Title: Supporting self-organised community research through informal learning

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Abstract

The processes by which community-members help to shape local agendas can vary from highly-formalised procedures to very informal learning and sharing activities that engage multiple stakeholders in conversations to construct a better understanding of issues and concerns of community members. Community partners sometimes want to work with universities to build university-community research partnerships to support these activities. This paper looks at two such cases and the framework of ideas that we have used to steer and theorise our participatory research approach. This approach uses informal learning combined with a belief in the value and potential of self-organising processes in community research. The result is a contribution to Community OR that develops long-term engagements rather than brief interventions and produces ongoing constructed conversations with community members to help articulate and share knowledge about social experiences and expectations. The paper emphasises the need for Community OR researchers to focus not only on the technologies they are producing but also on the *processes* they create to support the development of the communities they are working with. We present a framework that uses a combination of self-organisation and informal learning theories to support the analysis and development of this process approach.

Keywords: OR for Community Development, Community Operational Research, Constructed Conversations, Self-organisation, Informal learning

1. Introduction

There are many different occasions when communities face distinct challenges and wish to think collectively about how best to respond to them. Where relationships of trust exist between universities and community groups, researchers may be asked to help contribute to this. This is nothing new: Freire (at Recife University in 1962) involved people as actors rather than passive objects of a study (Freire, 1972), and Ackoff (1970) talked of his similar response to community members wanting change within a Philadelphian neighbourhood nearly 50 years ago. OR and systems thinkers have made many notable contributions to shaping discussions for community planning and agenda setting in different ways since – see for example Espejo (2000), Rosenhead and Mingers (2001), Midgley and Ochoa-Arias (2004), Friend and Hickling (2005) and Johnson (2012).

However, in our view, the fundamental question for Community OR researchers still remains for all of us: *how can our research support the communities we are working with?*

Midgley, Johnson and Chichirau (2017) highlight that a key feature of Community OR activity is the creation of opportunities for 'meaningful engagement' with communities. They invite research practitioners to reflect both on the nature of this engagement and the nature of the communities under consideration. They also highlight the value of participating in inclusive research networks and regularly reviewing the involvement of different stakeholders in both framing and understanding the issues under consideration and ongoing learning for all concerned (ibid). For some Community OR researchers this often involves working with people who may be marginalised from traditional forms of decision-making. (See Herron (2012), Johnson et al (2017) and Gregory & Atkins (2017) for further discussion on central concepts, current trends and connected interests within the Community OR research community).

1.1 The context of this research

Our paper uses 2 separate cases that illustrate different aspects of this general discussion. The first example is a community-led 'Social Issues' network created in 2011 by a church leader in a rural community of South Lincolnshire (UK). This community may be characterised generally by an agricultural-related landscape and an aging, somewhat-isolated population, based in small towns, villages and hamlets. In recent years the area has also seen rapid changes to its population demographics as new (younger) arrivals from Eastern Europe have moved to the vicinity for employment – giving Boston (the nearest large town) a very high proportion of 'English as a second-language' speakers. Rural isolation, aging and limited financial resources remain a particular concern for many people in the area – with social cohesion and issues of maintaining good mental and physical health being recurrent themes on local agendas. The social issues network was formed by the community leader to give local people an opportunity to meet and discuss issues of collective concern to them and help them inform priorities (and indirectly to develop responses to these). The network meets twice-yearly to explore specific themes identified to be of particular concern. Membership consists of voluntary sector organisations, members of the public, local councillors and public sector agencies such as the National Health Service, Police, Fire and Rescue. Guest speakers from the public sector, local organisations and other professionals and community members create a (half-day) agenda with scope for discussion, review and networking.

The second, more urban, community of focus is in a local city where the City Council, local residents and the University have been developing active learning spaces with community groups (including newly-arrived communities) to help contribute to shaping two consecutive local community plans.

In the urban context the city has also seen rapid changes to its population demographics, with inward migration that has brought international students, European and International workers and other new residents in a relatively short space of time. The City Council has repeatedly sought to create mechanisms to engage local residents in ongoing conversations to help shape agendas and impact on the creation of the formal local plans, and has worked with researchers as part of this wider activity.

Both engagements have encouraged the articulation of local knowledge; engaging people in shaping agendas that concern them – improving knowledge within these discussions and helping local authorities to develop new forms of knowledge-sharing and collective reflection on issues of importance to local people. Our role as researchers has been to develop university-community partnerships in each situation; helping to shape the design and delivery of activities in a participative manner and supporting community participants to create and strengthen their own narratives (and knowledge) about local contexts, situations, priorities and desirable agendas for action.

2. Theoretical foundations

Our response to thinking about the question "*how can our research support the communities we are working with?*" has drawn from two distinct influences that determine our underlying theoretical framework and resultant practices: these could be described as *constructed conversations in self-organising communities* and *community-based research supporting informal learning*.

2.1 Constructed conversations in self-organising communities

The first theoretical notion that has guided our thinking is that of a *self-organising community* – i.e. complex, evolving interactions of interested parties and active participants, who engage in *a series of interactions – including conversations/communications* - over an extended period of time - many years in some cases. This perspective builds on complexity research, both in the physical and social sciences (Prigogine and Nicolis, 1977; von Foerster, 1982; Luhmann, 1995; Capra, 1996, 2002; Herron and Mendiwelso-Bendek, 2011).

Whilst accepting that no such 'system' will ever be entirely self-organised, we have generally been working with local community partners out of their own desire for community development and a notion of and commitment to some form of *improvement* - particularly improvement that includes vulnerable, disadvantaged and marginalized groups or individuals in society (Mendiwelso-Bendek, 2015). The groups we work with typically bring together local people, voluntary sector organisations, academics and public sector bodies.

"Agents can enable their self-organisation through their own resources and creativity or through the support of external agents, such as researchers, NGOs, government agencies, private trusts, philanthropy or others forms of support. Accepting that self-organisation is inherent to the complexity of social processes, the challenge for us is to work out how to make these self-organising processes more effective. How can citizens of a community improve the quality of their own interactions? How can these citizens co-create desirable values in their interactions with external enablers, such as organisations and policy-makers?", Mendiwelso-Bendek and Espejo (2015, p.114).

The activities of these self-organising (community-university facilitated) groups generate different forms of knowledge and the ability to reflect on that knowledge in a process of 'constructed conversations' (Mendiwelso Bendek & Herron, 2010; Mendiwelso Bendek, 2015). *Constructing conversations* forms an important part of our participatory research approach and builds on earlier Conversation Theory. Conversation Theory, as developed by Pask (1975), originated from a cybernetics framework and is seen by Scott (2015, p.59) "as a major contribution to cybernetics, education and epistemology". In this theory, Pask claims that conversations play a key role in learning. They give participants the opportunity to construct their own understanding and constitute processes of meaning production that are communal by nature (Pask, 1975). Scott (2001) extends this by further discussion of the relationship between communication, conversations and knowledge to help the conceptualisation and understanding of "what takes place when effective communication occurs, the process of coming to know where one participant in a conversation can be said to understand another participant's "knowledge"" (ibid, p.343). These conceptualisations see conversation as far more than passive exchanges, but rather the processes of interaction through which beliefs are 'negotiated'. Pangaro (2008) identifies the relationship between conversation and design, and how conversations can be supported to be more effective:

"That is, *effective conversation*—where beliefs are negotiated through interaction and evolve in a framework of goals, just as goals are negotiated and evolve—is a process of design. Similarly, *design*—where proposed constructions are negotiated and evolve toward goals, just as goals for the design are negotiated and evolve—is a process of conversation" (ibid, p.35).

In our work, the creation of opportunities for conversations of various forms is central. As Mendiwelso-Bendek (2015) points out that these are not any conversations, but "…conversations that observe, analyse and reflect about community and authorities organizational practices, processes and structures. These are conversations of civil society about barriers, opportunities and learning in processes that influence decision making processes" Mendiwelso-Bendek (2015, p.909).

This theoretical work has been used to encourage us to develop *spaces for conversations* – by identifying and engaging participants, stimulating the development of topic threads and facilitating emergent discussion. This research support has been both in terms of helping community members to articulate issues (and map and record them) and, in cybernetic terms, to develop and enhance *feedback systems* that help amplify or attenuate conversations as required by participants and those they are interacting with in the wider (environmental) context (Beer, 1994; Espejo, 2002).

> "Citizens are producing the contexts they belong to, at the same time as being defined by these contexts (Espejo 2000) … conversations were designed to help participants in Civil Society to be systemic observers of their own internal processes as they extend the boundaries of their power, and also to observe from the outside, as external observers. The systemic observer is inside and outside the action. From this perspective they simultaneously observe themselves as actors and observers in a circular causality (von Foerster, 1982)", Mendiwelso-Bendek (2015, p.908).

In general terms, our work has involved creating opportunities for learning and reflection, engaging with community-leaders in the process to articulate and strengthen the work they are doing, and to discuss with them ways they can be supported in developing self-organising community groups able to reflect on key issues in a locality and help to shape the local agendas and responses to these issues (Mendiwelso-Bendek and Herron, 2010; Herron and Mendiwelso-Bendek, 2011).

This is a long-term approach that sees researchers operating in several different modes – consistent with the notion of supporting a self-organising system. At the outset, much of the energy inputted by researchers was spent in creating environments for conversations between community members and with local authorities. Through this process we gradually identified people, groups and topic areas where our engagement was welcomed and felt to be valuable. In different ways we then helped to catalyse, enable or support the continuing activities of these groups and conversations – with the intention to help processes that encouraged development and on-going self-organisation. *How* this was enacted in practice differed depending on the different contexts, situations and the individuals concerned. For example, in the urban case, workshops and meetings helped to further facilitate the existing activities of the City Council to engage minority and other groups of residents with its medium and long-term planning processes. The challenge here was to find ways that people wanted to engage and to capture appropriately the lessons that it was possible to learn from sharing and discussing everyday lived experiences and future expectations. In the rural context, the process started by using a traditional research tool (a survey) to scope out the priorities and local concerns of

residents and to use the results of this as a starting point to form a network of interested local community members (Local Authorities, community organisations, church leaders and individuals) who wished to regularly meet, review, discuss together and extend their collective understanding of key issues of local concern. In both cases, the intention was to produce constructed conversations:

> "… with the aim to build an effective Civil Society […] [These are] more than community conversations or collective observation. These constructed conversations need structures that at the same time as harnessing the interactions of groups operating under non-coercive rules and, as yet, undefined purposes, also enable inclusion of all people and openness of expression for all viewpoints. These are conversations which steer groups towards shared issues, maintaining their course through on-going feedback (cf. Beer, 1994)", Mendiwelso-Bendek (2015, p.908-909).

2.2 Community-based research to support informal learning

The second theoretical element this paper brings into the Community OR discussion is the notion of *community-based research to support informal learning*. This builds on the work of the UK's 'Take Part Network' of community and voluntary sector organisations and universities (Mayo and Rooke, 2006a & 2006b; Take Part, 2006 & 2011; Miller and Hatamian, 2011; Tam, 2013; Mayo et al, 2013). This work combines ideas of key contributors to the approach, such as Freire (1972) and Gaventa (2011), with a commitment to community development and championing social justice through the development of opportunities for informal learning. Such opportunities include learning about local decision-making processes by taking an active part in them, or developing narratives about daily-life experiences and using these to build the capacity for new actions within communities. These actions might be very small and personal (for example, having the confidence to speak in a meeting or workshop) or be large scale collective activities such as highlighting the needs of specific minority or marginalised groups.

Our methodology to create opportunities for social transformation has its root in Freire´s (1972) conceptual framework to justify approaches to active citizenship, civil society and third sector learning. Over the years, a great deal of literature has been developed around the theory and practice of participatory research (for example, Freire, 1972, 1982; Fals-Borda, 1990; Gaventa, 1990, 2011; Annette and Mayo, 2010; Mayo et al, 2013). Participatory Research mostly has its roots in experiences in countries with 'developing economies', but the methods and ideas are not limited to these. Indeed, similar ideas have been developed elsewhere, from groups who, within their own context, share characteristics of exclusion from knowledge systems that are similar to those faced in 'developing countries'. Three strategies of popular participatory research have emerged: firstly, the

re-appropriation of knowledge; secondly, the *development* of knowledge; and thirdly, participation in the *social production* of knowledge (Gaventa, 1990).

> "Civil Society groups construct their identities in the process of extending the boundaries of their power (i.e. issues, expectations and opportunities). This construction is the outcome of communication processes among citizens. Identities emerge from the way in which citizens relate to one another in their moment-to-moment communications. Citizenship is understood as a stable construction-property that emerges from these interactions (Mendiwelso-Bendek 2002)", Mendiwelso Bendek (2015, p.904).

In the last few decades, citizenship has tended to be understood as 'human agency', setting the scene for (self-determination orientated) capacity-building programmes intended to 'empower' local communities, whilst opening questions for research approaches exploring new dimensions of citizenship in practice (Kenny et al., 2015). These processes aim to co-produce knowledge between the parties involved in the process. It seeks to destroy some of the barriers between citizens and researchers. Boal (1979) claims in the *Theatre of the Oppressed* that these are the processes (of destroying the barriers between actors and spectators) that in community based research aim to enrich knowledge production.

Learning partnerships that support people in taking part in civil society (as active citizens) have been a topical policy commitment in many countries. For example, in the UK, community-based learning has been recognised as a key issue to enable a *transformative space* for citizenship engagement in democratic processes for active citizenship (Mayo and Annette, 2010). Informal education is seen as an effective approach for more fully empowering forms of civic activism. These approaches have included learning how to challenge unequal power relations when working collectively to promote agendas of social justice (Westheimer and Kahne, 2004; Mayo and Rooke, 2006). The emphasis of these programmes has been upon learning collectively, as well as individually, and learning experientially through engaging as volunteers and participants in structures of governance. Mayo (2010) also argues that, through increasing their own knowledge and critical understanding, learners can in addition be empowered to take collective action in the pursuit of the values of equality and social justice. In a sense, the combination of this informal learning and cybernetic design, outlined earlier in our theoretical framework, is an echo of the earlier writings of Freire on the nature of the research process itself: where he says that If he perceives reality as a dialectic process between subject and object then he has to use approaches that involve the people being studied as researchers rather than seeing them as passive objects of this research (Freire, 1982).
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It also re-emphasises the importance of building knowledge from the position of every-day lived experiences:

> "Building up people's self-awareness has been an ever preoccupation of participatory action researchers […]", "[…] which has to be taken into account since it involves dialectical encounters that are inevitably part of day-to-day living […] Our central aim has been to direct this interplay to allow the common people to have sufficient control over generation of new knowledge", Fals-Borda (1990, p.146).

3. Research in Practice : supporting community-university research partnerships

As part of our research it now becomes possible to ask ourselves the follow-on questions: *How can communities and universities (together) effectively create, support or stimulate the development of 'bottom-up' social agendas for social transformations?* And *how can this be meaningfully theorised?*

This paper now looks in more detail at the role of the research undertaken in supporting the self-organising processes of the two community-based groups highlighted above, and how this research can be informed by, and in turn inform, a wider Community OR discourse.

Whilst emphasising that the processes of community engagement and partnership we discuss here are certainly not linear, our analysis highlights the lifecycle stages involved in the process of this community based participatory research – from helping to operationalise the original idea (inputting energy into the initial set-up and establishment of groups and support for the community leaders involved), to organising learning and reflection ('modelling') activities that help community-led networks to make visible their knowledge-bases, shape agendas for change, and create feedback loops and opportunities for reflection, critical challenge and development throughout.

3.1 Developing methodology and process

Following the lifecycle of our projects, it is possible to identify key stages in the process of researching with communities in this manner. The stages often overlap and interact in practice. In fact, after a considerable length of engagement, all may continue to be in operation at the same time. However, as each one in some senses builds on the preceding one, it is still useful to describe these processes as stages. There are 4 stages identified:

1. Building trusting relationships between community leaders and researchers
2. Engaging participants – building community participation
3. Creating 'spaces' for Informal learning
4. Reflection on outcomes and further design

Our emerging methodology requires us to consider each of these 4 aspects in more detail:

3.1.1 Building trusting relationships between community leaders and researchers

This idea echoes the earlier writings of Ackoff (1970) in highlighting the central importance of mutual trust in the process of building successful support systems within communities. As Ackoff points out, researchers may not know which of their resources (physical, intellectual or other) communities may be able to make best use of, so a continued process of learning about what resources and needs university researchers and communities both have is an important stage in developing university-community research. This is often developed over time and through experience of each other in different situations.

The partnership itself can often be seen to grow and develop as the people involved learn more about each other and the learning and support they can produce together. The community-based learning literature describes this as building university-community partnerships for participatory research (Mayo et al, 2013), whilst the self-organisation literature might see this more as the link between micro, meso and macro interactions and how these interactions build up path-dependency and stronger structures and environments to operate within (Prigogine and Nicolis, 1977; Nicolis and Prigogine, 1989; Capra, 1996, 2002). Authors such as Halpern (2005) and Putnam (2000) also write about this in terms of Social Capital. All these descriptions highlight the value of longer-term engagements, as it is through these that stable relationships of trust and mutual understanding can be developed. In the Community OR literature, this kind of longer-term engagement (open ended even) has been described previously by Ochoa-Arias (2004).

Of course all projects start somewhere, and even short engagements can be successful, but it does also go some way to explain why there is a higher likelihood of mismatched expectations between researchers and communities that are new to each other. Once patterns of interaction have been developed it is also much easier (i.e. less 'costly') for community leaders to come to researchers with suggestions for issues that they wish to work with, and vice versa. In this way it is also more likely that the resultant agenda-setting will have been more community-led and self-organised as opposed to agendas that are proposed in the first instance from the researcher's (or another's) perspective.

In our examples, both engagements have arisen out of working relationships and interactions with two local community leaders. These community leaders were both involved in earlier projects with the University of Lincoln, and continued to build up strong (often exploratory) relationships with each of us; developing their own community research agendas and asking what support the university-community partnership could offer to help develop them further. In the urban case, the

community leader was employed by a local City Council as a Neighbourhood Worker; and in the second (rural) case, the community leader was employed by the Church of England as a parish priest. Both took part in informal learning workshops with us during our 'Take Part Programme' (Mayo and Rooke, 2006a; Mendiwelso-Bendek and Herron, 2010), and each was developing agendas to engage local people and local authorities in conversations about priorities and needs as seen through the eyes of community members. Much of the subsequent work of the university-community partnerships has been developed through conversations and activities with these leaders.

It should be noted that, whilst in each case the community leader can be seen as the primary catalyst for the community research, they did not act alone: there were critically-important supporting groups that enabled the activity. These included the 'championing organisational hosts' (The City Council and the local Chaplaincy Services) and key inputs came from these organisations and indeed several other contributors. Contributions in this context include the volunteering of time and resources and, on occasion, meeting the modest costs incurred - such as guest-speaker travel costs, room hire and refreshments (either given in-kind or directly). In the rural case, a 'mentor group' (steering group) was established, including members drawn from several organisations – including the university, Churches Together in All Lincolnshire, Age UK and several others. As well as meeting the basic sustainability needs of the network, this has had a secondary importance in terms of building a sense of identity and ownership for the activities – with implications for resilience and future self-organisation of at least some activities, even in rapidly changing environmental (organisational and political) circumstances.

3.1.2   Engaging participants – building community participation

Whilst the partnerships that have developed have focussed generally around conversations with a small number of community leaders, it is within the wider community groups that they belong to that the process of community-agenda setting and knowledge creation can most clearly be seen. The community leaders can be seen in some ways as gate-keepers and enablers for public participation and the translation of ideas from abstract to more concrete and locally-understood language and forms.

Using the lens of community-based research, we see that the group of community learners is the primary source of context-rich information and the articulation (and later amplification) of local needs and agenda priorities. Informal learning activities create the mechanisms to build skills, knowledge and confidence within these community groups and in interaction with other decision makers to develop and share collective knowledge (Mayo and Annette, 2010).

In self-organising terms, the participation of individuals can create sufficient closure within groups to be able to create a basic sense of identity, conversational boundaries and a sense of purpose and intent. People can have improved opportunities to interact and create mechanisms to capture and reflect upon the outcomes of some of these interactions. This connects to the theoretical discussion of cybernetic mechanisms that provide steer - such as feedback and the anticipation of desirable outcomes (Wiener, 1961; Espejo, 2000, 2002, 2015).

3.1.3   Creating and supporting *spaces* for informal learning

Informal learning is the main vehicle used within these projects to articulate and enhance the community groups' expressions of issues of most importance and concern to them. Informal learning uses a number of approaches (including workplace learning and small group discussions, music workshops and video-production), but are characterised by an interest in starting from lived experiences (Mayo et al, 2013). Community-based learning emphasises the importance of the learners' own daily-life experiences, the identification of opportunities to learn from these about local decision-making processes and to engage with and shape the views of agencies and other actors that impact on our lives (local and national politicians, public services such as Police, Health Services, schools and intermediaries such as the press, Trade Unions and other Associations). Community-based research approaches stress the need for researchers to enable learning through the design of informal activities and facilitate the strengthening of the capacity of learners to recognise, reinforce, celebrate and share their knowledge (Mayo et al, 2013).

Our approach required us to think further how to create suitable environments and activities for informal, community-based learning and research. This started as a series of conversations with the community leaders/organisers and the trialling of different activities (meetings, workshops, half-day events, etc.). Our approach was developed alongside many others interested in community-based learning, university-community partnerships and the engagement of citizens in shaping decisions that impact upon their lives. It is part of a wider international movement promoting learning about active citizenship, informal adult learning and community-based research as community development - see Mayo et al, 2013 (and also Freire, 1982; Fals-Borda, 1990; Gaventa, 1990, 2011; Mendiwelso-Bendek, 2002; Take Part, 2006; Mayo and Rooke, 2006a, 2006b; Mayo and Annette 2010; Miller and Hatamian, 2011; Tam, 2013; Kenny et al, 2015).

In addition to this commitment to informal learning as a way of working with communities and stimulating community-led participatory research, self-organising systems perspectives add several further valuable notions. In particular, the concept of 'amplification' and 'attenuation' processes in the building of collective knowledge was helpful to accompany the idea of informal learning, as well

as the idea that greater community autonomy and agency could be developed through this process (Mendiwelso-Bendek, 2015). The terms 'amplification' and 'attenuation' refer, respectively, to firstly boosting communications that enable adaptive learning and secondly screening out or reducing 'noise' that distracts from this (Beer, 1985).

In our two examples, the nature of the informal learning spaces differed quite considerably.   In the urban context, a series of community-based workshops were run as part of building and contributing to a local planning process. Thus the Local Authority was engaging with groups of the public to help inform its planning and agenda-setting processes. In this case the intention was to engage members of fairly newly-arrived international communities and other local people living in the same neighbourhoods. In the rural example, the 'Social Issues' network is a community/church-led initiative to bring together different agencies and local leaders (community organisations, public sector organisations and local councillors) on a regular 6-monthly basis to highlight and discuss core issues for the locality. This network organises half-day events on particular key topics, often with visiting speakers, and facilitates general discussion on these. Unlike the urban context where the knowledge created is embedded in a local plan, this is a 'softer' process where individual participants take their strengthened understanding of agendas back into their own activities and community roles.

3.1.4   Reflection on outcomes and further design

As these processes of engagement and learning continue, there has been a concurrent process that can be seen as running alongside the community-based activity. This is the process of looking at the learning process itself, learning about it and refining it. After a while this can sometimes even be seen as a process of reviewing and steering the work of a 'learning system' (Beer 1994; Espejo et al., 1996). In keeping with its underpinning cybernetic principles, this process allows for explicit discussion about whether the process is achieving its desired outcomes (according to those inside the system) as well as the constant challenge to consider if sufficient variety of people are included in the system to cover the 'requisite variety' of the issues that they are considering and the agendas they are trying to shape and inform (Espejo, 2015).

It was important as researchers not to attempt to control and 'own' the process of reviewing outcomes and designing future activities. As the scale of activities grew, this would not have been practically possible, but it would not have been ethically desirable either. Instead, we developed various means to support reflection and review of the on-going processes. This largely meant finding different ways to help capture emerging conversations, to log different forms of data created at community events or within community discussions and to work alongside the community leaders

to help reflect on outcomes and jointly steer new activities. Over time, we have also realised the importance of this reflection and review as an explicit stage of our methodology and approach.

A key role of the researcher in community-based research is to help create environments for critical reflection and process development (Mayo et al. 2013). Reflecting both on the community needs, emerging agendas and the processes being set up to stimulate this knowledge creation can also be considered (in systemic terms) as a way of understanding the processes which co-construct and reconstitute the learning system itself. Please note that It is beyond the scope of this paper to assert whether these systems are 'autopoetic' (self-reproducing) in the full sense of the term, but they can be seen to reproduce at least some aspects of their organisation over time (for more discussion of this see Espejo, 2000, 2002, and Luhmann, 1995).

Another important element that this reflection on design and outcomes covers is the question of inclusion (and exclusion) of participants, the effect on the emergent agendas created and ethical considerations of working with marginalised groups or individuals in ways that may help to increase their capacity for agency and develop a useful knowledge-base for redressing inequalities. This effort is less formalised, but shares much in common with the work of critical systems thinkers and researchers (e.g., Ulrich, 1994 and others). The aim of the reflection is to encourage and stimulate community partners to develop stronger narratives about the outcomes of their activities in terms of the knowledge articulated and in terms of the processes and structures they are creating to encourage this knowledge production. This reflection includes looking at the boundaries of the groups (who is inside and outside the group) and how stable the groups are over time.

Discussions continue about how to document and share findings in this type of research. This has ranged from the inclusion of materials in local planning processes, the use of websites and social media, and the creation of videos and documents. It has also increasingly involved considering strategies for capturing outcomes, sharing them and considering the impacts of this informal learning and research on individuals and organisations. The rationale, consistent with the philosophy of formative evaluation (Scriven, 1967), is that the findings need always to return to the participants themselves and prompt them to ask themselves what they're getting from the ongoing engagements.

3.2 Examples from practice: Supporting <u>self-organising processes</u> in community research

We have argued above that adding the additional perspective of *self-organisation* helps to further frame and extend this discussion. We have also argued that it is important for Community OR, as a sub discipline of OR, to continue to explore and articulate the *process* by which research

engagements *support* the communities concerned. The articulation of stages in the process of reinforcing self-organising elements within community groups has provided us with a useful steer and rationale for our engaged research activities.

The following table starts to articulate this further with examples from practice. It breaks down the stages outlined above (in section 3.2) into elements of process, and illustrates how these were operationalised within our university-community research partnerships.

Type of Research Activity	Our Community Examples	Self-organisation aspects informing our approach	Comment
Initiating community research	Contact with both community leaders was through an earlier Take Part Programme ('Active Citizenship' learning). Informal conversations identified ways in which research support might help to develop community research activities.	Communities are able to organise themselves in response to environmental conditions. Self-organisation requires and uses various sources of 'energy'. Initial processes often benefit from 'catalysts'.	Activity has been led by the community leaders in both cases. University researchers provided additional 'energy' to their existing processes. They also helped initiate new processes. Some research skills were found valuable in the setting-up processes (data collection, group facilitation, capturing feedback).
Analysis and engagement of stakeholders	Conversations were held (including facilitation in workshops) *with attendees* about the purpose and role of the community groups and ongoing engagement considerations. 'Analysis' (through conversations) with community leaders and their *'mentor' groups* about the participants and stakeholders involved.	Mechanisms can be established to observe the processes being developed and to help to create 'observing systems'. Strengthening feedback loops helps this self-observation. Also 'double-loop learning' (Argyris and Schön, 1978): challenging and changing assumptions and the activities based on them.	These self-observing processes already existed – the role of the researcher was to make them more explicit and to strengthen them; to provide leaders and others with a 'sounding board' (improving their own 'steer' in cybernetic terms). Strengthening the articulation of the purposes and resources available comes from internal reflection within a research

		Creating reflection on the boundaries being created, and the identity, purpose and direction of the emerging group, helps it understand its own agency better.	partnership (not external prescription).
Facilitating knowledge mapping (making knowledge more visible)	Conversations started from every-day lived experiences and provided mechanisms to articulate and share this knowledge. Articulation of knowledge (including needs and priorities) also created new 'resources' that can be used in conversation with others (e.g. policy makers or local organisations).	Stimulating *communications* creates the mechanisms for learning and self-organisation. It also creates modes of 'data capture' and 'data sharing' that community members recognise as their own and can use in a variety of ways (many of which are unplanned-for). Mechanisms that encourage 'organisational learning' support greater expression of existing (latent) knowledge.	Researchers use a variety of forms to stimulate and collect knowledge: including group facilitation, recording (written, video and other forms) and the reiteration and re-articulation of any previous 'data' produced. Formal models (e.g. cognitive mappings) or informal (flipcharts) are both useful in different contexts. Ideas from *Organisational Learning* and *Knowledge Management* are also helpful related fields (Easterby-Smith & Lyles, 2011).
Deciding agendas	Working with participants to shape agendas. Emerging agendas are co-produced through community conversations.	Interactive and iterative processes of reviewing previous discussions and looking for emergent themes support the articulation of agendas (Internal, emergent, agenda-setting). Also, scanning the environment for other issues of importance and encouraging other participants to do the same supports resilience and sustainability and builds capacity for new actions	This research approach views the community groups concerned as able to self-organise, primarily through conversations. Researchers have a key role in encouraging the introduction of alternative viewpoints or new perspectives. They must remain aware of mechanisms to 'sense the environment' and to learn more of wider agendas and how they might impact,

		(external environment-sensing and responding).	and be influenced by, the group.
Modelling processes	Informal processes to observe, discuss and document processes.	Researchers and community partners stimulate 'learning about learning' by including discussions of processes and by helping to document changes over time. Visual methods (models) can help communicate and amplify systemic ideas.	Modelling processes occur inside the informal learning activities (e.g. in meetings or workshops) and in the observation of the ongoing process overall. It is useful to create different ways of observing and reflecting on activities.
Critical reflection	Encouraging participants and leaders to reflect upon their activities and outcomes. Reflection on agendas identified and stakeholders engaged.	Analysis includes that of: 1. structures and processes 2. emergent identity 3. knowledge created 4. lessons learnt 5. consideration of any boundaries established and the impacts of these.	Critical reflection can take several forms. At present it is mostly undertaken in planning and mentoring meetings, but occasionally is undertaken in whole-group contexts where it is sometimes also seen as 'taking stock' or 'planning for the future activity of the group'.

Table 1: Supporting self-organising processes in community groups- examples from practice

3.3 Urban and Rural Communities – implications for forms of engagement

We have made a distinction in this paper between rural and urban communities. As a university in a small city serving an extended rural hinterland, this distinction is of regular interest to us. One distinction that becomes immediately obvious when you work across both urban and rural communities is that of space and distance (isolation and immediacy). While these distances may be viewed as insignificant in international terms, the different geographies do indeed play out in very visible ways in the UK. One aspect is the physical distance between the participants themselves, the distances between them and any planned learning activity, and the distances between them and the decision-makers or policy-leaders they are trying to influence. In a city, most participants (including

researchers and community leaders) tend to be in reasonable walking distance, or a quick drive, of each other. The residents concerned often live quite locally to the venues used and can access them without too much difficulty. In urban contexts, our engagements have been characterised by regular, informal, face-to-face meetings, conversations and workshops, responding in a fluid way to specific needs and circumstances. Similarly it has been relatively straightforward to draw in other participants (e.g. local decision makers, politicians, Council employees, etc.) to discussions as they have evolved. The challenge here has been more about fitting activities around the busy shift-patterns and other daily-life restrictions of participants. In contrast, in the rural setting, the population is dispersed over distances between small towns, villages and hamlets. Policy-makers are often located at some distance, and those travelling from the administrative seat in Lincoln have an approximately 100 mile round trip per visit. This has created a different form of response from the community leaders and the members of the group. In this context, meetings are planned months in advance and follow a regular pattern of bi-annual (Spring and Autumn) sessions. They are generally larger gatherings attracting a mix of local organisations and community leaders, and they receive external input from government authorities and speakers (e.g. national or regional experts, managers, local people or researchers).

It is not only the organization of activities that is different though; it is also the agendas being debated. In both communities, issues of community cohesion and vibrancy are discussed, but in rural areas there is an additional focus on issues of rural isolation, access to services and the effects of rural poverty. These are issues not always prominent on more urban-centric agendas, and one of the strengths of the network has been its ability to identify, highlight and debate some of these issues with local decision makers.

The learning activities in the urban context have helped the City Council to capture some more of the lived experiences of some of its residents, and this has been particularly useful in enhancing effective channels of communication with some groups of newer residents. It has also helped to create and strengthen existing bridges between the City Council and residents who may not previously have considered planning dialogues of immediate relevance to them.

4. **Implications for Community Operational Research**

One of the most striking things for us is that there are many researchers within the transdisciplinary Operational Research (OR) and Systems Thinking communities who have developed important conceptual and practical ideas for working with communities. Much energy has been expended in creating distinctions and refining different aspects of this work – much of it with different labels and nomenclatures. For example, in the U.S.A. a slightly differentiated strand of Community OR,

'Community-Based Operations Research' has emerged (see Johnson et al, 2017).   As Kuhn (1962) points out so eloquently, this is often the case as 'normal science' progresses. The development of different concepts and ways of observing and 'languaging' these observations owes much to the traditions from which they draw and the pre-occupations of these traditions. Each approach (or 'methodology') adds particular focus to our understanding.

We have drawn from a couple of these OR and Systems traditions in our work; most notably the repertoires of cybernetics, self-organising systems, community-based research and community development. We would also like to acknowledge here other influences and points of contact with OR/Systems as we have experienced them in recent decades. One first such influence has been the movement within the UK OR Society to recognise synergies in a number of methods known collectively as Problem-Structuring Methods (PSMs) (Rosenhead and Mingers, 2001). These were collectively also seen as representing elements of softer-OR (as distinguished from computationally-based modelling traditions in OR dealing primarily with 'hard-facts'). Soft OR has been successfully recognised as a subset of OR in UK Operational Research (EPSRC, 2004) and of Operational Research more generally (Ackermann, 2012; Midgley et al, 2013). In our work, we have drawn from several PSMs in various ways, either directly or by recognising similarities of approach or elements of emphasis.

4.1 Visualisaton (or 'model-building'):   Many OR methodologies found to be useful in work with communities include some aspect of visual modelling, or 'mapping' of data. Indeed 'model-building' is a central tenet to Operational Research more widely, and it seems valuable for us as Community OR researchers to explicitly consider this aspect in our work. Examples of previous OR work with visual methods and model-building include the use of Rich Pictures (Checkland, 1981; Checkland and Scholes, 1990; Marlow and Bryant, 2004), Cognitive Mapping (Eden, 1989), Issues Mapping (Cronin et al 2014) and the pictorial models that help shape conversations such as those found in the Strategic Choice Approach (Friend and Hickling, 2005).

We have used two existing OR methodologies in several ways. The concept of a viable system and the cybernetics tradition that informs it (Beer, 1985; Espejo, 2000, 2002) has underpinned much of our thinking about the design of community-based learning and feedback/feedforward systems. We shared some of these ideas with community leaders and other participants as we developed or reviewed activities. The concept of double-loop learning (Argyris and Schön, 1978) has also been a key guiding theoretical concept that has helped us to operationalise some of the ideas of self-organising systems. In one of the workshop settings, a modified version of Cognitive Mapping was also found to be very useful. During this workshop, flip-charts were used to capture key points of

discussion. After the workshop the researcher created a series of small cognitive maps (also on flipcharts) that interpreted and represented these conversations into main themes and connected ideas. These were then presented back to the community group at the following workshop some weeks later. The group then debated these as a model of their earlier conversation and extended and critiqued them.

 As well as using some of these existing OR elements directly, we also recognise a more general point of connection with the OR community – that is, there is value in creating a *model* of a conversation that a group of people can see and discuss as a separate artefact, which then feeds back into that conversation. This process is one that Ackermann (2012) describes as using modelling techniques to develop a shared language; one that uses representations which act as 'transitional objects' (de Geus, 1988). We argue here that models of whatever form both help to constrain and construct conversations. They help to create feedback loops (in cybernetic terms) that enable community groups to record, take stock and re-iterate their points of view and agenda-issues. As such, much less formalised aspects such as creating flip-chart summaries could also be considered as a very basic form of 'model-building'. These would not normally be seen as a distinctive part of the OR repertoire (as widely used elsewhere in management and community development) but they are certainly an important element of practice. Indeed, such simple 'modelling technologies' remind us that we can collectively discuss within the Community OR research and practitioner community the relative value of creating very 'inexpensive' (i.e. quick) *models* versus more sophisticated model-building in different contexts, and the additional value (and implementation challenges) that more bespoke models might bring.

4.2 Critical reflection and Improvement: Another central tenet of OR is the deceptively simple-sounding notion of 'improvement'. Indeed, the UK OR Society gives its branding strap-line as "The Science of Better", but this has also stimulated critical reflection from researchers (Mingers, 2007). The idea of 'Better' and 'Improvement' is a central concept, but creates a key point for discussion in all Community OR activities: i.e. *improvement for whom, how and under what conditions?* In other words, how can a community group (or community leader/ researcher) go about building a collective understanding of what improvement might mean? Again Community Operational Research already has a lot to offer us all in structuring this debate. We can explore more thoroughly many of the underlying assumptions within our practices. For example, we can consider who have we included and excluded and how, and what are the assumptions and distinctions we are making in the process (Churchman, 1970; Ulrich, 1994; Midgley, 2000). We could also look to the PSM literature in general and consider, for example, if the communities are in agreement, have differing perspectives or are in conflict or coercive situations (Jackson, 1990). We can also look to the complexity/self-organisation

literature to give us another interpretation of how improvement could be viewed as a concept that can *emerge* from the interactions and relationships of community 'agents' – as such any notion of 'improvement' is likely to be constantly interacting with the environment of the system; creating continued need for critical reflection that questions and refines this as an ongoing process (see also Mendiwelso-Bendek and Espejo, 2015).

4.3 Participation and Empowering processes – especially for marginalised groups or individuals:
Again, the existing body of literature on Community OR and Systems thinking has much to contribute to this discussion (Rosenhead and Mingers, 2001; Midgley and Ochoa-Arias, 2004; Herron, 2012). The first contribution is the dominant tenet of Community OR that the modelling (or dialogical processes - whatever they may be) should in some sense be within the active control of the community participants. Many writers (including beyond Community OR) have reflected on the importance, not only of focussing on collecting research information *about* the community, but enabling (through research) communities to build stronger understandings of their situations, resources and agency. Different authors have articulated this in many very different ways. Some have described emancipatory processes, others enabling or capacity-building processes (Habermas, 1979; Jackson, 1985; Ulrich, 1994; Mayo et al, 2013). Most have stressed that the participation of community members and the valuing of different forms of knowledge and understanding are important elements of a community-based approach.

A further element of this is the issue of sustainability, which brings with it a need to think through a researcher's ethical responsibility when engaging with communities. In trying to take an approach that supports community self-organisation, we have sought to reinforce the groups that we work with, but not to run them ourselves. One of our interests is to see how self-sustaining groups we have worked with can become (although some groups may only wish to exist for a limited period of time if the agendas they support change).   Reflexive observations within groups enables them to observe themselves and steer activities in new directions. For example, the active self-reflection engendered by the use of a mentoring group is probably part of the reason why the Social Issues Network still continues to exist and respond to new circumstances after being in existence over a period of years. Helping to strengthen this self-observation involves working with partners to help them recognise the value of what they are producing to different stakeholders and to identify the resources (financial and otherwise) that their activities require. This can also involve identifying the possibilities for securing new sources of support from various individuals and organisations interested in the learning and knowledge being developed by the groups.

4.4 Boundaries and critical reflection on these boundaries: The notion of a bounded system has been helpful to both build an ongoing sense of identity and purpose but at the same time to critically reflect on this and refine and adjust this in the light of these reflections. This echoes the work of cyberneticians and critical systems thinkers in particular (Espejo, 2000; Midgley, 2000, 2003).

One pressing consideration, echoed in different ways in much of the Community OR literature, is the notion of the balance between inclusion and exclusion within a group (see Midgley et al, 1998; Boyd et al, 2004). For example, in the rural Social Issues Network, membership is loosely defined by the invitation /email list maintained by the community leader who initiates each meeting. However, this list is always open and fluid, and others are welcomed and actively invited as the topic suggests them. Whilst continuity of membership is desirable for building a sense of identity and purpose across meetings, it is interesting to analyse the attendance registers across the 6 years it has been in existence. What becomes evident in doing this is the fluidity of the environment over this period. In a period of rapid economic and social change, many of the individuals employed in both local authorities and local community organisations have changed. Whilst some changes have been subtle, less than 25% of the original membership is still the same. However, the network itself remains fairly robust, and new people from the same organisations have often replaced those leaving. This reflects the network's ability to create its own continuity in the midst of uncertainty, and also the ability to be open to new members and the new issues they may bring with them.

We are also undertaking international activities alongside these UK engagements (in Colombia and Spain in particular), and it will be interesting to reflect on how lessons learnt from these different national and international activities can be related, and if the issues around community agenda-setting are similar across national and cultural contexts.

Our hope is that this initial discussion of our own work helps contribute to a wider discussion about the similarities between the variety of Community OR approaches, the different aspects that each one brings most sharply into focus, and how researchers could learn from each other. We are not alone in wanting this discussion to develop further, with more depth and sense of common purpose and reflection on emerging trends and key areas for further research (see Johnson et at, 2017 for more discussion and links to other research in Community OR and Community-Based Operations Research internationally) .

5. International agendas for community-based research and university-community partnerships

"From local to global, fields of power and landscapes of authority are being reconfigured, affecting the lives and futures of citizens across the planet, while simultaneously reshaping where and how

citizens engage to make their voices heard" (Gaventa and Tandon 2010, p.3), and Community Based Research or 'Community Based Participatory Research' is playing a significant role in supporting social transformations of power. Yet, of course, some questions remain, as Mediwelso-Bendek (2015) highlights:

> "Social systems and active citizenship, as transdisciplinary areas of research, imply greater understanding of the mutual constitution between individual and social patterns. It involves a great debate about participation theory, but also the need to produce evidence on how effective participation requires the formation and facilitation of self-constructed action spaces as expressions of self-organisation. A fair distribution of power in the self-organisation of local communities cannot be taken for granted. Those with knowledge and organisation will be able to better understand the structures and processes of power involved in decision-making, sometimes for their own benefits. How to increase knowledge and support disadvantaged communities is a key point in community research as part of the community empowerment process and promoting social justice agendas. To what extent a community based research is contributing to wider processes of social change? How effective have community-based approaches been in engaging people as active citizens, including the most excluded people? To what extent have university and community learning partnerships actually been prepared to facilitate this learning for active citizenship?" Mendiwelso-Bendek (2015 p.904).

5.1. International university-community research agendas

There are significant developments across the world around these questions. The United Nations University (UNU, 2017) provides an interface for the engagement of research with policy, founded on the premise that the best policy has to be informed by evidence. The Living Knowledge Network (2017), funded by the European Union, is another valuable resource in the area.

In 2008 the UK established a National Centre (National Coordinating Centre for Public Engagement, 2017) to inspire a culture change in how universities engage the public. Public engagement in this context covers all aspects of engaging with the public, including informing and inspiring; consulting; and collaboration with the public to develop research.

The publication from the UNESCO Chair in Community Based Research and Social Responsibility in Higher Education (Hall et al. 2015) offers a comprehensive analyses of contemporary academic practice of community-university research partnerships (CURPs) as well as innovative collaborative research methodologies for community-based participatory research (CBPR). This work is insisting on the need to have a wider reflective process about our methodological approaches in the area, and it

stresses the importance of making visible the new process of *co-creation of new knowledge in social transformations emerging from local community knowledge* (see also UNESCO, 2017).

5.2 The Role of research in supporting communities

When considering the work of self-organising community groups in creating knowledge about local agendas, it is perhaps easy to think that the role of research is now clearly defined. This is not the case. What is true is that the emphasis has shifted from the role of information collecting/gathering to the role of enabler/facilitator and narrator/critical friend (also see Gregory and Atkins, 2017, who discuss a similar transition in the context of Citizen Science, and what Community OR practitioners can learn from it). This continues a research tradition similar to Freire (1972) and Gaventa (2011), where the role of the researchers is not seen as extracting information but instead building up the capacity of individuals so that they can produce stronger articulations of their own perspectives and agendas. This process is not always straightforward: it requires a commitment to respecting different forms of knowledge and differing forms and capacity for expressing this knowledge. The community-research partnership is therefore often looking to develop conversations that people wish to engage with, work with participants to strengthen and extend their narratives where this appears to be possible, and encourage the individual learner at the same time as supporting the identification of community challenges and agendas. The scope to engage other people in these discussions is another attraction of the approach and creates an additional role for the researcher – one of working with participants to explore who else to engage in any particular conversation, why and how.

6. Conclusions

This paper has highlighted the need to articulate, within the discipline of Community OR, methodologies that work with communities *over the long term* – as *engagements* rather than as discrete interventions. The main point in the process is that community based research, in our case, is supporting community self-organisation. We are not doing interventions and we are not acting as consulting professionals. The real value of community based research is that we are supporting self-organising processes. This process helps capacity-building. It supports the articulation and rearticulating of local knowledge. It starts from community issues, expectations, perceptions, concerns and even the *dreams* of the participants (Mayo et al 2013). Supporting community empowerment and engagement with community-based research needs an understanding of participatory social processes. It makes it visible that researchers should have more opportunities to focus their research on working with communities rather than on collecting data to respond to funders or other external parties (Mayo et al 2013; Tam 2013; Mendiwelso-Bendek, 2015).

This paper has outlined our theoretical underpinnings and the implications of conceptualising communities in terms of self-organising processes. In doing this, it also calls for a more articulated abstraction of processes core to many other Community OR methodologies that could be particularly valuable for formalising contributions in fluid, informal, dialogical processes with communities over an extended period. These include, for example, how we support the analysis and engagement of stakeholders, facilitate knowledge mapping (making knowledge visible), support decision-making on agendas, engage people in modelling processes and, overall, enable critical reflection. We have concluded that it is important that Community Operational Researchers focus on the *processes* by which their research supports communities *as well as* the bespoke methods and technologies they may have developed.

As well as focussing on the support that informal learning and community-based research can provide to reinforce community knowledge building and agency, we have emphasised the role of conversations in this, which explicitly acknowledges the need for restricted conversations in communities to speed up language sharing and facilitate self-organisation.

Our engagements have supported community groups and individuals by working within multi-agency partnerships and reinforcing activities led by members. Another tradition within Community OR that has been picked up in this paper is the emancipatory and participatory traditions of much Community OR, and we have highlighted that this also shares much with the traditions of Freire (1982) and Gaventa (1990, 2011). It helps us to emphasise the importance of starting from citizens' own perspectives to create 'bottom-up' agendas that reflect the lived experiences of local residents, a better understanding of the resources of local authorities, combined sources of 'agency', and shared hopes for the future.

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