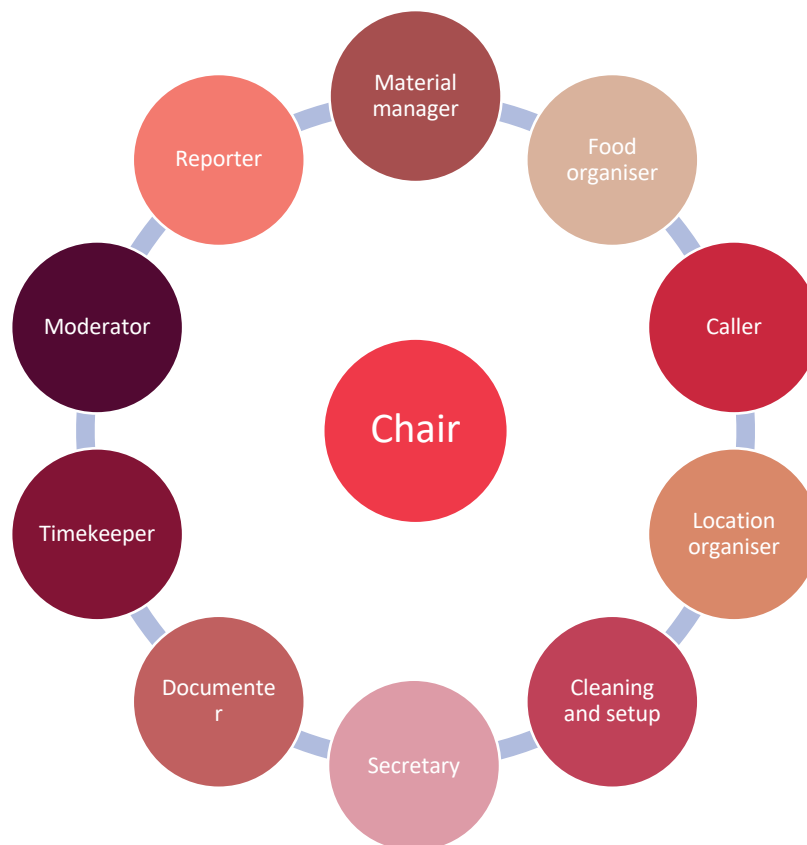
A.17. Facilitator's game

The "facilitators game" aimed to explore the dynamics of facilitation throughout role-playing. The game was prepared in two "acts": a first to play, and a second to reflect. To play, each participant received an envelope with a brief description of their part. Participants were divided into four groups, each led by a facilitator.

Each group had a different topic to discuss, assigned by the researcher based on the discussion held during fieldwork and introduced by the figure of the facilitator. Facilitators received the following instructions:

1) Introduce the topic to discuss

2) Explain rules:

    a. Talk one at the time

    b. Rise hand and ask to talk

    c. Be open and positive

    d. Discuss for 5 minutes

3) During the discussion remember to:

    a. Keep track of time

    b. Resolve conflicts

    c. Make use everybody talks

d. Enforce the rules

Parts were allocated in each group to emphasise a particular dynamic. Also, a neutral role whose function to "Stay focused and participate in the discussion actively and respecting the rules" was produced, to complement any extra participant joining the game. Individuals had to keep their instruction sheet secret. Every 5 minutes participants had to swap roles with each other.

Group	Dynamic	Characters
Green	Bizarre	Say odd, strange and unpleasant things Be negative and pessimistic
Blue	Problematic	Dominate the discussion. Talk a lot You are very uncertain of what you say. Also, talk quietly Be very critical of the ideas and opinions of others Interrupts others and talk over them
Red	Shy	Be very brief when you speak Do not talk You do not understand. Ask to repeat
Yellow	Distracted	Go off-topic Get up and walk away often Use your phone and get distracted often

For the second part, all the instructions were shared across the group. The group gathered in front of a poster to discuss their thoughts and feelings while playing the game from the perspective of the facilitator and that of group participants. This served as a starting point to reflect on:

1) Difficulties of being a facilitator

2) Things to consider to cope with complicated dynamics

3) Need to be collaborative as a group participant and respect the rules to respect others

A.18. Sample of the guide provided to participants

Hi and welcome!

I am very happy that that you decided to participate in this research and I really hope that we will enjoy and learn much from each other.

I have prepared this document for you, so please keep it nicely. This will guide you through the research and it could be useful also in your future if you wish to continue with the work that we will start together. If you ever need to get in touch with me in the future, please use the following details.

Alessandro Medici

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WhatsApp me at: +447530070564

UNIVERSITY OF LEEDS

PARTY
PARTICIPATORY DEVELOPMENT WITH THE YOUTH

2

What is this all about?

Solving problems and helping others is not easy. How can we know what is the right thing to do? I'm sure this question occurred to you many times during your everyday life (at least, it happens a lot to me!). In order to create powerful and meaningful solutions that 'make sense' to people and their environment, a lot of work needs to be done. This because (and especially when we are trying to help others) we have to put a lot of effort to understand what people truly wants and what their needs are. It sounds reasonable but it is not an easy thing to do! Part of this understanding includes researching about the context, exploring the problem from different perspective, and looking into people's lives to realise more about their hopes and desires – this means empathising with them. One way of doing this type of work is called the Design mode. The Design mode is about being creative, critical and practical; it is about analysing problems, imagining solutions and then applying all this thinking with some practical action (so that we don't simply "sit and think").

With my research I have created a training for you to learn about this design mode. During the workshops, you will learn about a number of ways in which you can identify, analyse and think critically about problems and possible solutions and create your own tools to do so. As part of this training, we will select a challenge to work on that will serve as a context to see the design mode in action. We will not try to solve this challenge but instead learn about how to focus on it. At the end of our work we will present what we did to collect feedback and ideas from our community.

It is my hope that by learning about all of this, you will be empowered with new tools and means to support our growth as young leader and help you lead your future life or community projects.

Do I have to take part?

You are being invited to take part in a research project and it is up to you decide whether or not you wish to take part. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read this document carefully and discuss it with others if you wish. Ask if there is anything that is not clear or if you would like more details. Please remember that your participation is voluntary and you can leave at any time. If you wish to take part be aware that the results of this research will be shared with the academic community. Everything recorded and created is anonymous, confidential and stored securely. More details about the research and your rights as participants are found in the "Detailed information about the research" section below.

If you decide to take part you will be asked to sign and decide whether to agree to all or some of the following points:

| ☐ I am happy to take part. | ☐ I give you permission to record research activities. | ☐ I give you permission to share and publish findings and recordings. | ☐ I give you permission to share and publish what I will make during the research. |

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Your notes, thoughts and sketches related to the pre-session

6

Date: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

The aim of this session is to "break the ice" by getting to know each other and fully understand the research before starting. During this session we will also hear about each other's backgrounds and share motivations and expectations for the project.

Activity	Length	Description
Presentation and introduction	30 minutes	Please let me explain! Here I will do my best to talk you through myself, this research and your role in it.
Share your history	30 minutes	This is for you to tell about yourself: who you are and what is your experience as a young leader. How are you going to do this? By talking? Or drawing? It is up to you to decide how to express – be creative!
Questions and answers	30 minutes	This is the moment for you to ask questions. Don't be afraid, ask as many as you want! You have to fully understand what is going on.
Motivations and expectations game	30 minutes	Everybody writes on two separate notes 1) the motivations to undertake the training and 2) what you are expecting out of the project. We will put all the notes in a box and later read them aloud. If you want you can write them anonymously.
"What does that mean to you?" game	1 hour	By now, I have probably already repeated a number of words plenty of times (such as "Design" and "Participation"). These are the "buzz words" used in this research and so it is important that we all know what we mean when we use them. Let's find out!

5

A.19. Motivations and expectations

Everybody writes on two separate notes 1) the motivations to undertake the training and 2) what you are expecting out of the project. We will put all the notes in a box and later read them aloud. If you want, you can write them anonymously.

A.20. Align understanding

By now, I have probably already repeated a number of words plenty of times (such as "Design" and "Participation"). These are the "buzz words" used in this research and so it is important that we all know what we mean when we use them. Let's find out!

A.21. Planning a workshop

Running a successful workshop requires a lot of effort and variety of things to do. This not only while it happens, but also before and after. Let's explore what this "job" is all about and how to divide the tasks to make it all easier.
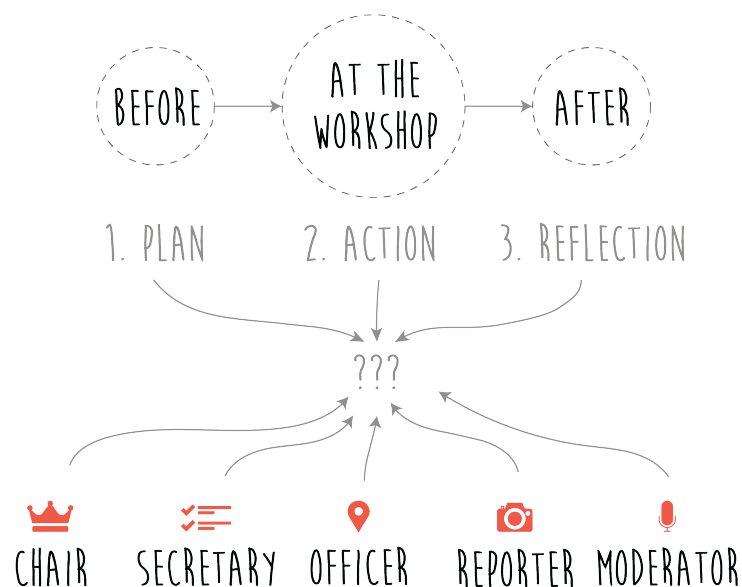
A.22. Building a team and assigning roles

Now we have a challenge to work on, our roles and our tasks. Before deciding who is doing what, we need to know more about each other. Think about your skills: What are you good at? What are less good at? What useful or valuable things or persons you have access to that could help your team and this project to develop? Think about a moment in your life that felt you did a good job. What was it? Sharing this information to the group will be really helpful!

A.23. Cultural probes prototyping

Every research has to start somewhere. The tool that we are going to discover today helps us to move the first steps and find inspiration on our chosen challenge. Cultural probes consist of kits with instructions and can take many forms. So, for example, it could be made of a box with inside a map to mark where relatives live and a diary to describe the person feelings at various moment during the day.

Now it's time to create your own kit! What is it made of? Who is it for? For how long should be kept? How are you going to write your instructions? Here are some ideas of tasks that you could ask:

- Draw (something)

- Make a map or mark on a map (something)

- Take a picture (of something at a specific moment)

- Share thoughts or feelings (before, during or after something)

- Collect objects (for a specific reason)

- Make a list (of something) in order of importance

- Provide some personal information (for example age, aspirations, dreams, …)

Then share your impressions and discuss with the others your experience. What did you find out? What worked? What didn't work? What can be improved? Looking at what you now know… Can you see new challenges? Some opportunities for further research?

A.24. Contextual interviews prototyping

We started our project with some questions and thanks to the cultural probes we have come up with better ideas about our challenge – and so our research continues! Now we should have more, better questions to ask. Today we will learn about another tool to help us with this and research even more in depth: contextual interviews. This is a special tool because it requires us also to observe and reflect – while listening to the answers. At the end of our questions we should also share and discuss our thoughts to the person we have interviewed.

Now it's time to get out and test our tool that we just prepared! Remember to…

ASK YOUR QUESTIONS   OBSERVE   TAKE NOTES   EXCHANGE THOUGTHS
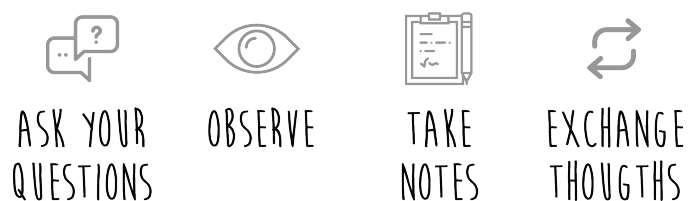
Then share your impressions and discuss with the others your experience like we did for the first tool. Have you learned something new?

A.25. Social business model plan

If we want people to take us this seriously, we need to show them that we know what we are doing. To do so, we are going to prepare a project proposal that considers all the aspects of the project. Here are some questions to help guide this activity:

- The challenge we want to solve: What is the problem we are trying to solve? What are the causes of this problem?
- Our mission and its special value: Why are we working on this? What is special about what we are doing?
- Key activities and format of intervention: How are we going to solve the challenge?
- Core competencies and resources: What do we have that makes us special? What do we need to make this work?
- Key stakeholders and partners: who are the essential groups we need to involve?
- Channels of communication: How are we reaching out the people we want to collaborate with and work for?
- Social, economic, environmental and cultural impacts: how are we going to contribute to the local and global development?
- Assessment of impact: How do we measure success? How we will people know that we are making an impact?
- Costs: What are our expenses?
- Financial sustainability: How are we going to cover these expenses?

A.26. Action plan

Now we need to understand what our next moves will be. What do we need to do? Who is doing what? When? And is there anything else that we need to consider? Let's make a list – the order doesn't matter now!

WHAT?	WHO?	WHEN?	COMMENTS
ACTIVITY 1			
ACTIVITY 2			
ACTIVITY 3			
ACTIVITY 4			

Let's have a look at this list of activities and think: what comes first? How much time we will need? Have we paid attention to important festivity or event that will cause us to stop working? Now it's time to be precise.

	JUNE	JULY	AUGUST
ACTIVITY 1			
ACTIVITY 2			
ACTIVITY 3			
ACTIVITY 4			

A.27. Certificate of attendance