

EDITORIAL

It is with great pleasure that I write this Editorial for the 14th volume of this journal. Almost two years ago, it looked as if the journal had finally expired. The editorial team had run out of energy after more than 14 years of work. However, some reminders from Ewen Le Borgne, as well as the enthusiasm of two new Senior Editors, Helen Gillman and Chris Zielinski, mean that we now have two issues in the pipeline on the subject of ‘Challenges and opportunities in measuring KM results and development impact’ in addition to this one, one of which is to be launched soon, and with other planned for later this year. We consider that the journal is needed as much ever before because it is an open access journal which doesn’t require author fees and which aims to have a diverse group of editors and authors, specifically aiming to involve authors from the global South. The journal is also valuable because it aims to keep track of the developing field of knowledge management for development (KM4D), with its close alliance with the Knowledge Management for Development (KM4dev) community of practice www.km4dev.org.

I would also particularly like to thank the team of Senior Editors at this point for their continued commitment to the journal: Riff Fullan, Helen Gillman, Lucie Lamoureux, Ewen Le Borgne, Ivan Kulis, Charlotte Scarf, Denise Senmartin and Chris Zielinski. I would also like to welcome two new members of the team, Jorge Chavez-Tafur and Kim Martins. My apologies go to potential authors who may have had their paper in limbo as we struggled between the old and the new platforms while the journal was more-or-less dormant. Finally, I would like to thank all of the contributors who have written papers for this issue, as well as colleagues who reviewed papers and provided feedback to authors.

This Issue

This issue is a non-thematic issue. The first paper, ‘Evaluation and communication mentoring for capacity development: a hybrid decision-making framework’, written by Ricardo Ramirez, Wendy Quarry, Dal Brodhead and Sonal Zaveri, summarizes over six years of action research in capacity development in the fields of evaluation and communication. It is based on the experience of the Developing Evaluation Capacity in Information Society Research (DECI) project, funded by the International Development Research Centre’s (IDRC) Networked Economies Program. The project brought together a team of practitioners spread over Asia, Africa and Latin America. Testing the hybrid approach which combines utilization-focused evaluation (UFE) and research communication in the field yielded many findings. The second paper, ‘Suitability of a community-based creative arts therapy intervention for abused children in South Africa’, written by Nadine van Westrhenen, Elzette Fritz, Adri Vermeer and Rolf Kleber, presents the results of a study to consider the suitability

of trauma-focused creative arts therapy as an intervention to treat abused children in South Africa. The intervention was implemented in a child trauma clinic situated within communities in and around Johannesburg, South Africa.

The next two papers are concerned with learning in large development organizations, one of which take an historical perspective. The first of these, ‘Following evidence from production to use at the International Federation of Red Cross and Red Crescent Societies (IFRC): where does it all go?’ by William Walker Hankey and Gabriel Pictet, undertook a network analysis of documentation produced by the organization to examine how evidence is produced, circulated and used within the IFRC. Network graphs were produced from a sample of 404 documents, depicting the structure of citations between documents, demonstrating that the uptake of evidence within these documents was inadequate. The authors found that the limited and fragmented use of citations within these documents was probably the result of the organizational culture in the aid sector which fails to encourage reflexive practices in the production and use of evidence. The next paper ‘Method in the madness? Some new ways to learn from staff experiences in humanitarian crises: the historical case of UNICEF’ by Jeremy Shusterman, reviews why tapping into tacit knowledge of relief workers to inform humanitarian responses is seen as a valuable exercise that paradoxically often fails to live up to expectations. This paradox is explored through the example of historical efforts undertaken by the United Nations Children’s Fund (UNICEF) over the years to learn from the tacit knowledge of its staff. The article briefly reviews the challenges to learning within humanitarian organizations, and why humanitarian organizations may see tacit knowledge as an attractive alternative source of evidence. It also emphasizes the value of taking an academic approach to research because the findings of academic papers appear to have a longer shelf-life than the intermittent results of learning initiatives within organizations.

The final contribution is the ‘Tools and Methods’ section of the journal, ‘Checklist for the development of portals for international development’ has been written in a participatory manner by Sarah Cummings, Nancy White, Michiel Schoenmakers, Victor van Reijswoud, Martine Koopman, Chris Zielinski, Cavin Mugarura, Ramin Assa and Srividya Harish. This guideline is designed to provide guidance for development organizations who are setting up portals – also known as knowledge portals, hubs and websites – as a way of counteracting what is known as portal proliferation syndrome. The guideline provides a checklist of issues which are important in the development of portals, covering what to take into account before starting, during the design phase and implementation, and technical standards and specifications. It will be further developed in the future to identify the most important issues in new portal development.

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Evaluation and communication mentoring for capacity development: a hybrid as a decision-making framework

Ricardo Ramirez, Wendy Quarry, Dal Brodhead and Sonal Zaveri

Abstract

We report on a decision-making framework that enables projects and programs to take ownership of their evaluation and communication plans. The framework is a blend of utilization-focused evaluation (UFE) and research communication supported by mentoring. This combination we have found has resulted in the development of a hybrid tool that also helps project teams clarify and update their Theories of Change. This result is significant as most of the partners have been information society research projects that are complex and dynamic. The approach has been delivered as a capacity development effort with attention to partner's readiness to receive mentoring. The partners have produced evaluation plans and research communication strategies that they own and utilize. This approach grew out of two IDRC-funded capacity development research projects (DECI-1 and 2) that provided mentoring in evaluation and communication for information society research teams globally, between 2009 and 2017. The mentoring progress was tracked through debriefing and process documentation with some use of checklists. Case studies were produced to summarize the process and outcomes. While the project began with a focus on evaluation and communication, the resulting hybrid framework has wider knowledge management potential by enhancing reflective learning throughout the evolution of a project.

Keywords: decision-making framework, mentoring, capacity development, utilization-focused evaluation, research communication, theory of change

Introduction

This paper summarizes over six years of action-research in capacity development in the fields of evaluation and communication. Both fields share several common elements: the importance of engaging users from the beginning, the importance of achieving and maintaining readiness, the notion of pretesting data collection tools and communication materials alike, as well as the notion of users taking ownership of their evaluation and communication activities. It is based on experience with the two-phased Developing Evaluation Capacity in Information Society Research (DECI) project which was made up of a team of practitioners spread over several three continents¹. The team members worked as evaluation practitioners, communication

advisors, and action-researchers. Many of our partners are research networks while others are projects in various fields. Their work is often exploratory, setting the foundations for new fields of action and research supported by the International Development Research Centre's (IDRC) Networked Economies Program. We have found that the partner research teams face many challenges that can include:

- Accounting for evolving targets, especially when dealing with cutting edge or experimental topics;
- Attaining and maintaining readiness within projects to engage in evaluation and communications planning, especially during the project start-up period.
- Reaching agreement within the management team on the nature of the change that needs to be tracked (the attribution Vs. contribution question);
- Engaging the policy community early in the research process - a difficult-to-apply practice in research communication;
- Documenting and sharing findings in meaningful ways with varied audiences;
- Maximizing the learning from the process and the outcomes to inform practice, further research, advocacy and policy making.
- Designing and contributing to their own communication and evaluation plans that can be used – i.e. articulating the purpose, who will use it and how, as part of the planning or implementation stage (and not only at the end of the project cycle).

We have explored these challenges through two action-research projects in the field of capacity building, one on utilization-focused evaluation (UFE), and the second combining UFE and Research Communication. DECI-1 ran from 2009-2011; and DECI-2 (with communication added) started in 2012 and continued until 2017. DECI 1 & 2 have been funded mainly by IDRCⁱⁱ as have the partner projects that have been supported. The partner projects had the option of being mentored by DECI-2, but it was not required. The major focus of these projects has been research on information and communication technology for development (ICTD) to inform policy-making. During the 2010-2015 period, a focus on Open Development drove much of the research agenda, including cyber security and privacy, open education and open science.

The DECI-2 approach has shown value as a decision-making framework that helps project teams clarify their Theories of Change, while taking ownership of their evaluation and communication plans (Hearn & Batchelor, 2017). The approach is a hybrid of utilization-focused evaluation (UFE) and research communication. In UFE, a small number of evaluation 'users' are invited to focus on evaluation 'uses' or 'purposes'; this step nudges them into decision-making about goals and mechanisms. UFE per se can be applied without a communication dimension; however, we have found that the hybrid has advantages that are explained below. We have also learned that projects have various levels of readiness to take on evaluation and communication planning, depending on a range of factors that we outline below. While the framework enables a close integration of the two fields, it does not require it. In addition, the framework catalyzes the expression of an implicit theory of change that is often emergent and needs to become explicit to guide the project strategy. It challenges the partner project teams to define the 'why', the 'what' and the 'how' of

their project and the evaluation and communication plans. The hybrid is the result of several years of trial and error that we have come to see as an evolving framework based upon the lessons learned.

Concepts from the literature

Emergence and complexity

As evaluation researchers and practitioners, we find ourselves most often collaborating with projects that have uncertain outcomes. Some are research projects about emerging topics, others involve multiple stakeholders who perceive issues and change strategies differently. In short, the bulk of the projects we have supported are not just complicated; they are complex (Barnes *et al.* 2003). Complex projects are those with limited or at best emerging certainty amongst stakeholders about how to address an issue, combined with limited or growing agreements amongst them on how to proceed (Bryson *et al.* 2011). In complex projects, cause and effect relationships are difficult or impossible to predict, although they can be documented once they have occurred. Complex or dynamic interventions need evaluation approaches that embrace uncertainty, which is not a matter of simply using conventional tools differently (Ling 2012).

In complex settings, there needs to be clarity about what can be expected from evaluation. Kuby (2003) argues that in today's international evaluation arena, we must move away from the false ideal of "scientific proof" and instead aim for plausibility. Plausibility, it is argued, is at the core of credibility especially given the growing acknowledgment that development is difficult and complex (Kuby 2003: 69). The notion of 'contribution' is also getting attention in the impact research field, where research utilization is viewed as a complex, interactive process that is dependent on relationships (Douthwaite *et al.* 2003; Morton 2015). These voices are consistent with those that argue that the contradiction that arises from political pressures to 'appear to be in control' (as in results-based management) in a world of uncertainty which requires some response where multiple pathways for change are acknowledged (Eyben 2013). Therefore, having a decision-making framework is very important: project teams must 'navigate' and agree on what to evaluate or what aspect of communication to focus on since the implementation is emerging and constantly changing.

Power, readiness, theory of change

Who decides on what evaluation logic is applied is very much an issue of power and control. Someone will be making decisions and it is important to make explicit who is deciding why the evaluation is needed (and related decisions of how to do so), as this input will determine its use. Those in charge of preparing and implementing a program or project will develop a theory of change that captures their views as well as their biases. Often, the theory of change is tacit, partly due to the emergent nature of research projects. In many of our evaluation efforts, making a theory of change explicit provides a common ground for stakeholders to agree on a common strategy or to review an existing one. It exposes assumptions that can be challenged, and it can

provide a shared map about what is worth evaluating and communicating. A theory of change is a ‘leveler’; it also helps to create readiness for evaluation.

Power has to do with hierarchy. The leadership of a project, and the funder are often assumed to be the primary users of an evaluation; however, in Utilization-Focused Evaluation (UFE) this is not always the case. Power also must deal with the inevitable weight/influence that a funder brings to a relationship - as there is dependency influence in most grant funding arrangements. Timeliness has to do with the moments when a project is ready to take on evaluation or communication planning steps. Most projects have calendars that shift due to unpredictable factors. Being able to provide advice at the moment when it is needed and is contextualized appears to be key to the success of the mentoring. Commitment by staff and buy-in from managers is a requirement, and one that may be firm at one point, but may wither with time. Commitment is also about having staff members who want to learn evaluation and communication skills, and who have the time and budget to do so. Lastly, organizations come in many colours and shapes and finding those with a learning culture is an important prerequisite of readiness. Some individual and organizational readiness conditions may exist, while others can be nurtured during a project. In either case, readiness is an ongoing process, not a static condition and it calls for different supports at different times. (Ramírez & Brodhead 2014: 2-3)

Making multiple pathways for change known is a way to enhance transparency. Such an effort acknowledges that a project or program team does not have a blue print for change, but is seeking a plan. A recent review by USAID on ‘complexity-aware monitoring’ flags the importance of embracing the perspectives of the different stakeholders (Britt 2013). As one engages more stakeholders in evaluation, their different and often contrasting views on what a project is expected to achieve (their own theories of change) are bound to emerge (Bryson *et al.* 2011).

A theory of change describes how a project is intended to work, by outlining a sequence of activities and outcomes along with the underlying causal assumptions (Mayne 2015). They are often designed at the planning stage, and used for monitoring and evaluation. With complex or evolving projects, they often need to be updated because there is uncertainty due to emergent new dimensions in the project context. Maine (op.cit.) sees the value of having several versions of a theory of change for different purposes and audiences. First, a storyline or narrative version can be shared with managers or policy makers; this is the public version. Second, an overview diagram that shows a simplified trajectory of change to serve as an overall map for internal use. Third, a detailed version may address the causal assumptions and include nested theories of change that detail certain components, including impact pathways and assumptions about causal links.

Context

Both John Maine (op.cit.) and Isabel Vogel (2012) emphasize context as a dimension that needs to be addressed. Vogel's work focuses on theories of change for research projects. She includes an analysis of actors, stakeholders, networks and power relations; she also pays attention to analyzing how responsive the context is to new evidence. Some recent work has expanded the dimensions of context, with emphasis on what it means for public sector institutions (Weyrauch *et al.* 2016). The authors flag the macro context (media, donors, citizens, private sector, research organizations), as well as inter and intra-organizational relationships. They then address internal dimensions including organizational capacity, culture, and management processes. While this level of detail is beyond the scope of our work, it underlines the importance of appraising the context within which one is working.

The attention to situational analysis is reflected in the hybrid that DECI has developed, as both UFE and ResCom include this shared step. In ResCom, this step is part of audience analysis. In the theory of change design process, questions about specific, expected changes in awareness, knowledge, skills and attitudes of stakeholders need to be specified. However, this should be done while acknowledging the limited control a project has over such outcomes. Because of the high level of uncertainty, Vogel recommends a set of critical reflection steps and questions. The questions she recommends overlap with the questions that are asked in the UFE/ResCom hybrid: they challenge project teams to be explicit about trajectories of change and assumptions, and to review and adjust their project strategies as the context evolves.

Barnett and Gregorowski (2013) write about the use of theories of change in monitoring and evaluating research uptake. They underscore how theories of change are most useful as an "'organizing framework' against which to explore and better understand complexity during implementation" (p1; their emphasis). As with Vogel, they see potential in an iterative, incremental reflection, especially as policy change processes are unpredictable, non-linear, and attribution is difficult to determine. They suggest attention be placed in theories of change on how policy change happens (citing Stachowiak 2009). We find the emphasis on reflection and ongoing adjustment compatible with our hybrid approach, and a consistent theme in the literature.

Knowledge for action

For applied research projects, an evaluation challenge is to track the uptake of the findings, be it in the form of increased policy influence or contribution to 'field building', especially with emerging topics. In the context of many of the IDRC projects that we have supported, 'field building' refers to the exploration and development of new areas of applied inquiry. For example, the OCSDNet project has shaped "open and collaborative science for development" as a legitimate field of applied research. There are different pathways or theories of change that merit attention: some focus on trajectories for policy influence (Stachowiak 2009) while

others address knowledge-for-action and knowledge mobilization (Ottoson 2009; Bannister & O'Sullivan, 2013). The links between research and research uptake are often tenuous (Weyrauch *et al.* 2016). Such processes do not lend themselves to conventional evaluation methods where one can use clear outcome measures. Rather, other methods that document 'contributions' are more appropriate (Barnes *et al.* 2003; Douthwaite *et al.*, 2003, Buskens & Earl 2008, Hospes 2008, Morton 2015).

For instance, Morton's (2015) 'research contribution framework' is a theory of change that sets a pathway that is question-based and seeks to uncover contributions to change (as opposed to attributions). In this interactive approach, the ways in which research is conducted, communicated, and taken up are as important to understanding and assessing impact as wider utilization. Morton's interactive model also acknowledges the importance of networks and of research impact as 'a process involving many actors interacting and communicating over time' (Morton 2015: 2)

Elsewhere, research utilization has been referred to as a complex interactive process, as opposed to a linear one (Nutley *et al.* 2007). Nutley *et al.* add that the nature of the engagement with each audience is especially important, one that should include participation by stakeholders in every stage of research, including the formulation of research questions. The focus on audiences in an evaluation paper is an example of the overlap between the two fields. In our partner project contexts, those audiences have included local health authorities, other NGOs and civil society organizations, researchers and research organizations, government officials and to a lesser extent the private sector.

Evaluation and communication hybrid

In the context of the projects we supported, evaluation and communication approaches were often introduced as project management tools to enhance project outcomes. Evaluation: as a means of ensuring project strategies stay focused and documented outcomes; and communication: to support relationships among networks of researchers and to make sure project's results are shared. The early engagement of stakeholders in defining research project objectives was possible to the extent that many of the research networks had open calls for proposals that allowed bidders to develop locally relevant research proposals.

From a theoretical perspective, few researchers work with both fields in tandem. One field tends to drive the other - as is the case of approaches to evaluate communication for development (Hanley 2014, Myers 2004, Parks *et al.* 2005, Lennie & Tacchi 2013 & 2015). In contrast to this direction, one finds communication strategies enhance the uptake of research outcomes, be they to track the outcomes of networks (Horelli 2009, Albrecht *et al.* 2014, Taylor *et al.* 2014) or to enhance policy influence (Carden 2004, Lynn 2014). There are also cases where the knowledge translation value of evaluation is emphasized (Donnelly *et al.* 2014). On a practical side, we have learned a great deal from the Research and Policy in Development (RAPID) framework, developed by the Overseas Development Institute (ODI 2006). The RAPID framework emphasizes the importance of engaging audiences from the start, which links communication and UFE. ODI has since developed ROMA that stands for Rapid

Outcome Mapping Approach and it is available as a tool to help organizations plan and evaluate policy influence.

Common themes in communication planning include: understanding the nature of the issue; mapping out who needs to be involved; determining intended audiences & conducting audience research, introducing communication functions that respond to the needs; working with affordable, accessible, and tested methods and media; researching the facts and key content; pretesting any materials before dissemination; defining outputs and outcomes; and finally implementing, monitoring, and improving. When looking at the main steps of utilization-focused evaluation, we find: project or network readiness assessment; evaluator readiness and capability assessment; identification of primary intended users; situational analysis; identification of primary intended uses; evaluation design; simulation of use; data collection; data analysis; facilitation of use; and meta-evaluation (Patton 2008). These steps are often iterative and non-linear, much the same as in communication planning and implementation:

It does not take much imagination to see the linkages between communication planning and UFE. While some UFE steps seem to confirm the communication planning process (communicators pre-test materials; evaluators simulate data collection), others augment it (the notion of including a meta-evaluation into any communication process is appealing). However, there are a couple of principles of UFE that have emerged as especially relevant from our action-research project. The first one is about the ownership of the process: Patton emphasizes this principle and we have lived it in our project experience. Having control over every component of the evaluation has led the projects we work with to assume a learning process that is reflexive and committed. The second is about facilitation vs. external measurement: as evaluators, we have become facilitators, as opposed to external judges. We have engaged the project teams through many challenging steps. In the project, we observed that our coaching role shifted to a mentoring one: we were learning as peers. In my communication experience, this role is also the most effective. (Ramírez 2011: unpaginated)

Some of the evaluation ‘uses’ or ‘purposes’ proposed by our partners constituted forward-looking questions about pilot activities that would need to be adapted and refined through implementation. ‘Developmental evaluation’ is an approach that responds to this challenge. UFE is a decision-making framework within which developmental evaluation fits, depending on the uses and key evaluation questions. The emphasis in developmental evaluation is on adaptive learning, real-time feedback, flexibility and capturing system dynamics (Gamble, 2008; Patton, 2011). The notion of utilization-focused developmental evaluation (UFDE) was advanced by Patton (2008) and has been reported in empirical examples (Patton et al., 2016; Ramírez et al., 2015).

It is also evident that stakeholder engagement is central to participatory action-research, which has always had a strong communication dimension in the methods and tools employed (Chambers 2005). Stakeholder engagement also happens to be

central to utilization focused evaluation approaches (Bryson *et al.* 2011). Accounts of 'evaluation as an intervention' include the active engagement of stakeholders in the process of inquiry (Lynn 2014). In participatory action-research '...value is placed on decentralization, open communications and sharing of knowledge, empowerment, diversity and rapid adaptation' (Chambers 1997: 197). In UFE, the emphasis is on evaluation 'users' who own the decisions over an evaluation's uses (purposes).

In the communication field, one theorist produced a family tree to summarize the main branches and paradigms (Waisbord 2001). The two major branches are the so-called 'dominant paradigm' (characterized by: mass communication, unidirectional, top-down & prescriptive blue prints) and the participatory one (characterized by group media, bottom-up and horizontal communication methods, and emergent processes). A similar tree has been developed in the evaluation field, and it profiles comparable differences. Conventional methods are compatible with accountability and control, while social inquiry methods tend to use mixed and participatory methods (Christie & Alkin 2012).

The overlap that we have explored is based on the participatory 'branches' of both fields. Among other features, they share a commitment to facilitating, as opposed to directing (White 1999, Bessette 2004). Both work well within a searching paradigm, as opposed to a top-down planning one (Easterly 2006, Quarry & Ramírez 2009; Ramírez & Quarry 2010). We have found that both work well in support of projects that are complex, involve multiple stakeholders, and often begin with disjointed or dynamic theories of change. There appear to be advantages when combining the two fields of applied work as each one may provide a new lens that the other has not considered. This process has a name: "Orthogonal thinking draws from a variety of, and perhaps seemingly unrelated, perspectives to achieve new insights. It is the even momentary blurring of boundaries to see what might emerge." (Ogden 2015: on-line). The overlap between both fields has led us to think that 'communication focused evaluation' would not be an oxymoron (Ramírez, 2011).

Facilitation and mentoring

Our emphasis on facilitation has translated into a capacity development approach that is based on mentoring, as contrasted with teaching in workshop formats. We have come to learn '...that "readiness" is a key and ongoing consideration that has power, timeliness, commitment, organizational, and cultural implications. If readiness is established (and maintained), it creates the context within which mentoring can have an impact. Mentoring is about supporting learners at the time and place when they desire and can use the advice' (Brodhead & Ramírez 2014: 1). We have taken 'coaching' to be more associated with teaching a pre-existing syllabus or content; and 'mentoring' as a peer support to problem solving. We have preferred to focus on 'mentoring' in previous publications (Brodhead & Ramírez, 2014). In our experience, mentoring can help balance the power relationship, unlike coaching. In the literature, there remain debates about the definition of 'mentoring,' but most definitions emphasize the importance of relationships (Baugh & Sullivan, 2005; Weyrauch, 2013). 'Research on mentoring indicates that the process of mentoring helps emerging

professionals learn technical expertise, become familiar with acceptable organizational or professional behavior, and develop a sense of competence' (Jones, 2014: 85).

Our capacity development work has focused on experiential learning, with its roots in adult education (Kolb 1984) and organizational learning (Argyris & Schön 1978, Schön 1991). Our capacity development outcomes are best described as a team of nimble, flexible practitioners with 'practical wisdom' (Ramírez *et al.* 2015; Hearn & Batchelor, 2017). This flexibility is compatible with Developmental Evaluation where there are not checklists or established blue prints for the facilitation work.

An action-research project in capacity development

The DECI-2 project builds on a preceding research project, entitled DECI-1, that provided ongoing support and capacity building in Utilization Focused Evaluation (UFE) for IDRC supported projects and evaluators in Asia. Through DECI-1, we mentored five Asian research networks that produced evaluation reports using the UFE approach; we also produced five case studies that summarized the process and outcomes. From the case studies, we developed a UFE Primer for evaluators that is available for free in three languages (Ramírez & Brodhead 2013)ⁱⁱⁱ. DECI-2 expanded coverage to the global south in Africa and Latin America in addition to Asia, to support a number of global network projects in both evaluation and in research communication (ResCom). The integration of UFE with Research Communication is the area of innovation for DECI-2- and it is the focus of this article.

The overall objective of DECI-2 is to build capacity in evaluation and communication among global research projects supported by IDRC. DECI-2 brings together a combination of objectives that allows for action-research, capacity development of regional mentors, and mentoring support to partners. The specific objectives are the following:

- Meta-level action-research: To develop and test-drive a combined approach to UFE and ResCom mentoring.
- Capacity development for regional consultants: To build capacity among regional evaluation consultants (mentors) in the concepts and practices of both UFE and ResCom.
- Capacity development for project partners: To provide technical assistance to project researchers, communications staff and evaluators toward improving their evaluation and ResCom knowledge and skills.
- Assistance to project evaluations and communication planning: To contribute towards the completion of UFE evaluations and communication strategies for designated research projects.
- Sharing lessons: To communicate the DECI-2 project findings and training approach to practitioners, researchers and policy makers.

Capacity development approach

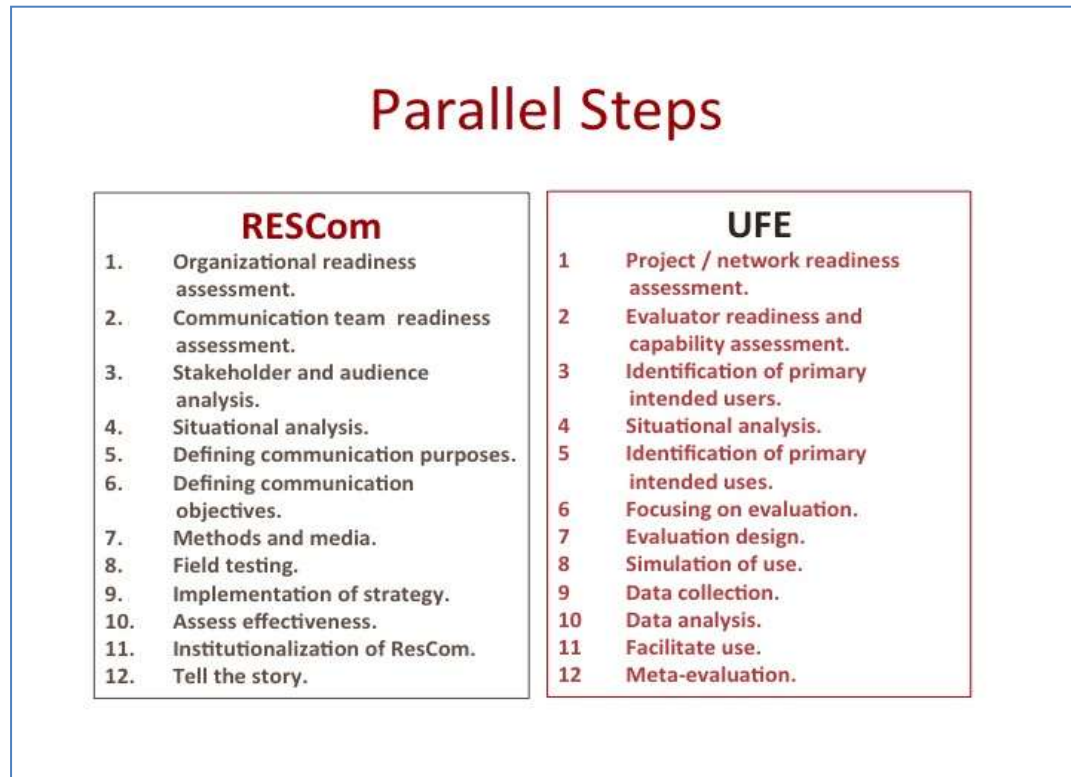
As we begin a partnership with a project, we explore their ‘readiness’ to work with us. The notion of readiness emanates from the first step of UFE. It focuses on the level of willingness of the team and the evaluator to take on a new approach. It also requires buy-in by senior management to enable this involvement, and is mindful of the limitations imposed by funders. The latter is of great importance in our view as some funders impose evaluation frameworks that pre-determine many evaluation design decisions. In our practice, we explore the extent to which the key project stakeholders can become ‘primary evaluation users’ which gives them greater control of the design of the evaluation. This process allows the project stakeholders to gain ownership of the evaluation, and to create an evaluation culture (Mayne 2009). We have learned that achieving readiness is not straightforward because ‘Readiness has power, timeliness, and commitment, as well as organizational and cultural implications. It is not a once off, instrumental review, but rather an ongoing consideration’ (Brodhead & Ramírez 2014: 2).

A second touchstone of the DECI approach is mentoring. Both UFE and ResCom planning are learned best through practice: experiential learning is at the core (Kolb 1984). They require an accompaniment that matches learning moments. In DECI-2, we have been experimenting with a combination of coaching (that follows an established set of steps associated with the UFE framework) with mentoring (that focuses on guiding, adjusting, and trouble-shooting together). Mentoring is a pivotal concept in the capacity development literature, especially the observation that blueprints tend to fail (Horton et al., 2003) and that capacity development requires action-research-reflection (Lennie & Tacchi 2013). Our guidelines are based on adult education and community development concepts, something that the external evaluation of DECI-2 confirmed (Hearn & Batchelor, 2017). We start with where the learner(s) are at; engage them on their terms; and enable them to discover and own the learning process.

The evolution of the decision-making framework

Our framework began as two parallel sequences of steps. Figure 1 summarizes the twelve UFE steps that Patton established in the 4th edition of the 2008 UFE book. On the left side, we list a parallel set of steps that we developed based on existing communication planning methods. We saw benefits in the UFE process as it shaped the ResCom variation: namely the notion of readiness at the start; and the review of usefulness towards the end.

Figure 1: Parallel steps in ResCom and UFE



We noticed efficiencies when implementing the first few steps together. In addition, there was a shared logic in steps 5-7 that enhanced effectiveness.

Beyond the steps that were complementary, there was an emerging confluence of the two: evaluation, for example can generate content to be communicated while communication can also be the focus of evaluation. We realized that when evaluation and communication inputs are offered in a modular fashion (as Lego blocks) they fit into each project context uniquely. We also noticed that it was the first few steps of both approaches that mattered the most.

In 2016 the full DECI-2 team met in Cape Town, South Africa, to review lessons together with some partners and IDRC. One of the outcomes of the workshop was the recognition of the need to simplify the approach into its essential steps. We concluded that the combination was not mandatory – a project could benefit from only working on evaluation or communication – yet the combination had benefits. We subsequently summarized the steps and referred to this approach as a hybrid decision-making framework (Figure 2).

Figure 2: Summary of the hybrid's most strategic steps



Figure 2 shows Readiness Assessment and Situational Analysis as shared steps that are relevant throughout the duration of mentoring a project. The UFE steps (left side) and the corresponding ResCom steps (right side) can be done in parallel or sequentially. As mentioned before, readiness may appear promising at the start, but can wane over time. The same ongoing attention is needed on situational analysis, especially with projects that are experimental and where circumstances are likely to shift. Depending on the nature of the project, the process can be as short as 3 months or can extend for most of the duration of a 3-year project.

A step that is not evident in Figure 2 and yet remains central to the approach is the 'facilitation of use and process' (Step 11 in UFE). This exercise is one where the evaluation team helps the primary intended users review the findings, and recommendations, and put them to work. It also includes a reflection of the evaluation process. With most of the DECI partnership projects, we have produced a Case Study (Step 12 of UFE is a meta-evaluation) and we have found the discussions regarding the development of the case studies most useful in helping the partners reflect on changes that have often taken place months after our mentoring support was completed.

Partner outcomes

We have documented outcomes of the projects we supported in the form of evaluations completed and communication strategies developed and implemented. We have examples of how the mentoring has enhanced projects' internal decision-making, and improved their own outcomes. In a few cases, notably at the grantee level, we have seen evidence that project strategies were modified because of the challenges posed by the evaluation and communication questions posed by our mentors. In particular, while defining evaluation USES and Key Evaluation Questions, and also defining communication purposes and audiences, the process has pushed teams to be specific and to move away from generalities.

Box 1: Example from a case study in India

Tea garden workers in Assam, India have had insufficient access to health facilities and essential services. Many of the tea workers belong to the indigenous (“Adivasi”) community, suffer high rates of maternal and infant mortality with minimal access to legal and advocacy resources to address violations. In response to this situation, two organizations (Nazdeek & Pajhra) piloted a nine-month project whereby women volunteers were given mobile phones to report health rights violations. Women were expected to text the code violations, which were populated on a map, and which confirmed the location and type of violation.

While the project had a technology to test through field experimentation, it was not clear how to gauge whether the experiment was working. On the evaluation side, the mentoring revealed a number of assumptions about how the experiment would work, that had not been expressed. ‘Communication’ was associated with dissemination campaigns. The result of the situational analysis (a shared step between UFE and ResCom) shed light on the context and the field level constraints that had not been expected. On the communication side, it became apparent that the project would face challenges connecting with the local government due to a history of confrontation. The audience analysis step allowed the team to connect with government as a future audience, and begin establishing a basis for collaboration.

“Following the communication strategy designed with the guidance from the DECI mentors, Nazdeek, Pajhra and ICAAD released the report, *No Time to Lose: Fighting Maternal and Infant Mortality through Community Reporting* and sent out a joint-press release about the report. The press release mentioned that commitment from the government was gained with the plan to establish a ‘Citizen Grievance Forum’ at the Block level to address maternal health violations. A short video was also made and distributed highlighting stories of maternal mortality cases from the ground and testimonies on how the App is used as a tool to report cases.

The Nazdeek team reported that media coverage was good, around 4-5 local and national newspapers covered the press conference, including The Hindustan Times, and the kind of coverage was indeed positive. More recently, [Time Magazine](#) and the [Guardian](#), covered the story of the use of App as a tool for community reporting to reduce maternal and infant mortality in Assam.”

Nazdeek and Pajhra, ISIF grantees, Assam India

Source: DECI-2 case study <http://evaluationandcommunicationinpractice.net>

In several instances, we have evidence of evaluations being used during the project’s implementation, very much in line with a Developmental Evaluation approach. However, we feel that we have also found uses beyond existing typologies of utilization (see Visser *et al.* 2014). For instance, the process enables the project teams to express assumptions and discuss them openly, which is common to UFE.

However, we have also found that this process works as a means of testing and visualizing a project's Theory of Change (Barnett & Gregorowski 2013, Mayne 2015, Vogel 2012). Further, we have found that in dynamic projects that are breaking new ground, the Theory of Change evolves as findings emerge. In selected cases, we have evidence that the modified project strategies led to significant outcomes (Box 1).

The Assam experience began with a focus on UFE. During her site visit, the evaluation mentor was able to verify some of the constraints of the project context. She was able to witness how some implementation barriers that arose, were unexpected by the team. For instance, they had not appreciated the different reasons why some of the women volunteers did not feel comfortable reporting the violations. While the team was focusing on the experiment, they had assumed that the local health authorities would be interested in the project and the findings. However, the situational analysis steps confirmed that in the past, the same organization had followed confrontational practices. As the local health authority was a main 'audience' for the research findings, the communication component needed to go beyond a simple dissemination focus. The audience analysis step of ResCom revealed the need to create a trusting relationship before producing any materials from the project if they were to be seen as credible and used.

The UFE mentoring helped the project team expose assumptions and address the barriers faced by the women volunteers. The ResCom mentor helped them address the relationship with their audience, before producing materials for dissemination. As a result of the changes to their strategies, they were able to convey the findings and contribute to a change in local health authority policy and behaviour. They employed a variety of methods and media (workshop, booklet, in-person visits, group meetings and discussions) to address a number of communication purposes (listening & understanding, as well as advocacy and dissemination). In a presentation made to an international conference, the project director reported on the lessons, as well as the achievements (including how the District Coordinator was not personally monitoring the district hospital to ensure the women received better care).

Conclusions

We live in an era where new methodologies and toolkits emerge on a regular basis, some providing refreshing new perspectives (the advent of Outcome Mapping); others providing innovations that have a short shelf life. Our hybrid framework is made up of familiar parts, especially if the reader has a background in participatory action research, adult education and/or community development. It also has some innovations, namely the introduction of two fields of applied work that are often kept separate, especially in large organizations. We have shown that our hybrid is made of the participatory branches of evaluation and communication work; hence the characteristics listed above are shared among them. What we feel is indeed new, and worthy of further exploration, is the notion that these combined frameworks enable complex projects to course-correct their strategies.

Partners who have covered this ground appear to pick up a new common sense; a new way of thinking in evaluation and communication terms. From a capacity development perspective, we have sufficient evidence to show that our just –in-time mentoring stimulated this confidence/skill (Hearn & Batchelor, 2017). With regards to helping projects elicit and modify their Theories of Change, we feel there is a need to further refine the approach as our evidence remains emergent.

This hybrid framework is question-driven, learning-oriented and enables project teams to reflect on assumptions and expectations that may not be shared otherwise. Our emphasis on producing case studies constitutes a reflective practice that enables our team and our project partners to witness newly honed competences in interdisciplinary work. Cutting edge, field building research projects are dynamic. Their theories of change evolve as findings emerge especially as many of their outcomes are unpredictable. Helping them ascertain gains, document progress, and engage different stakeholders requires an ongoing adaptive strategy. We have learned that providing support through mentoring constitutes an effective mechanism to build problem-solving competencies within research organizations as it nurtures a culture of learning.

Testing the hybrid approach which combines UFE and research communication in the field with practice-based situations has yielded many important findings some of which are summarized in conclusion.

The value-added dimensions of this hybrid framework include:

- A decision-making framework to improve efficiency (use of findings by a variety of stakeholders including practitioners, researchers, policy makers) and effectiveness (policy influence)
- A capacity building approach that enables practitioners to review their project logic and adjust project strategies as conditions change during implementation and when adjustments are necessary to enhance impact
- An approach for developing useful evaluation and communication plans

Relevance

We have noted that the hybrid has relevance in the following ways for the following project stakeholders:

- Evaluation commissioners gain confidence that project designs and operations reflect the Evaluation Principles of Development Assistance
- Project managers obtain a framework that builds-in ongoing strategic updating as a project context evolves to ensure project objectives are reached
- Practitioners in the evaluation and communication roles broaden their perspectives with a decision-making framework bridges both fields

Our basic steps (Figure 2) and our guiding principles (see below) are in line with the literature on collaborative evaluation (Cousins et al., 1996; Shulha et al., 2016), and on collaborative inquiry into evaluation (Cousins et al., 2012).

Emerging guidelines

Through our lessons learned, we have identified a number of guidelines that have shaped our work:

- Utilization-focused evaluation is a decision-making framework
- Research communication enhances use of findings for influence
- Attention is paid to readiness from the beginning
- Training is through demand-driven, just-in-time mentoring
- Course correction of project strategy is expected and planned
- Utilization is the focus from initial project design to completion
- A collaborative, learning and reflective process is embedded
- Participation and shared ownership are fundamental
- The process builds individual and organizational capacity
- Complexity and evolving contexts are addressed
- Demystifying evaluation and communication concepts facilitates learning uptake.

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ⁱⁱⁱ www.evaluationandcommunicationinpractice.net

Suitability of a community-based creative arts therapy intervention for abused children in South Africa: challenges and dilemmas

Nadine Blignaut-van Westrhenen, Elzette Fritz, Adri Vermeer and Rolf Kleber

Abstract

This article reports on the suitability of implementing a trauma-focused creative arts therapy intervention for children who have been abused in South Africa. The study aimed to explore implementation processes and outcomes associated with the delivery of this therapy. The intervention was implemented in a child trauma clinic situated within communities in and around Johannesburg, South Africa. While the intervention was found to be effective in reducing posttraumatic stress symptoms, the challenges of implementing and evaluating a new intervention programme within routine clinical practice in a developing context have been significant. We therefore outlined three major challenges referring to retention rates, the facilitator's skills and commitment, and the suitability of the evaluation methods used. Finally, we discuss how these challenges can inform us about the suitability of community-based and trauma-focused treatment in a developing context and make recommendations based on pivotal lessons learned.

Key words: creative arts therapy, child abuse, maltreatment, South Africa, suitability study

Introduction

Archbishop Desmond Tutu called South Africa a 'rainbow nation'ⁱ, referring to a country characterized by diversity across socio-economic, cultural, ethnic, language and religious realms. According to the World Bank, South Africa is considered an upper-middle-income economy.ⁱⁱ The country has an unequal divide of socio-economic resources causing numerous people to live in extreme poverty. Currently, over 50% of South Africans live below the poverty line and poverty numbers are rising (Stats SA, 2017). There is a stark divide in the health care system between the public and private sector, with 80% of the population (about 40 million people) relying on public facilities, with only 30% of doctors and specialists serving this sector (Keeton, 2010). Many South Africans in rural areas still follow traditional explanatory models of health and seek health care through traditional healing rituals (Campbell-Hall et al., 2010).

The country has a history of violence. During Apartheid up to 1994, people were subjected to various violations of human rights, such as suppression, detention without trial and torture (Truth and Reconciliation Commission, 1998). This violent history is still leaving its mark upon contemporary society; post-Apartheid South Africa is characterized by increased hostility and interpersonal violence. Death rates caused by interpersonal violence are four and a half times the global average (Seedat, van Niekerk, Jewkes, Suffla, & Ratele, 2009). Violence against women and children is particularly prominent; the rate of homicide of women by intimate partners is six times the global average, and it has been reported that up to 39% of girls have undergone some form of sexual violence before the age of 18 years (Seedat et al., 2009).

This article reports on the suitability of implementing a trauma-focused creative arts therapy intervention for abused children in South Africa. The study aimed to explore implementation processes as well as outcomes associated with this intervention that was implemented in communities in and around Johannesburg. The significant challenges and dilemmas of implementing and evaluating such a new intervention programme within routine clinical practice in a developing context is the topic of this article.

Child maltreatment

Child abuse or maltreatment includes ‘all forms of physical and emotional ill-treatment, sexual abuse, neglect and negligent treatment, emotional abuse, and exploitation that results in actual or potential harm to the child’s health, development or dignity’ (WHO, 2017, para 1). Child sexual abuse prevalence rates in South Africa have been reported to be around 35%, or one in every three children (Optimus Study, 2016). Moreover, a study among rural South African youth self-reported physical abuse rates of 89.3% for girls and 94.4% for boys, emotional abuse rates of 54.7% (girls) and 56.4% (boys), and emotional neglect at 41.6% for girls and 39.6% for boys (Jewkes, Dunkle, Nduna, Jama, & Puren, 2010).

Studies in South Africa have reported that child abuse increases the risk of HIV/AIDS, other sexually transmitted infections and unwanted pregnancies (Garwood, Gerassi, Jonson-Reid, Plax, & Drake, 2015; Jewkes et al., 2010), as well as substance abuse (Jewkes et al., 2010), and common mental disorders such as post-traumatic stress disorder, depression and suicide (Fincham, Altes, Stein, & Seedat, 2009; Jewkes et al., 2010). Exposure to violence and neglect in childhood can also have severe consequences later in life. For instance, girls exposed to sexual abuse are at increased risk of physical and/or sexual violence later in life and adult sexual assault (Dunkle et al., 2004), and boys who have been abused in childhood are at increased risk of later becoming perpetrators, resulting in an intergenerational cycle of violence (Jewkes et al., 2006; Seedat et al., 2009).

The consequences of child maltreatment are a serious public health concern world-wide. It is a cross-disciplinary challenge that impacts on all different levels of society (Mathews & Collin-Vézina, 2016), including public health, social justice, gender equality, human rights (Reading et al., 2009), as well as the economy (Fang, Brown, Florence, & Mercy, 2012). All these facts stress the importance and urgency of sufficient intervention programmes for children after abuse.

Therapy after child abuse

Current resources in South Africa are insufficient to provide sufficient mental health care for the extreme high number of victims of child maltreatment (Optimus Study, 2016). Moreover, most psychological treatments are based on Western health care models developed in first world countries that are not only expensive and thus inaccessible for disadvantaged communities, but also foreign and disconnected to indigenous and multicultural traditions (Campbell-Hall et al., 2010). Creative arts therapy could be a suitable mental health treatment in this context, considering that creative expression is inherent to most South African cultures as reflected in rituals that include narrations, song, dance, beading and painting. Foreign concepts of ‘Western’ therapy could be introduced in combination with more familiar forms of expression including dance, arts, music and drama. Although scientific research is limited compared to other trauma therapy forms (Van Westrhenen & Fritz, 2014), creative arts therapy has been suggested to have specific benefits for individuals who have experienced trauma in the sense that it could help to process sensory experiences of trauma that are otherwise difficult to express verbally (Levine, 2010) and that it could facilitate reflection and externalizing thoughts in a non-threatening environment (Cassidy, Turnbull, & Gumley, 2014). Furthermore, in a country with eleven official languages such as South Africa, a therapy that does not rely on speech is appropriate, because it avoids possible language barriers between therapist and client.

Although studies on evidence-based interventions for children after trauma have been documented in scientific literature (Gillies, Taylor, Gray, O’Brien, & D’Abrew, 2013), most interventions are based on Western health care principles, and have only been tested in high-income countries. As Tol and colleagues (2011) pointed out in a review, there is a serious gap between research and practice when it comes to interventions in low- and middle-income countries, and the most commonly used interventions (e.g. counselling and community-based support programmes) are noted to have the least rigorous research and evidence. In order to address these gaps, we designed, implemented and evaluated a creative arts therapy intervention programme for children who have experienced maltreatment in South Africa (van Westrhenen, Fritz, Oosthuizen, Lemont, Vermeer, & Kleber, 2017).

In the course of this project, however, we came to struggle with various dilemmas, such as barriers to accessibility, complications concerning language and cultural barriers, managing high volumes of clients, and empowering semi-skilled professionals. The challenges in this project turned out to be substantial. Therefore, the aim of this paper is to discuss the challenges experienced and lessons learned, in the hope that this knowledge will be helpful to others facing similar circumstances.

Methods

Over a period of three years, 125 children participated in the study: 74 children were in the treatment condition, and 51 children were in the control condition, receiving a low-level supportive programme without treatment. Participants were considered eligible for the intervention study if they experienced one or multiple events of abuse (physical, sexual, emotional or neglect) between three months and twelve months ago and were in the age between 8 and 12 years at the time of enrolment. Participants were recruited at a local child abuse clinic in Johannesburg, South Africa.

The creative arts therapy protocol

The creative arts therapy programme is a structured, group-based therapy for children after trauma, aiming to enhance psychological wellbeing and strengthen coping strategies (van Westrhenen et al., 2017). The programme combines psychotherapy principles with creative arts activities in order to facilitate healing through three different stages of a trauma recovery model (Herman, 1992). The first phase (session 1-3) focuses on establishing safety, in which activities aim to create trust among group members, facilitate psycho-education, and practising self-care through relaxation techniques. In the second phase (session 4-6) disclosure was encouraged in an indirect manner through creative activities, anxiety is reduced through relaxation techniques, and emotional identification and emotional regulation is practised. The third phase (session 7-10) focused on preparing the children to go back to their communities, with emphasis on resilience and coping strategies. The programme is facilitated in groups of 6-8 children by a trained professional healthcare worker.

Outcome measures

In order to evaluate the effect of the programme, an embedded-mixed methods design using a non-randomized controlled trial was used. Quantitative data were the main source of information and the effect of the therapy was measured with regard to posttraumatic stress symptoms, posttraumatic growth and behaviour problems, comprising three questionnaires; the Child PTSD Checklist (C-PTSD-C) (Amaya-Jackson, McCarthy, Chemey, & Newman, 1995) and the Posttraumatic Growth Inventory for Children- Revised (PTGI-C-R) (Kilmer et al., 2009), administered with the children, and the Child Behaviour Checklist (CBCL; Achenbach, 1991) administered with the parents or primary caregivers of the children. Qualitative data comprised semi-structured interviews with the parents and social workers

facilitating the therapy as well as observations during therapy, aiming to support the quantitative findings and provide further insights into the therapy process. Furthermore, researchers involved in the project made constant field notes, as constant monitoring and evaluation was an integral part of the project, allowing for continuous improvement and development of the programme.

Procedure

At the start of the project, a partnership was established between the trauma clinic and the first researcher. After approval by the board of the trauma clinic, a team of local social workers, staff members, and researchers both from in- and outside South Africa got involved in the project. Ethical clearance for this study was provided by the Department of Psychology at the University of Johannesburg. Funding for the project was raised through crowdfunding initiatives, although costs were aimed to remain low in order to increase sustainability. The first step of the project was to assess needs through qualitative research. This phase included interviews with local social workers and observations done by the primary researcher volunteering in the clinic for a year (conducting intakes with clients and co-facilitating therapy groups) in order to assess the possibilities for implementing the programme. In the second step, the creative arts therapy intervention protocol was developed in collaboration with local psychologists and creative arts therapists. Subsequently, training and supervision were organized for the social workers of the clinic. In total, four social workers were trained in the first year, and due to high staff turnover, training was repeated annually. In the final step, children were referred to the programme, information was provided to the participating families beforehand in their home language and parents signed consent indicating commitment. The programme was facilitated by social workers, and programme evaluation took place according to the previously mentioned outcome measures.

Results

First, we will briefly mention the results concerning the treatment outcomes. Detailed reporting of the evaluation results, however, are beyond the focus of this current article (e.g., Van Westrhenen, Fritz, Vermeer & Kleber. 2017; Van Westrhenen, Fritz, Vermeer, Boelen, & Kleber, 2019). After reporting the treatment outcomes, we will highlight three major challenges that were identified based on systematic documentation of information and experiences of all researchers and social workers involved. These three challenges concerned recruitment and retention, facilitator's skills and commitment, and the evaluation design.

Treatment outcomes

From the 125 children referred to the project, 62.4% dropped out. Based on a final sample of 47 participants (23 in the treatment condition, 24 in the control condition), quantitative results showed that both hyperarousal and avoidance posttraumatic stress symptoms decreased

significantly more in the treatment group compared to the control group (van Westrhenen et al., 2019). Behaviour problems reduced and posttraumatic growth increased, but this was not found to be significantly different from the control group. In the interviews and informal conversations, the parents reported improvement in the child's behaviour at home, for instance they showed less aggressive behaviour (e.g. less fighting with other children), they played more with other children and they reported less nightmares. Social workers were positive about the therapy, saying that the children moved from a point of being a victim to being survivors.

Challenge 1: Recruitment and Retention

The first major challenge encountered was the difficulty in acquiring sufficient respondents for our study. Despite the high prevalence of child abuse and neglect in South Africa and although the clinic (located in Johannesburg, a city with approximately 5 million inhabitants) supported many children who have experienced maltreatment, there was a high dropout rate. Of the 125 children referred to the project over three years, 62.4% dropped out during the course of the programme, in both the experimental group and the control group. Furthermore, more than 50% of the children in the experimental group only attended one or two sessions out of the prescribed ten, resulting in three out of the nine therapy groups being terminated prematurely due to low and inconsistent turnout. Another constraint was that parents and children that did show up could easily be one to two hours early or late, complicating adherence to session routines and structure of the creative arts therapy intervention protocol. The high dropout results were obtained despite the fact that the clinic in which the therapy was run was located within the communities, the services were provided free of charge, and where possible transport or transport money was provided to the families. Also, in an attempt to facilitate commitment, weekly reminders were sent to the parents via SMS, and food and beverages were regularly made available in the sessions.

Challenge 2: Facilitators' skills and commitment

A second challenge included the wide variety in skill levels, professionalism and commitment of the facilitators; some social workers were highly involved, dedicated, and collaborated with the researchers, others were overwhelmed by their workload or reported feeling aggrieved. There were instances of problematic administration; the client files contained missing or inaccurate information, resulting in incorrect referrals of children who did not meet the therapy inclusion criteria, and therapy progress notes that went missing. There were challenges with punctuality; facilitators did not always adhere to the creative arts therapy manual, changed activities, changed session times and structures, or cancelled sessions last-minute, impacting on routine and retention. Another concern was the elevated levels of resentment and frustration amongst a part of the clinic staff towards the project, resulting in a breakdown in communication. Although a major aim of the research was to benefit the clinic and the children attending the clinic directly, social workers at times had the impression that it was the researchers who were going to gain the most from the

collaboration. Also, some managers at the clinic did not allocate sufficient time to the social workers for the project. This added pressure to the social workers who had high caseloads whilst working in a minimally paid capacity. When the social workers facilitated the creative arts therapy programme a number of times, they reported experiencing the benefits of the therapy, they started feeling more confident in their own abilities, and they were more likely to maintain their positive contributions in the programme. Lastly, the staff turnover at the clinic was high, in the first year 50% of those that were trained and supervised in creative arts therapy protocol left the clinic, the second year this was 66%. Due to this very high staff turnover, investments in terms of training and supervision that were made did not last, and training and supervision had to be repeated.

Challenge 3: Evaluation design

The researchers experienced challenges in the evaluation of the creative arts therapy programme. Attendance was low and inconsistent, and due to the low literacy rates and language barriers, understanding of questionnaires was problematic. It was initially noticed that the young participants struggled to understand the Likert scales, and the attention span for children as well as the parents was relatively short. When working with orphans it was at times hard to find someone who could report on the emotional and behavioural history of the child, due to a high staff turnover at orphanages. In response to the language challenges, further translation in the various South African languages were made available. Moreover, visual cues were introduced to indicate the Likert-scale answers options of the questionnaires. Even considering these adaptations, reliability of the questionnaires in this context in our opinion remained questionable. Considering that this study was pioneering in this field and therefore explorative in nature, reliability and validity of instruments could be optimized in future research.

Discussion

Previous studies have outlined the urgent need for more community-based trauma interventions and evidence-based studies in developing countries (e.g. Tol et al., 2011). Although the implemented creative arts therapy intervention aimed to respond to this need whilst addressing previously reported barriers by following specific recommendations, such as decentralization of services, capacity-building through training, and incorporating a culturally congruent and low-cost approach (Saraceno et al., 2007; Tol et al., 2011, 2014), implementation of the programme into routine practice in South Africa encountered significant challenges. Below we will discuss the suitability of the intervention programme by reflecting on the challenges experienced.

Exploring barriers to access to treatment

Several reasons for the problems with recruitment and retention in this study can be distinguished. The clinic was not as decentralized or well-established in the community as initially thought, as turnout reflected little interest in or accessibility to the psychological services offered. One explanation for this could be rather practical: although services were free of charge, parents reported not being able to pay for transport to travel to and from the clinic. However, because transport costs for some groups were fully funded and still attrition was high, it was unlikely that this was the main reason for non-attendance. Moreover, problems with accessibility may be strongly influenced by a mismatch between the offered services and the acceptability of services based on health literacy and cultural norms and values. Traditional explanatory models of health in South Africa often refer to spiritual causes of ill health such as ancestors, for which patients seek the help of a traditional healer instead of a medical professional (Campbell-Hall et al., 2010). It is not uncommon that traditional communities favour existing (more traditional) practices over new interventions, as they are more in line with cultural beliefs and traditions about ill health and how it should be treated (Tol et al., 2014). Although the creative arts therapy tried addressing the gap between the western and more traditional practises, by using creative mediums, the concept of therapy may still have been too foreign for the community and more education is needed in this area.

Another possible explanation for the low acceptability of treatment relates to research that shows that poor health is usually associated with low income and poverty, not only in developing countries (Betancourt, Green, Carrillo, & Ananeh-Firempong, 2003). The relationship between socio-economic status and wellbeing is influenced by locus of control, or the subjective sense of control over particular life circumstances (Marmot, 2004). People with a low socio-economic status in the society who have a low sense of control may be less likely to seek help from health care professionals, or do not see the benefits of such help, compared to those who have a higher status. Additionally, the stigma around mental health illnesses and HIV/AIDS (an overwhelming problem in South Africa) of which the child is at risk after sexual abuse, also effects help-seeking behaviour (Jewkes, 2010).

The difficulty to reach patients and the dropout of mental health treatment are well-known issues in cross-cultural studies (Bruwer et al., 2011). They are considered serious and difficult to handle problems, especially among people who have low income, lack insurance, are from different ethnic backgrounds and have negative or ambivalent attitudes towards mental health care. The social workers, although black, were not necessarily culturally aligned to the participants, keeping in mind that there are various ethnic groups amongst the black population. Specific interventions targeting these groups are needed to increase the proportion of patients who complete an adequate course of treatment.

Improving practitioner's practice

The lack of commitment by some of the social workers could be attributed to their high caseload, in combination with a lack of training, supervision and management. It is considered a key barrier in low- and middle-income countries that health care workers are generally overburdened with multiple tasks and patient loads (Saraceno et al., 2007), and even though the group approach in the creative arts therapy protocol was aimed to address this barrier (by enabling to help more people at once), the initial buy-in and commitment from the clinic staff was lacking to make it work. Furthermore, this lack of commitment is a rather frequently occurring problem in cross-cultural research (Knipscheer & Kleber, 2005). Researchers are often confronted with suspicion and reluctance.

Ethical considerations for community-based research in a developing context

The selected questionnaires for this study were used before in previous studies in comparable settings in South Africa, and reliability and validity measures were published. Based on our experiences with the administration of these questionnaires, we were surprised not to find any reports on the limitations of administering these questionnaires in this context. Although it is quite common to use standardized questionnaires developed in the western world in non-western settings, there is serious doubt about their cross-cultural validity and reliability in settings that are characterized by abuse and poverty (Bolton, 2001). The interplay between qualitative and quantitative forms of research should be utilized better and more frequently.

Furthermore, the effectiveness of trauma-focused treatment in a context of ongoing adversity, such as in the case of chronic poverty, community violence and war, has been questioned. For instance, psychological treatments are not always effective when someone experiences ongoing stress and compounded trauma (Nickerson, Bryant, Silove, & Steel, 2011; Tol et al., 2014a). It can be debated whether introducing trauma-focused treatment in such settings without also addressing psychosocial problems is sustainable (Miller & Rasmussen, 2010). Daily stressors have substantial impact on mental health outcomes (e.g. Miller, Omidan, Rasmussen, Yaqubi & Daudzai, 2008), yet psychosocial interventions that exclusively target these daily stressors risk overlooking the need for more specialized trauma treatment.

Ethical dilemmas such as having to choose between investing in a psychosocial intervention or trauma-focused treatment although moral obligations would suggest adopting both, (e.g. Beauchamp & Childress, 2001), increase the risk of compromising the reliability and validity of a research study. Although in our study the main aim was to provide trauma-focused treatment, we were concerned about the physical health of the children (mostly living in vast townships of South Africa) when they were continuously reporting being hungry and therefore struggled to concentrate on the therapeutic activities. We quickly realized that it was impossible to treat the traumatic stress symptoms in isolation of psychosocial challenges, but struggled to find the right balance between trauma-treatment and psychosocial support, in our capacity as psychologists and researchers.

Conclusions

Based on the challenges discussed above, we formulated a number of recommendations for future studies in a comparable context.

- Considering our methodological challenges and concerns using questionnaires in a complex multicultural context and to ensure cultural validity, we recommend that future studies consist of a mixed design (Boeije, Slagt, & van Wesel, 2013), including methods such as clinical interviews, focus groups, semi-structured interviews, and observations, in combination with developing and administering cross-culturally validated questionnaires.
- In order to decrease geographical barriers to access of mental health care, providing clinical services inside schools, churches, or other well-established organisations within the community could possibly help.
- More education should be provided to the communities on the possible benefits of (creative arts) therapy to eliminate existing barriers on acceptability. This should be a primary focus of future studies and could be done by for instance social workers, teachers and spiritual leaders.
- Considering the complexity and cross-disciplinary nature (e.g. anthropology, economy, law, psychiatry, psychology, sociology) of the challenges we encountered, we recommend interdisciplinary research initiatives working on scientific and clinical practice issues related to child maltreatment (Freyd et al., 2005) and community-based mental health interventions. This would have helped us to get a more holistic understanding of the context we were working in, and possibly would have eliminated some of the experienced challenges in this context from the beginning.
- In order to implement successful interventions in this context, the health care workers executing treatments require more organisational leadership support. This can be achieved when for instance specialist staff primarily takes on the role of managers and supervisors (Saraceno et al., 2007), and social workers are supported and receive continuous professional development. Involvement of different people from different levels in the organization and community, such as is the case in participatory action research, can help project commitment and possibly reduce cultural and attitudinal barriers between researchers, staff, and clients (Saraceno et al., 2007).
- Based on feedback and observations from social workers, we learned that success was related to the social workers' feelings of self-efficacy (Bandura, 1977), experience in facilitating groups, and hours of training and supervision. Therefore, it is crucial to set good examples within an organization and share success stories. This will stimulate participation and interest in the facilitation of therapy programmes amongst staff members and ultimately affect the success of a programme.

- Considering the ethical dilemma we faced between providing psychosocial support vs psychological therapy, we find merit in developing an ethical problem solving model for research with at-risk population groups in developing countries. Such a model could provide a framework to examine complex situations considering multi parties interests', using a systemic multi-step approach to guide decision making. Using a foundation such as the ethical decision making model by Koocher and Keith-Spiegel (2008), research can be conducted into developing such a framework.
- Finally, we see merit in introducing creative arts therapy in the South African context, because it incorporates creative mediums that connect with the community's traditional ways of emotional expression. Despite the major challenges experienced implementing and evaluating this study, our results suggested a positive effect of the therapy on reducing posttraumatic stress symptoms. More research though should be conducted to create a stronger evidence-base in this field.

We hope that our insights with regard to research in poor communities in South Africa can guide similar studies into how we can best support the high numbers of children who have been abused in developing countries. We specifically experienced challenges around recruitment and retention, facilitators' skills and commitment, and the evaluation design. We recommend further research on help-seeking behaviour in impoverished and multicultural communities, and the close collaboration between researchers, health care professionals, also including patients/clients from the communities in decision making and implementation of treatment protocols. Due to the multi-faceted nature of the problem of child maltreatment, different interdisciplinary pools of knowledge are required to effectively address the problem. Increasing training and supervision of qualified health care professionals and the inclusion of mixed research designs are possible strategies to improve evidence-based mental health care for the large number of traumatized children who need psychological help. Lastly, we acknowledged the ethical dilemmas researchers face between providing trauma-focused and psychosocial support in a context of ongoing stress and trauma, and we recommend the development of an ethical problem-solving model to guide decision making.

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ⁱ <http://southafrica.co.za/desmond-tutu.html>

ⁱⁱ <https://data.worldbank.org/country/south-africa>

Following evidence from production to use at the International Federation of Red Cross and Red Crescent Societies: where does it all go?

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Most humanitarian organisations claim to be evidence-based but how often has this been tested? The International Federation of Red Cross and Red Crescent Societies (IFRC) carried out a network analysis of its documentation to examine how evidence is produced, circulated and used within the IFRC. Network graphs were produced from a sample of 404 documents, depicting the structure of citations between documents. Methodologically, an actor-network perspective was employed to follow the flow of evidence and information through documents in a bid to understand the effort applied to our commitment to be evidence-based. This analysis found the uptake of evidence by other documents to be wanting. Through conventional metrics, we also found that connected documents follow a power-law distribution at multiple scales, implying the structure is scale-free, and identified the key documents shape this hierarchical structure. Unlike conventional explanations for scale-free networks, we found Least Effort provides a better explanation to how this specific arrangement arose. The limited and fragmented use of citations suggests that the principle of Least Effort is a consequence of the organisational culture in the aid sector which fails to adequately incentivise more reflexive practices in the production and use of evidence.

Keywords: International Federation of Red Cross and Red Crescent Societies; citation analysis; evidence; humanitarian crises

Introduction

Every tribe is guided by its mythologies, habits, understandings, craft skills, what is referred to as its culture (Latour and Woolgar, 1986). The humanitarian and development sector is no exception, its activities being guided by LogFrames and best practices, and its knowledge set in an ordered system. Activities and knowledge join in the understanding, or myth, that humanitarian practice is evidence-based. And with good reason, the value and necessity of producing evidence to improve the quality of humanitarian action is well-founded. Yet

challenges as to the production, circulation and use of evidence lay doubts on the systematicity of our grounding in it.

The International Federation of Red Cross and Red Crescent Societies (IFRC) also faces challenges in terms of the production, circulation and use of evidence. Evidence is generally produced ad-hoc, resulting in a cluttered evidence-base where efforts are regularly duplicated and sharing limited (Mohamed 2012). These challenges are compounded by the lack of capacities and funding for generating and using evidence, resulting in a gap between these two poles (Corboz 2015). The coordinating organisation of the IFRC, the IFRC Secretariat, and National Societies developed Reference Centres to produce evidence for, carry out capacity-building activities with, and generally support National Societies in their respective area of interest. Despite these developments, the gap between evidence production and use remains. The disconnection between complex humanitarian interventions and the framing of evidence applied to these interventions feeds this gap. Humanitarian interventions often rely on linear and rationalistic models which, while adapted to simple or complicated activities, are inadequate for complex social settings involving multiple interacting systems and nonlinear dynamics (Westhorpe 2012: 407-408).

Organisations implementing complex interventions effectively require greater reflexivity in how information is produced, interpreted and applied because the tools we currently rely on fail to capture or anticipate the emergent effects generated in such contexts, which can produce outcomes which deviate from programme objectives (Davies 2004: 103-105). We understand evidence-use in complex interventions to require theories of change, tailored to the specific contexts of programme actors, and higher-level theories to frame information across multiple levels of context (Barnes et al. 2003). Multiple iterations between empirical inquiry and theory adjustment then serve to refine midrange programme theories adapted to specific activities in unique locations (Westhorpe 2012: 411). The Active Learning Network for Accountability and Performance (ALNAP), a global network of diverse organizations and individuals dedicated to learning how to improve response to humanitarian crises, defines evidence as ‘information that relates to a specific proposition, and which can be used to support or challenge that proposition’ (Cristoplos et al. 2017: 5) and that ‘information only becomes evidence when it is related to a specific proposition’ (Clarke and Darcy 2014: 7). In each case, evidence is the combination of a theory, an explanation of why something ‘is’, and the information that supports it. In this article, we follow the ALNAP definition above and consider ‘evidence’ as information that supports a specific proposition.

Information and supporting propositions are often found in separate documents. Evaluation reports, for example, usually contain information on specific intervention outcomes which can be cited as evidence in a policy document that advances a given approach. Put simply, the evaluation report is an ‘evidence document’ and the policy is an ‘evidence-based’ document. The link between the two documents is the citation found in the policy document. An

‘evidence-based document’ is thus expected to cite documents that contain the evidence to support its claims. More specifically, a citation should: correctly reproduce and represent the content of a reference, make clear which statements references support, refer to the correct publication, and use a reliable source (Harzing 2002: 130-137). Referencing is as much a social process as an empirical one, one of being convinced by a statement and appropriately transposing it to the construction of another statement (Latour and Woolgar 1986: 75-76). Correct referencing is therefore essential to reflexive and transparent practices in evidence production, ensuring continuity between the quality of evidence used, of the citation and of claims made. It also supports more reflexive evidence use by facilitating the evaluation of how statements and claims were constructed.

Exploring the whole referencing process is beyond the scope of this article. As a first foray into the matter, we focus on the IFRC document-base to observe how evidence is produced and circulates in this network. To this end, we carried out a citation analysis of IFRC documentation using network analysis, framing the construction of graphs and their interpretation in terms of actor-network theory. As far as the authors are aware, this study constitutes the first citation analysis to be carried out in a humanitarian organisation and aims to provide other organisations with a simple method for carrying out similar analyses on their own body of work. In using the same method, findings can then be compared across organisations.

Theoretical framework and methodology

Network analysis

Network analysis (NA) represents phenomena as a set of vertices or nodes (V) and edges (E) in a graph (G) where $G=(V;E)$. The versatility of representing phenomena as series of points and lines, and the metrics used for analysing them has found great use in citation analysis. Early studies examined the structure of knowledge in scientific domains or disciplines (Small and Griffith 1974; McCain 1986), concluding that papers cluster by discipline and speciality. Price (1965) carried on this work, explaining that older and more authoritative papers get cited more. This process gives citation networks a power-law distribution, whereby most articles will rarely be cited while a few prominent pieces account for most citations in the network. Graphically, a power-law resembles a hockey stick curve flipped horizontally with a ‘long-tail’ to the right, as shown below in Figure 1. In citation analysis, the x-axis represents the number of citations and the y-axis the number of documents. A point along the curve therefore represents the number of documents that have a given number of references to other IFRC documents. Subsequent work in other disciplines has found a prevalence of power-law distributions, using both statistical (Brzezinski 2015) and network analysis (Kim et al. 2014).

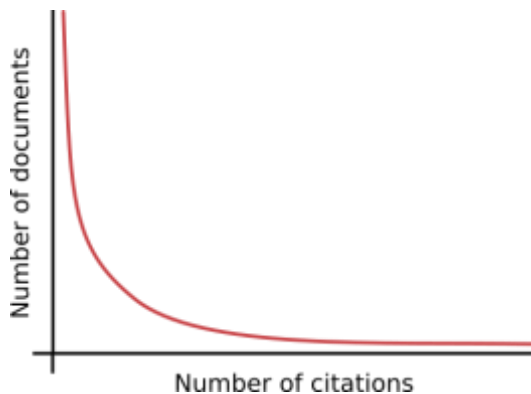


Figure 1. Example of a power-law distribution

As well as mapping the structure of different disciplines (Baggio et al. 2015; Kristensen 2012), analyses of citation networks have been used to assess the strength of evidence-bases (Du et al. 2012; Kumar et al. 2011). This includes examining citation practices (Hargens 2000), how they support the credibility of academic work (Harzing 2002), and how to improve the development and sharing of knowledge, theoretically (Zervas et al. 2014) and by improving knowledge management systems (Li et al. 2009). While not the only tool used in citation analysis, network analysis is widely used to visually represent the connections between manuscripts, where documents are depicted as a vertex and the references between them as edges. Since the references represent an interaction with a direction, an author referencing a document, edges are given a direction which is represented by an arrow. In citation analysis, edge direction typically starts from the referencing document and points to the document being referenced.

Power-laws are now found in a variety of empirical structures, from the topology of the internet to protein interactions. In many cases, both the overall network and their sub-networks follow a power-law distribution. Since these networks display the same distribution, and therefore properties, at multiple levels, they are called scale-free networks (Barabási 2009). Such networks are formed as new vertices join the network by attaching to already prominent nodes, what Barabási calls preferential attachment (ibid.). As the most prominent vertices gain more connections, they become hubs in the network which control key flows across levels. Because they act as hubs, they are core structural nodes which improve the efficiency of the network by centralising flows and filtering out redundant ones, thereby structuring the network in a hierarchical manner. Their structural role, however, means their loss is critical to the integrity of the network. In contrast, peripheral nodes help generate new flows and their loss is unimportant to the network. (Barabási 2013; Newman 2003: 189-190).

Other mechanisms can also explain power law distributions. We focus on the Principle of Least Effort (Zipf 1949), which was first developed to explain the frequency of word use in certain languages. This results from the common preference to use the minimum amount of

words needed for meaningful communication. More broadly, it holds that actors prefer to follow the most energy-efficient path in their activities. That actors follow energy-efficient strategies has also explained certain economic, organisational, and computational networks (Adriani and McKelvey 2009: 1058-1062).

Actor-network theory

Actor-network theory focuses on how social and technological networks co-construct each other, and how this affects knowledge construction. This has involved working beyond citation analyses to examine the strategic use of citations among scientists, highlighting their function as tools of persuasion (Latour and Woolgar 1986). To this end, it analyses humans and non-humans, called actants, together in material, social and discursive networks. Part of this involves moving from explaining causality to exploring mediation, ‘the aim is [...] to trace effort’ (Mol 2010: 261). Forming a network effectively requires effort from the different actants involved to persuade, induce or compel other actants to form an attachment (an edge) in what Latour calls an act of translation – to be cited, a text needs to compel its reader that it is useful (Latour and Stark 1999: 24-26). The effort involved in this activity represents a cost to actants because reading the text takes time and energy while, if not compelling enough, the time reading is wasted effort. A successful translation and attachment, however, will contribute to the formation of a network (Latour and Woolgar 1986: 238-240). Actor-network theory is purposefully vague and flexible in its vocabulary to avoid the sedimentation of any prescriptive theory.

Citation analyses typically place edge direction from the referencing paper to the cited paper, from more recent to older text (Newman 2010: 68). This process examines how older materials compete in a present context to gain the authority to become citable elements (Leydesdorff 1998: 14). The concept of preferential attachment effectively captures this process; texts will favour citing authoritative pieces which are already highly cited. In using actor-network theory, we want to trace effort of evidence-use among IFRC documents by following the uptake of references by more recent documents. The emphasis is on how references are constitutive of the documents they are found in, how the knowledge and evidence of one text becomes part of the text it is being cited in: each reference is not just an FYI pointing to a source, it is first and foremost an indicator of where evidence and ideas have compelled the author and nudged the structure of the manuscript to be as it is, and not any other way (Latour and Stark 1999: 30). Conversely, the reach and influence of a cited document is extended as it gets integrated into another text and lends it its credibility. It therefore makes sense that the direction of edges is inverted, from older documents to newer ones. As this is the case, however, some metrics will have to be interpreted in a new way. The most important change in this regard will concern the change from the number of incoming edges attached to a node (in-degree) as being a measure of prestige to the number of outgoing edges (out-degree), as this represents a document being cited by another. Tables 1a and 1b present the different metrics used in the analysis and how we interpreted them.

Table 1a. Vertex-specific metrics in citation networks and actor-network interpretation

NA Metric	Notation	Definition (Newman, 2010)	Application in citation networks
Degree	k	The degree of a vertex is the number of edges connected to it. It gives a measure of how connected a vertex is to others in the network.	It measures how much a document cites (in-degree) or the number of times it is cited (out-degree) and provides a crude measure of whether a document is well-informed or influential, respectively.
Betweenness	b	Betweenness measures the extent to which a vertex lies on the paths between other vertices. It is a guide to the influence vertices have over the flow of information between others.	Documents with high betweenness are important in bridging groups of documents and exchanging new information across them. Removal of these documents will disrupt the structure of the network most as they lie on the largest number of paths between groups. As betweenness rests on a vertex having an out-degree, only documents which are cited will score on this metric.
Closeness centrality	$ircc$	Closeness centrality measures the mean distance from a vertex to other vertices. High closeness centrality indicates better access to information at other vertices or more direct influence on other vertices. Since it takes into account all vertices, we will use a variant of the metric called information range closeness centrality which discards vertices with no degree.	As closeness centrality is based on in-degree, it provides a rough estimate of how much a document will draw in information, knowledge and evidence from surrounding texts.
Clustering coefficient	C	The clustering coefficient is the average probability that two neighbours of a vertex are themselves neighbours and measures how complete a vertex's neighbourhood is.	It measures the extent to which documents will use the same references.

Three assumptions, drawn from the literature on bibliometrics and network analysis ground this study. First, if the patterns of the network are known, it is possible to influence flows by stimulating or dampening strategically located nodes and links. Second, network metrics assume that flows will follow the shortest path between nodes. The risk here is that in many cases flows are indirect or oblique, metrics therefore measure best-case scenarios in how flows travel. Finally, the most influential documents are cited more and therefore located along key paths.

Table 1b. Graph metrics in citation networks and actor-network interpretation

NA Metric	Notation	Definition (Newman, 2010)	Application in citation networks
Average degree	d	Average degree calculates the mean degree of vertices in a network and represents the how well connected the average vertex is.	It represents the average number of times documents will cite or be cited by other documents in the network.
Average path length	l	The average path length measures the mean number of edges along the shortest paths between any two vertices in the network. It measures the efficiency of flows in a network.	It measures how far, on average, any piece of information or evidence from one document can travel to any other connected document in the network.
Density	δ	The density of a graph is the the fraction of maximum possible edges in a graph. Maximum density is 1 (all possible ties are present), the minimal density is 0.	It measures the extent to which documents are citing each other relative to the maximum number of citations possible. A maximum value of 1 would be undesirable as only relevant citations need to be made between texts.
Diameter	D	The diameter of a graph is the length of the longest calculated shortest path between any pair of vertices in the network for which a path actually exists.	It provides a rough measure on how far information or evidence can travel across the network.
Average clustering coefficient	C_{avg}	The average clustering coefficient calculates the mean clustering coefficient of all vertices in a network. It measures the extent to which vertices will form highly connected groups.	It denotes how much one can expect documents to share references across the network.
Modularity	Q	Modularity measures the tendency of vertices with similar properties to connect. It is strictly less than 1, takes positive values if there are more edges between vertices of the same type than we would expect by chance, and negative ones if there are less. In other words, it is a measure of how structured connections in the network are.	It measures the extent to which texts will cite across document types and areas of specialty. A higher value indicates more referencing occurs across categories and therefore that there is more cross-fertilisation between domains.

Methods

We developed a simple method that could be replicated by non-experts, thereby enabling similar studies to be carried out within and outside of the IFRC. Consequently, we used open-source software for the creation and analysis of the graphs, namely Gephi (Bastian et al. 2009) and SocNetV (Kalamaras 2015), and for the statistical analysis, namely R (R Core Team 2017).

We met 22 National Societies during a workshop held in December 2016 at the IFRC Secretariat in Geneva and then contacted National Societies referred by workshop participants. Among the 37 National Societies we contacted, nine agreed to participate in the study. Our contacts provided documents in electronic format and we acquired additional documents from each participant's website. At the same time, we gathered documents from Secretariat colleagues and the IFRC's online database. As documents were analysed, references were checked to find additional IFRC and National Society pieces. In short, materials were acquired through snowballing. Table 2 presents the inclusion and exclusion criteria for the study.

Table 2. Document inclusion and exclusion criteria.

Inclusion criteria	Exclusion criteria
Published 2012 or later	Draft document
Published or commissioned by the IFRC Secretariat, National Society or Reference Centre	Annual report
(Co)-authored by the IFRC Secretariat, National Society or Reference Centre	Financial report/audit/budget
Falls under a core IFRC activity or thematic sector	Presentation

Data was extracted from documents and recorded in Excel (see Table 3 below). Document meta-data was recorded alongside referencing data. For evidence documents, we also recorded data on evidence production, such as use of theory and methods used. Table 3 also provides the codes used to present the key analytical categories and abbreviations used throughout the study. The datasets were then disaggregated by organisation to produce graphs for each one, resulting in 11 separate analyses. We emphasise that the graphs only depict citations between IFRC documents, references to external documents are not represented. This reflects the choice to exclusively analyse the IFRC document-base and how it builds on itself. All participating organisations were provided with the opportunity to review the findings before they were finalised and disseminated. Of these, only two National Societies and two Reference Centres responded, choosing to discuss by email. The two Reference Centres continued this exchange by videocall.

Findings

We now present our findings for the IFRC and the Secretariat. For both scales of analysis, we first provide an overview of the network and of document production before defining the topology in more detail. We then examine how evidence circulates between documents. Finally, we consider findings from other organisations to examine how subsystems which display local variability populate the network.

Table 3. Database structure and analytical categories

Data type	Data description	Code
Meta-data	Title	--
	Publication year	--
	Lead author	--
	Lead author affiliation	--
	Publisher	--
	Document class	Evidence
		Evidence-based
	Document type	Research
		Evaluation
		Framework
		Advocacy
		Policy
		Programme design
	Thematic sector	Disaster Risk Reduction (DRR)
		Health
		Social Inclusion
		Livelihoods
		Culture of Non-Violence and Peace
		Shelter
		Water, Sanitation and Health (WASH)
		Migration
		All
		Other
	Core IFRC activity	National Society Development and Volunteering
		Policy and Advocacy
		Resilience
		Other
	Length in pages	--
Evidence production	Theory used	--
	Methods section	--
	Methods used	Quantitative
		Qualitative
		Mixed methods
	Participatory data collection	--
Referencing	Number of references	--
	Number of IFRC references	--
	Number of citations	--
	Number of IFRC citations	--

IFRC citation network topology

The graph for the IFRC document-base is depicted in Figure 2, where $G=(404;242)$. The metrics for this graph are much lower than those found for citation networks in the literature (Table 4; Kristensen 2012; Baggio 2005), principally due to the low edge (references) to vertex (document) ratio, representing the low number of citations between IFRC documents. Half the vertices in the graph are effectively disconnected, naturally leading to a lower average degree, path length, and clustering coefficient. We also examined the metrics for the largest component (sub-group of connected vertices) which, while higher than for the whole graph, also lag behind other citation networks. While we anticipated lower values compared to the literature, these results are below our expectations and highlight the limited referencing between IFRC materials. The sample is evenly split between document classes, with 47% of materials being evidence documents. Considering document type shows a dominance of research and frameworks, while document thematic sector is highly skewed towards disaster risk reduction (DRR) and health (Tables 5a and 5b). This trend is unsurprising given the focus of Red Cross activities.

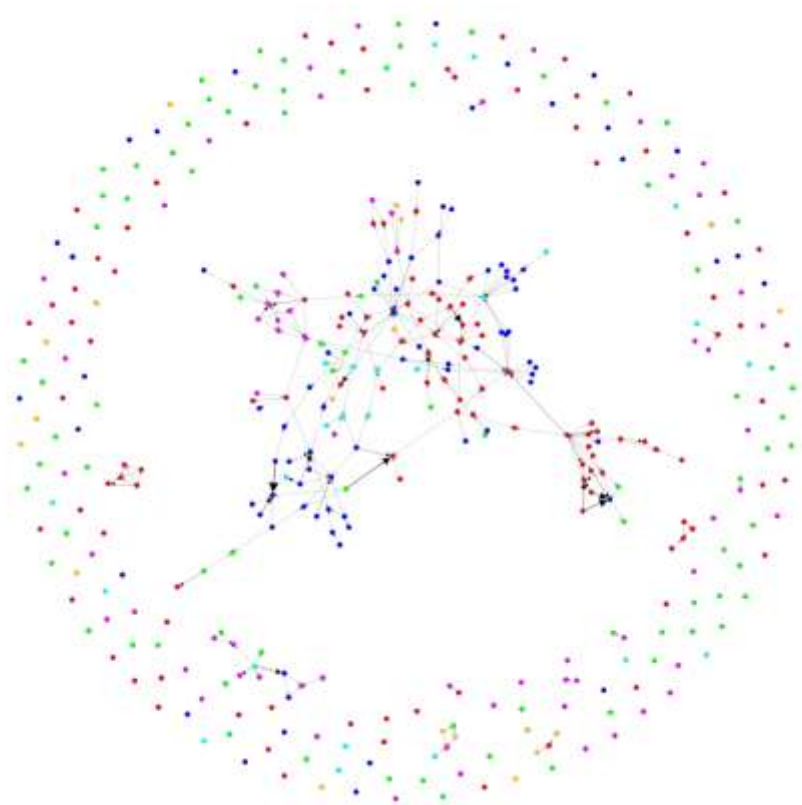


Figure 2. The IFRC citation network, with vertices coloured by type – research (red), evaluations (pink), frameworks (dark blue), advocacy (green), policies (light blue) and programme designs (yellow).

Surprise comes from the 204 disconnected nodes, which represent documents which do not cite or are not cited by other IFRC references. We can suppose different results would have been found had we included the 5,572 citations to non-IFRC references in the analysis. Yet 154 documents without citations would remain, representing 38% of the sample. The limited transparency in evidence production is visible because theory and methods sections are only present in around 60% of all evidence documents (Table 6). We also examined the content of each document and discerned the methods used in 84% of cases (eg. quantitative, qualitative or mixed). The remaining pieces lacked clear indications on the approach used, meaning assignment to any category was not possible. Limited clarity in evidence documents about theories and methods used suggests there is room for improvement in building a more robust ‘evidence-base’ for the IFRC.

Table 4. Basic network statistics. The properties measured are: number of vertices V and edges E ; proportion of disconnected nodes o ; average degree d ; average path length l ; network density δ ; average clustering coefficient C_{avg} ; graph diameter D ; network modularity Q ; scaling parameter of the power-law function α ; lower limit for the function x_{min} ; and proportion of power-law nodes in the largest component V_{PL} .

Network	IFRC		Secretariat		Burundi RC	Climate Centre	Japanese RC
	Full network	Largest component	Full network	Largest component			
V	404	157	171	94	31	31	50
E	242	203	143	114	13	15	26
o	0.5	–	0.25	–	0.52	0.45	0.62
d	1.198	2.599	1.673	2.426	0.839	0.968	1.04
l	1.633	1.687	1.569	1.632	1.133	1.435	1.278
δ	0.001	0.008	0.005	0.013	0.014	0.016	0.011
C_{avg}	0.023	0.032	0.022	0.006	0.027	0.038	0.014
D	4	4	4	4	2	3	2
Q	0.815	0.771	0.778	0.699	0.463	0.634	0.321
α	–	2.87	–	3.18	–	–	–
x_{min}	–	3	–	4	–	–	–
V_{PL}	–	0.36	–	0.2	–	–	–

Table 5a. Distribution of documents by type

Network	Research	Evaluation	Framework	Advocacy	Policy	Programme design
IFRC	0.31	0.16	0.21	0.21	0.06	0.05
Secretariat	0.35	0.06	0.27	0.15	0.06	0.11
Burundi Red Cross	0.03	0.74	0.1	0.03	0.1	0
Climate Centre	0.48	0	0.23	0.29	0	0
Japanese Red Cross	0.26	0.34	0.08	0.28	0.04	0

Table 5b. Distribution of documents by thematic sector

Network	IFRC	Secretariat	Burundi RC	Climate Ctr.	Japanese RC
DRR	0.42	0.42	0.19	0.94	0.74
Health	0.35	0.28	0.45	0	0.2
Social Inclusion	0.05	0.06	0.03	0.03	0
Livelihoods	0.05	0.06	0.06	0	0
Culture of Non-Violence	0.02	0.03	0.13	0	0
Shelter	0.02	0.04	0	0.03	0
WASH	0.01	0.02	0.06	0	0
Migration	0.01	0.01	0	0	0
All	0.06	0.08	0.06	0	0.06
Other	0.01	0.02	0	0	0

Table 6. Evidence production statistics by organisation.

Network	Describe theory	Describe methods	Quantitative methods	Qualitative methods	Mixed methods	Participatory data collection
IFRC	0.61	0.6	0.32	0.29	0.22	0.1
Secretariat	0.3	0.4	0.14	0.29	0.14	0.06
Burundi RC	0.5	0.5	0	0.27	0.73	0.45
Climate Centre	0.93	0.78	0.07	0.71	0.21	0
Japanese RC	0.78	0.32	0.46	0.28	0.21	0

We examined the degree distribution to test a fit with a model, first removing isolated nodes to focus on connected components, and found a skewed distribution. Following Newman (2010), we linearised the data on doubly logarithmic axes which suggested the network follows power-law ($\alpha = 2.87$, $x_{min} = 3$; Figure 2). We then carried out a regression analysis for both logarithmic ($r^2 = 0.885$, $p < 0.0001$) and exponential models ($r^2 = 0.832$, $p < 0.0001$), finding a stronger fit with the former. In addition, we carried out a Kolmogorov–Smirnov test on the cumulative distribution function (KS.p = 0.936) which confirmed the fit with a power-law (Csardi and Nepusz 2006). As demonstrated above, the network follows a power-law for all vertices of degree 3 or higher, representing 36% of vertices in the large component. This indicates the latter is hierarchically structured around key documents with other materials attaching to these hubs. In other words, new information can spread efficiently throughout connected documents but depends on few key pieces.

Circulation of evidence

To find if the focus on specific document types and thematic sectors contributes to this phenomenon, we examined the references between documents. The high modularity of the network indicates that referencing follows a structured pattern (Table 4). We therefore counted edges between document categories and calculated the probability that two documents of a given type or sector chosen at random interact. We found that referencing focuses within DRR and health documents, with referencing between them forming the next largest category (Table 7a). Referencing among and between other sectors is limited, instead tending to concentrate around DRR and health. A similar pattern emerges when considering document type, with edges focusing around research and frameworks (Table 7b). The focus around DRR and health is unsurprising given they are important activities in the IFRC, as is the focus around frameworks given the IFRC’s practical orientation. The focus around research is less trivial and may indicate strong uptake of evidence among referencing documents.

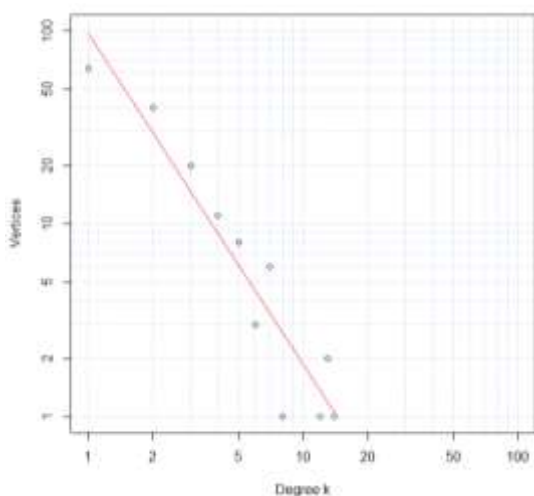


Figure 3. Log-log plot of the IFRC citation network degree distribution.

Table 7a. Number of references between document types.

Doc. Type	Research	Evaluation	Framework	Advocacy	Policy	Programme Design
Research	66	–	–	–	–	–
Evaluation	13	14	–	–	–	–
Framework	33	4	37	–	–	–
Advocacy	8	6	10	2	–	–
Policy	9	5	18	2	4	–
Prog. Design	4	4	1	2	0	0
Total	133	46	103	30	38	11

Table 7b. Number of references between document sectors

Sector	DRR	Health	Social inclusion	Livelihoods	Culture of non-violence	Shelter	WASH	Migration	All	Other
DRR	78	–	–	–	–	–	–	–	–	–
Health	27	72	–	–	–	–	–	–	–	–
Social inclusion	7	5	2	–	–	–	–	–	–	–
Livelihoods	7	3	2	2	–	–	–	–	–	–
Culture of non-violence	0	3	1	0	0	–	–	–	–	–
Shelter	9	2	0	0	0	0	–	–	–	–
WASH	1	0	0	0	0	0	0	–	–	–
Migration	0	1	0	0	0	0	0	0	–	–
All	9	2	2	1	0	1	0	0	1	–
Other	0	4	0	0	0	0	0	0	0	0
Total	138	119	19	15	4	11	1	1	7	4

To refine the analysis, we examined the distribution of edges according edge direction (Figure 3). The results are instructive: evidence documents are nearly 40% more likely to reference IFRC materials than evidence-based texts are, and three times as likely to cite evidence-based materials than the inverse. That evidence documents cite evidence-based documents is important for informing research agendas and ensuring they remain relevant to practice. Yet the ratio of referencing between documents classes is too uneven, suggesting practitioners are

not referencing the evidence materials they consult - or not even using them. In effect, only 24% of documents in the sample make use of IFRC references, the majority evidence documents (see Figure 8). Although referencing of non-IFRC materials does double this proportion, it still represents a limited commitment to transparent writing practices across document classes.

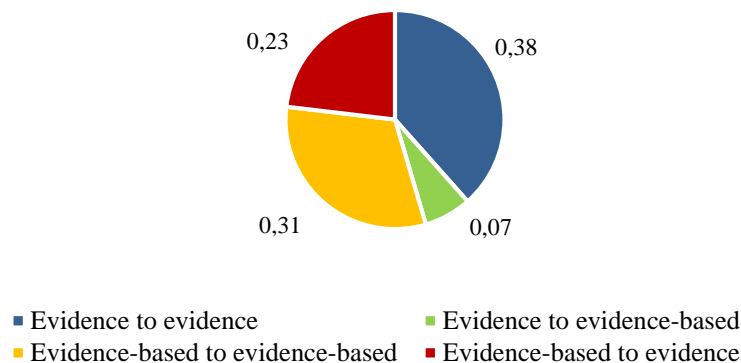


Figure 4. Proportion of references between IFRC document classes

We ranked the ten highest-scoring documents according to out-degree, closeness centrality and betweenness (Table 8). Evidence documents, all research, form 70% of pieces in the rankings and tend to have a broad scope of applicability. The Secretariat's *World Disasters Report* (2013; 2014; 2015) series is exemplar here, providing general overviews of topics with broad statistics. Other Secretariat research, *The Road to Resilience* (2012), *Learning from the City* (2012), and *Programmatic Directions* (2012), are also illustrative cases, covering the interdisciplinary topic of resilience, and are mostly cited by materials covering other broad IFRC topics, such as psychosocial support, DRR, and volunteering. In other words, documents which have little contextual barriers to their use are the most influential pieces of evidence.

What little research in the rankings does have specific foci represents the specialisation of Reference Centres and therefore score highly, particularly in closeness centrality, due to more intense referencing within these organisations. Documents which rank highly in betweenness are then pieces which provide links between these organisations and the rest of the network. Prominent evidence-based documents, mostly Secretariat pieces, also represent broad interdisciplinary topics, namely gender and resilience, or fall into the 'All' category. Unlike evidence materials, however, their practical focus means they tend to be referenced by documents covering the same topic and are thus important in informing specific areas of practice. Nonetheless, the limited number of evidence-based documents in the rankings indicates their limited interaction with the network.

Table 8. Ten highest scoring IFRC documents according to out-degree centrality, betweenness centrality and information range closeness centrality.

Out-degree centrality ranking			
Rank	Document	Class	Out-DC
1	De Buck E., <i>Use of Evidence-Based Practice in an Aid Organisation</i> , (2014)	E	10
2	IFRC, <i>Strategic Framework on Gender and Diversity Issues (2013-2020)</i> , (2013)	E-b	7
3	Talbot J., <i>Preparing for and Responding to Large Scale Disasters in High Income Countries</i> , (2013)	E	6
4	Singh G., <i>Predictable, Preventable</i> , (2012)	E-b	5
5	Kyass A., <i>Learning from the City</i> , (2012)	E	4
6	IFRC, <i>Framework for Community Resilience</i> , (2015)	E-b	4
7	Vinck P., <i>World Disasters Report 2013</i> , (2013)	E	4
8	Cannon T., <i>World Disasters Report 2014</i> , (2014)	E	4
9	Bendimerad F., <i>Programmatic Directions for the Red Cross Red Crescent in Building Urban Community Resilience in the Asia Pacific Region</i> , (2012)	E	4
10	IFRC, <i>The Road to Resilience</i> , (2013)	E	4
Betweenness centrality ranking			
Rank	Document	Class	BC
1	IFRC, <i>Principles and Rules for Red Cross and Red Crescent Humanitarian Assistance</i> , (2013)	E-b	40
2	De Buck, E., <i>Use of Evidence-Based Practice in an Aid Organisation</i> , (2014)	E	34.5
3	Kyazz A., <i>Learning from the City</i> , (2012)	E	31
4	IFRC, <i>Integrating Climate Change and Urban Risks into the VCA</i> , (2014)	E-b	23
5	Hamza M., <i>World Disasters Report 2015</i> , (2015)	E	17
6	PS Centre, <i>Life Skills. Skills for Life. A Handbook</i> , (2013)	E-b	16
7	Taylor N., <i>Urban Volunteering in South East Asia</i> , (2014)	E	15
8	IFRC, <i>9th APC: Community Resilience</i> , (2014)	E	13
9	Babé M., <i>Evaluation of the JRCS and IFRC Recovery and Rehabilitation Interventions after the GEJE and Tsunami of 11 March 2011</i> , (2013)	E	11
10	IFRC, <i>The Road to Resilience</i> , (2012)	E	10
Information range closeness centrality ranking			
Rank	Document	Class	IRCC

1	De Buck, E., <i>Use of Evidence-Based Practice in an Aid Organisation</i> , (2014)	E	0.025
2	De Buck, E., <i>Is Blood of Uncomplicated Hemochromatosis Patients Safe and Effective for Blood Transfusion?</i> , (2012)	E	0.019
3	Dieltjens T., <i>Evidence-Based Recommendations on Automated External Defibrillator Training for Children and Young People in Flanders-Belgium</i> , (2013)	E	0.018
4	IFRC, <i>Strategic Framework on Gender and Diversity Issues (2013-2020)</i> , (2013)	E-b	0.018
5	Talbot J., <i>Preparing for and Responding to Large Scale Disasters in High Income Countries</i> , (2013)	E	0.016
6	Cusack L., <i>Blood Type Diets Lack Supporting Evidence: A Systematic Review</i> , (2013)	E	0.016
7	Bendimerad F., <i>Programmatic Directions for the Red Cross Red Crescent in Building Urban Community Resilience in the Asia Pacific Region</i> , (2012)	E	0.015
8	Kyazz A., <i>Learning from the City</i> , (2012)	E	0.015
9	IFRC, <i>The Road to Resilience</i> , (2012)	E	0.015
10	Singh G., <i>Predictable, Preventable</i> , (2012)	E-b	0.013

IFRC Secretariat citation network topology

In this section we focus on the Secretariat subnetwork, where $G=(171:143)$ (Figure 4). Of these documents, 139 are Secretariat documents, making just over a third of materials in the sample. The metrics for this graph and its largest component are very similar to those observed for the IFRC network, again due to the low edge to vertex ratio (Table 4). The proportions for document types and thematic sectors are also similar, with only evaluations dropping 0.1 points (Tables 5a and 5b). As such, the Secretariat subnetwork approximates the structure and composition of the overall sample.

Analysis of evidence production methods for the 139 Secretariat documents shows more limited transparency and rigour (Table 6). We were unable to identify how evidence was produced for nearly half of all documents, both by searching for formal indicators (eg. theory and methods sections) and examining the findings. These results are surprising considering the Secretariat should be setting the standards for evidence production in the IFRC.

We examined the degree distribution, again focusing on the largest component, and found a long-tail. The log-log plot suggested a fit with a power-law model ($\alpha = 3.18$, $x_{min} = 4$; Figure 5) which was confirmed by the regression analyses, against both logarithmic ($r^2 = 0.973$, $p < 0.0001$) and exponential ($r^2 = 0.719$, $p < 0.0001$) models, and the Kolmogorov–Smirnov test (KS.p = 0.99). The power-law fit is stronger here than for the global analysis for vertices of degree 4 and higher, representing 20% of vertices in the component. This again indicates that

documents are hierarchically structured around key texts which inform the network, with peripheral pieces then linking to these core texts. Having found power-law behaviour at two different scales in the sample, we confirm the network is scale-free for vertices of degree 3 or higher. While this hierarchical structure is efficient in gathering and redistributing information and evidence, how effectively it is used remains questionable, as the following section will show.

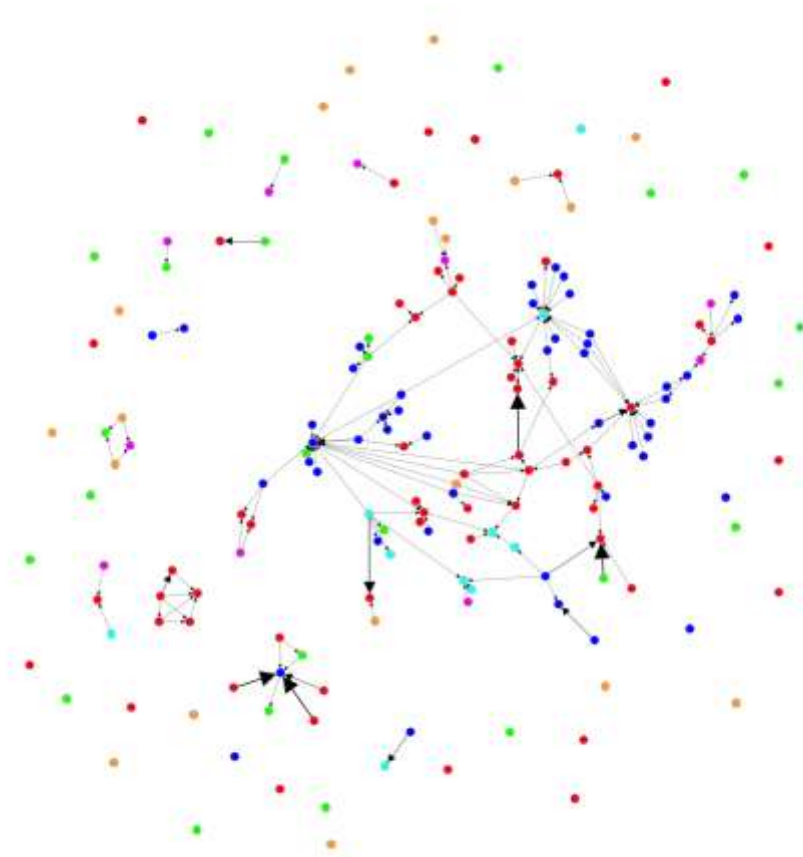


Figure 5. The Secretariat citation subnetwork, with vertices coloured by type – research (red), evaluations (pink), frameworks (dark blue), advocacy (green), policies (light blue) and programme designs (yellow).

Circulation of evidence

Analysing edge occurrence returned a similar pattern to the full sample, showing a focus around DRR and health documents, and research and frameworks. Given the resemblance between the structure of the IFRC and Secretariat document-base and elements that compose them, it is unsurprising that citation patterns would also be similar. Following the edges between document types again revealed that the distribution of edges between evidence and evidence-based documents is highly unbalanced (Figure 6). Referencing among categories represents roughly the same proportion of edges, but evidence is more than five times as likely as to cite evidence-based materials than the inverse.

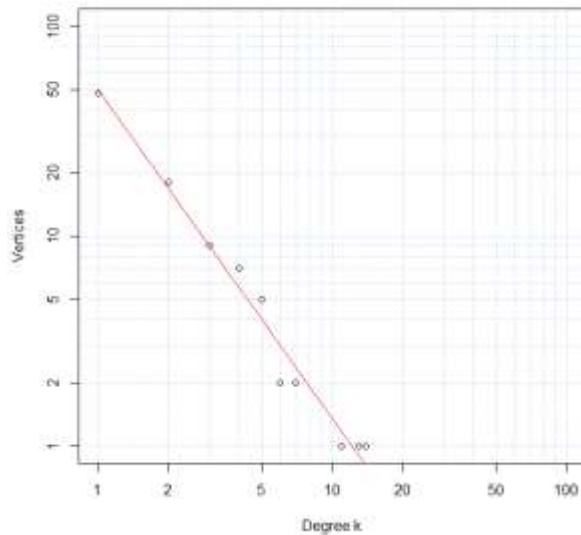


Figure 6. Log-log plot of the Secretariat subnetwork degree distribution

The proportion of Secretariat evidence documents which use references is 0.1 points lower than the whole sample but similar when only IFRC references are considered (Figure 8). Proportions for evidence-based documents are again lower for all referencing but comparable when considering only IFRC references. As such, Secretariat documents follow the referencing trend towards IFRC documentation seen in the global network but reference external sources less.

We again ranked the top ten documents using the same metrics (Table 10). With few exceptions, the same documents appear in these rankings, meaning evidence documents again dominate the rankings. Yet new entries cover the topic of resilience and DRR, repeating the tendency to cover interdisciplinary themes identified in the previous part. Interestingly, the highest ranking out-degree and closeness centrality documents are evidence-based pieces covering the topic of gender, while the highest ranking betweenness document is an overarching policy which covers all sectors. If we consider the number of references exchanged between the Secretariat and National Societies, we find an explanation for why the rankings are so similar across levels. The Secretariat provides nearly three times as many references to other organisations than it uses while National Societies reference Secretariat pieces disproportionality more than they cite one another (Figure 7). This naturally leads to the high ranking of Secretariat documents across levels as they constitute hubs for information exchange between documents in the sample.

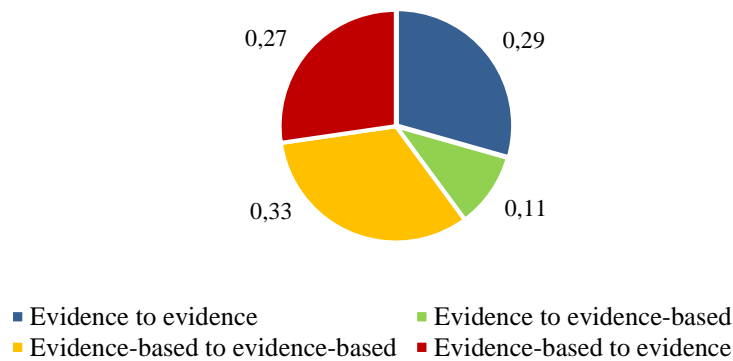


Figure 7. Proportion of references between Secretariat document classes.

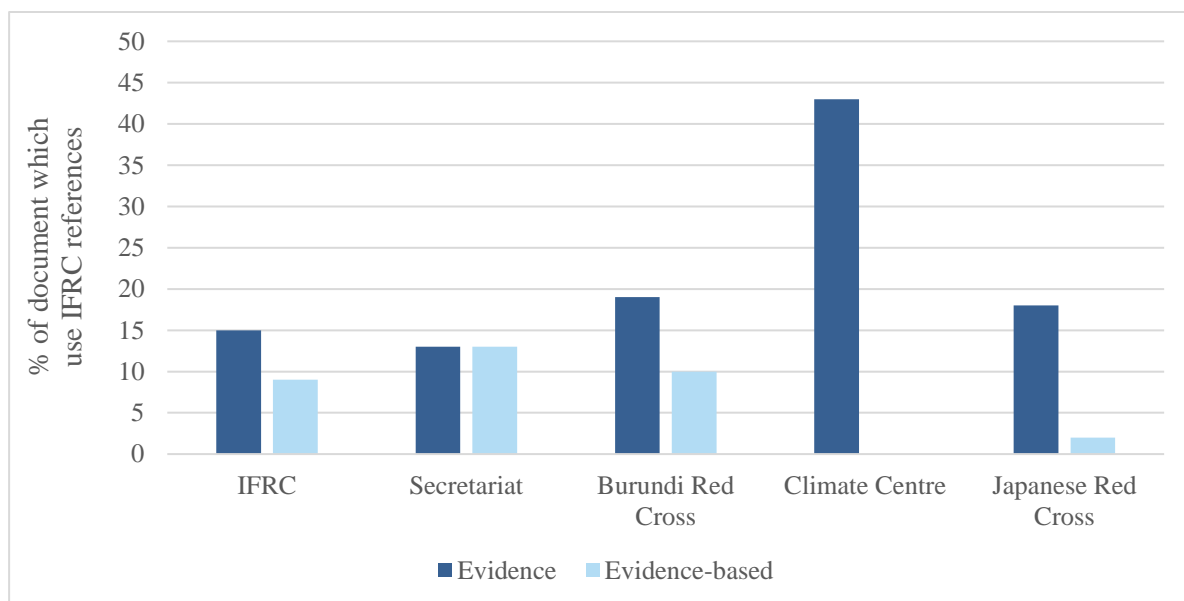


Figure 8. Percentage of documents in the sample which reference other IFRC documents.

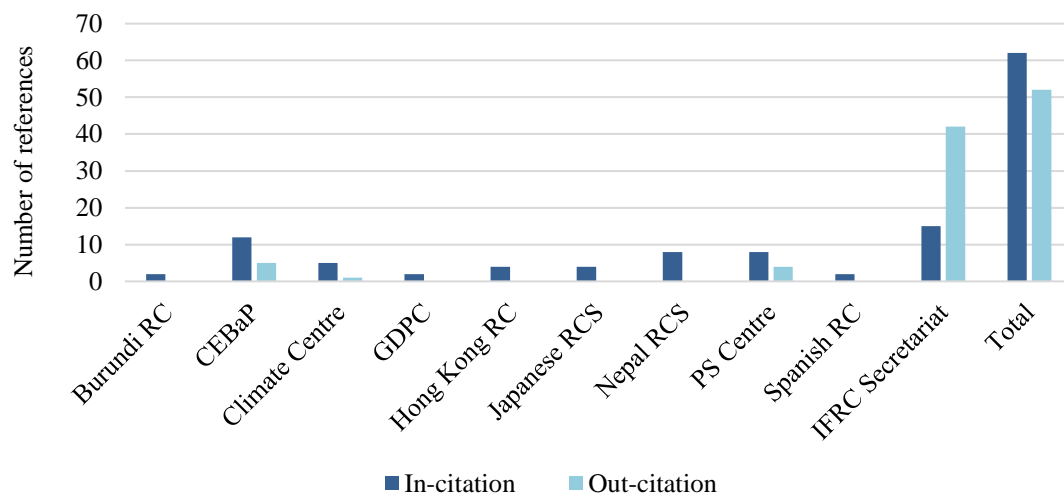


Figure 9. Inter-organisation referencing.

Table 10. Ten highest scoring Secretariat documents according to out-degree centrality, betweenness centrality and information range closeness centrality.

Out-degree centrality			
Rank	Document	Class	Out-DC
1	IFRC, <i>Strategic Framework on Gender and Diversity Issues (2013-2020)</i> , (2013)	E-b	7
2	Singh G., <i>Predictable, Preventable</i> , (2012)	E-b	5
3	Kyazz A., <i>Learning from the City</i> , (2012)	E	4
4	IFRC, <i>Framework for Community Resilience</i> , (2015)	E-b	4
5	IFRC, <i>The Road to Resilience</i> , (2012)	E	4
6	Bendimerad F., <i>Programmatic Directions for the Red Cross Red Crescent in Building Urban Community Resilience in the Asia Pacific Region</i> , (2012)	E	4
7	Vinck P., <i>World Disasters Report 2013</i> , (2013)	E	4
8	Cannon T., <i>World Disasters Report 2014</i> , (2014)	E	4
9	IFRC, <i>Principles and Rules for Red Cross and Red Crescent Humanitarian Assistance</i> , (2013)	E-b	3
10	IFRC, <i>Community Early Warning Systems</i> , (2012)	E-b	3
Betweenness centrality			
Rank	Document	Class	BC
1	IFRC, <i>Principles and Rules for Red Cross and Red Crescent Humanitarian Assistance</i> , (2013)	E-b	40
2	IFRC, <i>Integrating Climate Change and Urban Risks into the VCA</i> , (2014)	E-b	21

3	Hamza M., <i>World Disasters Report 2015</i> , (2015)	E	17
4	IFRC, <i>9th APC: Community Resilience</i> , (2014)	E	13
5	Kyazz A., <i>Learning from the City</i> , (2012)	E	11
6	Taylor N., <i>Urban Volunteering in South East Asia</i> , (2014)	E	9
7	Vinck P., <i>World Disasters Report 2013</i> , (2013)	E	6
8	Markenson D., <i>International First Aid and Resuscitation Guidelines 2016</i> , (2016)	E-b	5
9	Cannon T., <i>World Disasters Report 2014</i> , (2014)	E	5
10	IFRC, <i>9th APC: Climate Change and Urbanization</i> , (2014)	E	5
Information range closeness centrality			
Rank	Document	Class	IRCC
1	IFRC, <i>Strategic Framework on Gender and Diversity Issues (2013-2020)</i> , (2013)	E-b	0.042
2	Bendimerad F., <i>Programmatic Directions for the Red Cross Red Crescent in Building Urban Community Resilience in the Asia Pacific Region</i> , (2012)	E	0.036
3	Kyazz A., <i>Learning from the City</i> , (2012)	E	0.035
4	Zetter R., <i>World Disasters Report 2012</i> , (2012)	E	0.03
5	IFRC, <i>Predictable, Preventable</i> , (2012)	E-b	0.029
6	IFRC, <i>Community Early Warning Systems</i> , (2012)	E-b	0.028
7	Vinck P., <i>World Disasters Report 2013</i> , (2013)	E	0.026
8	IFRC, <i>Framework for Community Resilience</i> , (2015)	E-b	0.025
9	Cannon T., <i>World Disasters Report 2014</i> , (2014)	E	0.025
10	IFRC, <i>The Road to Resilience</i> , (2012)	E	0.024

Exploring other subsystems

While the findings for the global and Secretariat analysis mirror each other, we do find local variations in other subnetworks in the graph. We focus on three cases, the Burundi Red Cross, the Japanese Red Cross and the Climate Centre. The limited number of documents in each case means we cannot draw any direct comparison with citation networks in the literature but nonetheless note the high fraction of disconnected vertices and low metrics for each organisation (Table 4).

Burundi Red Cross

Document production in the Burundi Red Cross focuses on evaluations, indicating a strong practical orientation in the organisation. It is the only National Society in the sample to produce across most sectors, though focus on DRR and health is maintained (Tables 5a and 5b). Nonetheless, it produces 40% of culture of non-violence and peace documents in the

sample, an unsurprising value given the country's recent history. The Burundi Red Cross is also notable for the high proportion of volunteers involved in evidence production, which contrasts with the third of authors who are consultants (Table 11). Discussion with Secretariat staff highlighted that National Societies with limited means regularly receive donor funds to hire consultants for the evaluations of specific projects. This is a way for them to economise precious staff time and resources while quickly satisfying donor requirements. What is regrettable is the lost opportunity to build skills and knowledge within the organisation. This logic of economy also explains the use of volunteers in data collection (Table 6).

Japanese Red Cross

The Red Cross in Japan is structured around several organisations, with the specific mandate of each creating a division of labour among them. The organisation's Nuclear Disaster Resource Centre produces frameworks and research on nuclear disaster preparedness, Red Cross Colleges of Nursing carry out medical research and contribute to health activities, and its Institute for Humanitarian Studies produces research published in its own peer-reviewed journal. Finally, the Japan Red Cross itself carries out operational activities and produces evaluations and advocacy. The documents in this network mostly cover the area of DRR, more specifically, the triple-disaster which hit Japan in 2011, while remaining pieces, mostly health documents, are framed by this cataclysm (Table 5b). Although the costs of establishing and maintaining such a diverse network are high, the division of labour among its different components results in a highly knowledgeable and skilled subnetwork.

Climate Centre

As Reference Centre, the Climate Centre has the mandate of studying and supporting National Society activities around a specific topic. Accordingly, 94% of Climate Centre documents cover the sector of DRR and are either frameworks or research (Tables 5a and 5b). The research it produces is rigorous, with a third of it being published in open-access peer-reviewed journals and another two pieces produced with academics (Table 11). This enables it to produce high quality evidence which it then disseminates throughout the IFRC in more accessible formats. Despite this strategy, none of them are cited by National Societies in the sample and only one reference is made by the Secretariat. Discussion with Climate Centre staff revealed that the organisation interacts extensively with National Societies through face-to-face capacity-building activities, many of which are recorded in the documents analysed. These National Societies were not, however, included in the study. One can expect that, had they been included, references to these materials would be found. But to what degree remains an open question, one which reflects more on the culture of evidence use in the IFRC than on the quality of Climate Centre materials.

The organisations examined above have highly focused research interests and activities but show significant variability in document production strategies. These result from the

contextual factors which nudge and incite organisations to prioritise specific issues, and adopt precise strategies and responses, which will be discussed in more detail in the following part.

Table 11. Distribution of authors by organisation.

Network	IFRC authors	Academics	Consultants	Partners
IFRC	0.55	0.15	0.25	0.05
Secretariat	0.54	0.15	0.31	0
Burundi RC	0.67	0	0.33	0
Climate Centre	0.7	0.3	0	0
Japanese RC	0.75	0	0.08	0.17

Discussion

The findings demonstrated that the structure of referencing among IFRC documents fits a scale-free pattern. Despite the effectiveness of scale-free structures in concentrating and redistributing knowledge and evidence, a finer analysis showed this redistribution lacks direction. On the one hand, citations appear to follow Least Effort more than authority or preferential attachment. Academic papers produced by Reference Centres, for instance, are not cited by National Societies, unlike the more readable, and more widely promoted and applicable *World Disasters Report*. Frameworks get cited because they provide practical information which can be directly used by National Societies with little interpretation and discussion. The higher rate of referencing within organisations also follows Least Effort; it is easier to access one's own materials, which will respond to the problems at hand, than to use texts produced in a foreign language for a global audience.

The relation to a power-law is that Principle of Least Effort will lead to the prominence of few documents which are regularly cited because of their accessibility – in terms of retrieval, readability and practical use – and applicability to diverse operational contexts or, for National Society materials, their contextual relevance (Ferguson 2005: 48-49). National Societies seek maximum payoff and avoid the costs and risks of translation. Organisations thus cite their own materials most with few Secretariat documents providing inter-organisation links, leading to the fractal nature of the network. On the other hand, referencing between National Societies and the Secretariat occurs far more than referencing across National Societies. A preferential attachment to Secretariat documents is clearly operating. We can consider Secretariat documents get cited as they structure National Society activities and would therefore hold authority because they originate from the IFRC's coordinating organism. Secretariat research exemplifies this since it is expected to be more reliable as well as being generalisable. Its frameworks and policies, furthermore, set standards and promote processes in the IFRC. Preferential attachment emerges not as a sign of quality but of origin. While National Societies have their own strategic priorities, the Secretariat provides

overarching principles which guide their work. Inter-organisation links then form mostly between the Secretariat and peripheries, with little communication among the latter, again structuring the network in a fractal manner.

While the rich get richer in both cases, the underlying mechanisms are quite different (Adriani and McKelvey 2009: 1058). Yet there is no reason one mechanism need exclude the other, particularly since authority here seems to be based more on institutional origin than quality. The two principles meet in that referencing Secretariat materials, as a source of authority, is a facility for National Societies in justifying their choices and promoting their activities to the wider network and donors. The coexistence of these two mutually reinforcing mechanisms suggests that the transparent and reflexive use of evidence is a relatively weak motivator in referencing evidence documents. We therefore recommend incentivising more rigorous evidence use in the humanitarian sector to compensate Least Effort and authority.

We did not question citation practices in this article. How many references are empty? How many references are copied without consulting original texts? How idiosyncratic or over-generalised are the references made? Conversely, how often are sources not cited? As seen above, the variance in reference use is extremely high, with just over half the documents in the sample lacking any citations. Suffice to say, lack of transparency and rigour weakens any evidence-base.

Just as 'knowledge management is first and foremost a people issue' (Lammers 2009: 128), we see how evidence production and use is also, first and foremost, a people issue. In this regard, several problems have already been identified within the IFRC, where evidence production is regularly outsourced to external consultants and academics, sometimes poorly practiced and seldom seen as a productive investment (Corboz 2015: 12). Limited reference to research is a logical consequence of this sceptical approach to evidence. The segregated nature of evidence and document production reflects organisational silos; communication between research interests is limited (Mohamed 2012: 13-14), leading to the clustering of materials by thematic sector and type. This is compounded by the ad-hoc nature of evidence production which impedes the capitalisation of cross-cutting interests and thematic sectors (Corboz 2015: 12). This partly contributes to the high number of disconnected documents in the sample which fail to use and contribute to existing research, and further distances the IFRC document-base from developments in the sector.

In an ideal evidence-based network, we would expect evidence-based documents to cite evidence documents more than they cite each other. An evidence-based approach effectively requires working with both practical knowledge, and the framing and evidence which supports it. We would expect similar referencing proportions among evidence documents; evidence must build on itself more than on evidence-based materials. The latter, however, is important in guiding research strategies so must not be omitted. In terms of graph metrics, we

would expect a much higher average degree, the mean number of references between documents, and clustering coefficient, a measure of the extent of co-referencing between documents. These properties would be reflected in higher graph density and average path length. Finally, a much lower, possibly null, number of disconnected documents would be found. The IFRC now has a baseline to evaluate, indeed measure, the effects of its efforts in knowledge management.

The sub-systems examined here illustrate how different approaches are taken to address challenges in compiling evidence. The Climate Centre, for instance, produces a high degree of academic work to ensure quality findings are distributed to National Societies. The Japanese Red Cross achieves a high degree of in-house expertise by dividing document production between specialised organisms. Finally, focus on programming leads evidence production in the Burundi Red Cross to concentrate on evaluations. The Principle of Least Effort has been offered as key mechanism to explain how, despite adopting context-based strategies, uptake by National Societies of their own evidence remains low, as does its use by the Secretariat. This included highlighting how the cultural disincentive against producing and using evidence within the IFRC limits greater uptake of evidence. This, however, is only part of the picture; we expect these problems to be shared by other humanitarian organisations.

At this broader scale, issues around organisational culture largely concern financial obstacles and limited time available to staff. In effect, ‘many organisations find themselves pressed by the urgency of day-today operations, maintaining a focus on the here and now’ (Ferguson 2005: 47). Reflection on the quality of evidence and its use become background issues most practitioners don’t feel they have the liberty to consider. The challenges of working across territories and cultures is another issue. We find here language barriers and educational differences, both of which affect the quality of evidence produced and its uptake by practitioners (ibid: 48). The effort in interpreting and adapting research from different contexts thus becomes another obstacle in the uptake of research findings.

We thus return to Least Effort; the obstacles and pragmatic considerations both practitioners and researchers face oblige them to adopt time- and energy-saving strategies. Hierarchical solutions are ill-adapted to complex problems such as this. Rather, it is preferable to target the smallest scale possible to minimise effort and enable results produced to become self-generative (Barnes et al. 2003: 277-278). This requires a variety of strategies to nudge and incentivise better evidence production and use at source. It is not only aid organisations who need to operate this shift but also their partners, donors, governments – in short, all major actors in the humanitarian evidence supply-chain.

Conclusions

We have demonstrated that the structure of referencing in the IFRC document-base is hierarchically structured in a manner which is effective at concentrating and redistributing knowledge and evidence. Analysis of the content and direction of references showed a limited uptake of research evidence by evidence-based pieces, namely policy documents. We also found that the transparency and rigour of evidence produced could be greatly improved, further undermining the strength of the IFRC evidence-base, an issue it is now addressing. We therefore hope to carry out more extensive analyses to get a more accurate understanding of the network and how to influence it.

Citation practices in aid organisations have yet to be studied. We hope this article is a first step. First, we have provided a method and metrics for other organisations to analyse their own document-base. In this manner, the metrics can be used to set baselines, define targets and track progress. Second, we hope this will lead to new case studies which can then be compared to draw valid conclusions for the whole sector. Major questions nonetheless remain. What structure of citations are desirable – and feasible? What approaches and incentives can lead us there? How to track changes in a document-base as they happen? Regardless of the solutions chosen, developing more adapted approaches to evidence will require willingness to step out of comfort zones, take risks and focus on long-term outcomes.

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Method in the madness? Some new ways to learn from staff experiences in humanitarian crises: the historical case of UNICEF

Jeremy Shusterman

Abstract

This article reviews why tapping into tacit knowledge of relief workers to inform humanitarian responses is seen as a valuable exercise that paradoxically often fails to live up to expectations. This paradox is explored through the example of historical efforts undertaken by the United Nations Children's Fund (UNICEF) to learn from the tacit knowledge of its staff. The article briefly reviews the challenges to learning within humanitarian organizations, and why humanitarian organizations may see tacit knowledge as an attractive alternative source of evidence. System-wide challenges in 'learning to learn' (Minear, 1998: unpaginated), identified in the 1990s, have largely remained the same. A counter-productive 'thirst for immediacy', and the nature of emergency relief staff's relationship to knowledge continue to make the commitment to learning a difficult one to sustain. The article, however, argues that should such learning exercises be reframed more firmly as a research endeavor, some of these obstacles might be overcome. It provides leads on a possible way forward in the context of a pilot initiative for humanitarian learning at the UNICEF Office of Research – Innocenti.

Keywords: humanitarian agencies; knowledge management; organizational learning; tacit knowledge; UNICEF; research

Introduction: the challenges of learning from staff experience

Initiatives by humanitarian agencies to learn from their staff's experience and collect their stories are hardly a new endeavour. In fact, they tend to be seen as a good idea, touted as an investment in the organization's best asset, namely its people. These initiatives are the result of a commitment towards organizational learning and sound knowledge management, and can even be approached as a source of evidence generation so past lessons may help inform future programming (Ramalingam 2006).

Oddly, though, such programmes can struggle. One reason is cynicism related to ‘lessons learning’ since lessons are perceived to be rarely acted upon – so much so that the lesson that lessons will remain unlearned has been a constant observation in literature on lesson-learning in and from humanitarian responses. For example, in a paper commissioned by the United Nations Office for the Coordination of Humanitarian Affairs, Larry Minear diagnosed humanitarian organizations as having a particularly ‘lacklustre’ learning curve with several ‘cultural impediments to learning’ (Minear 1998: unpaginated). Minear identified four constraints to learning, namely:

- the tendency to approach every crisis as unique which is true of a crisis’ context, but not in how every response tends to bring the same actors together;
- the ‘action-oriented nature of the humanitarian ethos’ (1998: unpaginated) meaning little time is invested to step back and (self)-reflect;
- defensiveness to criticism;
- a prevailing lack of accountability because of the humanitarian system’s diffuse, imbalanced and fragmented power structure.

Another reason why efforts may tend to falter when trying to learn from staff experience is how the humanitarian system itself lives in what John Borton describes as a state of ‘perpetual present’ (Borton 2016, Borton borrowing the term from David Lewis who applies it to international development). So ahistorical is the humanitarian context that most lesson learning remains very short-sighted and short-lived, with ‘initiatives aimed at fostering improved practice [tending] to only reference recent practice’ (Borton 2016: 195). Reasons driving such ahistoricism are very much the same as the ‘cultural impediments’ diagnosed by Minear, with observers of the humanitarian system since the mid-1990s seeing a system riddled with ‘policy dysfunction’ in organizational cultures (Walkup 1997), condemned to repeat its failures (Terry 2002) and, for some, not only incapable of learning but rather unnervingly displaying ‘an extraordinary capacity to absorb criticism, not reform itself, and yet emerge strengthened’ (de Waal 1997: xvi). Together the culture inside humanitarian organizations, including; the environment of unpredictable funding, high staff turnover, insecurity, stressful working conditions and the conviction that with each crisis is unique, makes for a hostile terrain for any knowledge management initiative. Bringing together the many differing angles in approaching why ‘humanitarians’ are seen to be ‘learning disabled’ (Weiss 2013: 172), the paradox this article seeks to pick at is whether learning is at all possible when one is ‘locked’ in this state of perpetual present in which humanitarian workers and agencies operate.

Given that addressing the above question at the level of the entire humanitarian system is over-ambitious, the focus is narrowed down to the experience of one agency, the United Nations Children's Fund (UNICEF). Well-known for a long tradition in humanitarian action (Jolly 2014), UNICEF has a history of initiatives to capture, collect, manage and articulate the knowledge, lessons and oral histories from staff working in emergencies. Seeing the issue as an enquiry on the role of humanitarian responder's tacit knowledge, and the challenges of tapping into this knowledge for evidence generation, this article surveys UNICEF's past attempts to use such non-traditional sources of knowledge. In the context of a new pilot 'humanitarian fellowship' initiative at the UNICEF Office of Research – Innocenti, the article argues that with a solid grounding in research methods and timeframes (and with some organizational courage), there is way to escape the trap of the 'perpetual present' and to overcome some of the challenges humanitarian organization faces in 'learning to learn' (Minear, 1998).

The history of learning initiatives at UNICEF

In UNICEF's history, whatever the label over the years, the initial starting point of staff debriefing programmes has tended to be the same: in the fast-paced environments of 'emergency', UNICEF's people are its best asset. Pressed for time, lacking data and short on concrete evidence, emergency staff rely on experience, intuition, and informal networks of peers and mentors to guide decisions and actions. The process is chaotic, organic, erratic and non-linear – and yet more often than not the learning that happens and the knowledge that gets exchanged helps unlock complex operational challenges, helps drive delivery for children, and even helps identify new questions (and answers) on how to meet children's needs. This is when the spark for the idea happens: why not capture, codify, and systematize this knowledge? Why not attempt to convert this richness of experience into something explicit and tangible? Why not work for this learning to be more structured, categorized, transferable... and organized to contribute to build evidence and guidance? And yet, as self-evident as the idea sounds (tapping into 'tacit knowledge' to better know what to do and why), experience from past attempts has been that the effort eventually runs aground.

The value of tacit knowledge is not the problem. Its use is long recognized, including for improving how humanitarian agencies think, plan, work and deliver (ALNAP 2004). Tacit knowledge can be broadly described as knowing more than we can tell through a mix of intuitive reasoning, embedded technical skills or know-how, and engrained cognitive models, or know-why (Nonaka & Konno 1998; ALNAP 2004; Polanyi, 1966, in Peet 2012). It is no surprise that in environments that tend to be

evidence-poor and where data has a short shelf-life, such as emergencies, converting tacit knowledge into explicit knowledge is an attractive idea – to be able to refer to something written up to know better what to do, and to turn ‘hunches’ and ‘intuitions’ into potential research questions that may help fill some of the evidence gaps. But the question becomes: why would an agency that is committed to being a learning organization, although it can at times *capture* tacit knowledge, can be found to struggle in *converting* it into contributions towards building *evidence*. Perhaps this is because the broad concept of staff debriefings, tacit knowledge approaches and oral histories in fact challenges usual models for evidence generation. Rather than going from research to policy, to practice, the tacit knowledge approach suggests is to go from practice back to policy and research. UNICEF’s experience in trying to travel down that path demonstrates it can be a delicate journey indeed.

The UNICEF History Project 1982-1995

Though not specifically pitched as a tacit knowledge initiative, one of the first efforts the organization initiated to learn from its staff experience was the UNICEF History Project. Requested by UNICEF’s Executive Board (UNICEF 1982), the aim was to establish a living history of the organization and to address the fact that many long-serving staff were about to retire, the latter being an early-identified challenge of knowledge management. The idea was also to infuse future practice, policy and guidance with the complement of experience. It was specifically pointed out that ‘while the field manuals will set forth current policy and desirable practice, what [the project] seeks to do is to enrich the perspective of UNICEF staff by providing an understanding of what the organization went through [...] and what has been learned in the process’ (Charnow 1984: ii). The aim specifically was ‘reminiscences, reflections and comments [...] rather than information already provided in writing’ (Charnow 1984: 2). Under this effort, some of the work looked into staff’s experiences of emergencies, for example in the Nigeria-Biafra response, in Ethiopia, or as far back as post-World War II relief efforts (Jacobs 1983; Moe 1985; Spiegelman 1985). But the outcome was mixed. It had been important to establish ‘the record’ on UNICEF’s history, but much of the output was event-oriented rather than analytical. Little had been written about the past that could inform how to work in the present. As a result, the materials produced ‘were not drawn on by management’ (Tacom 1995: 14).

A second push from Executive Director James P. Grant led to a second phase over 1988-1991, in which, among others, the oral histories of senior management were to be recorded in debriefing exercises. But this initiative soon morphed into a less ambitious effort aimed simply at making sure information was catalogued and retrievable, the broader aims of the project having not been internalized’ (Tacom 1995). A 1995 review of the history project listed as reasons for the initiative to

downscale ambitions a recurring lack of organizational commitment, ‘rule by committee’, minimal financial support, and absence of any backing from management (Tacom 1995). The review adds that if the project were to be revived, it needed to be properly resourced, it should not shy from being self-critical, it should have a better link with research,ⁱ and should enjoy true commitment to learn from experience, good or bad. In fact, the review’s prognosis on the chance of a successful revival of a history/oral history project is guarded, seeing how ‘challenging timeframes lessened interest in the past’, and the commitment to maintaining a ‘viable “institutional memory”’ languished’ (Tacom 1995: 7-8).

Pilot effort to gather lessons and experience 1998-2000

Still, there was a second attempt only a few years later. In 1998, as part of a review on its humanitarian work for children, a senior level consultation of UNICEF staff was held to discuss what UNICEF’s role should be in emergencies. One of the suggestions made during the meeting was to explore the idea of debriefing staff working in conflict ‘to provide the organization with a systematic way to gather lessons from their experience’ (Richardson 2000: 2). The UNICEF Office of Research – Innocenti seized on this and led the effort, heralded as a UN first (Richardson, 1999). Pitched as a pilot initiative the aim was to go in-depth and put together analytical lessons and studies drawing on staff experienceⁱⁱ. What took place, close to two years later, was a meeting of Heads of UNICEF offices from Afghanistan, Liberia, Sierra Leone and Uganda, over three days. While participants appreciated the opportunity to discuss, all agreed this was not *per se* a ‘debriefing’ as the method adopted did not allow for capturing any in-depth detail of participants’ experience (Richardson 2000). The post-mortem of the Innocenti initiative was bleak and the outlook was even more pessimistic on the added value: all seemed to agree that ‘“Lessons learned” [had] become a regrettable cliché that many will associate with a litany of bland recommendations which are never acted upon’ (Richardson 2001: 8).

Senior Leaders Debrief 2005-2009

Designed as a pilot with hopes to be the first in a series, the Innocenti initiative ended up as a one-off. But the effort was to re-start again, and again just a couple of years later. A ‘Senior Leaders Debrief’ programme was initiated inside UNICEF’s Office of Emergency Programmes and ran from 2005 to 2009. There was little attempt to look back at what had not worked a few years earlier.ⁱⁱⁱ The model was to target select Heads of Offices, bring them to Headquarters for a debrief and organize a short writing retreat for them to put pen to paper on a topic that was a particularly thorny humanitarian dilemma or complex operational challenge at the time. The programme yielded a number of outputs—on negotiating access with non-state entities in Nepal, on programming in insecure environments in Afghanistan, and lessons on preparedness in Haiti and post-Tsunami (Hingst and Gilgan 2007; Sakai 2007; Skoog 2007;

Beigbeder 2008). Some are ‘event-oriented’, some are lists or checklists of recommendations, but none are externally published. Few are referenced in organizational literature or guidance. With hindsight, the timeframe to organize, conduct and write-up the debriefings was found to be far too short.^{iv} With the aim of tying the lessons to burning guidance gaps, the other obstacle was that little general guidance could be inferred from the write-up of one staff’s experience and lessons. There were arguments around validation of lessons preventing anything from becoming policy or being made externally available through publication.^v By 2009, the programme ended.

In all three cases, the initiative failed to become internalized, possibly because of misconceptions in the design. In the next section, the potential role of research to learning is considered.

Learning to fail, struggling to learn: redefining failure and redefining learning

Research tends to be absent from the stated purpose of those past initiatives. Research is between the lines when the work is about creating UNICEF’s historical record, and implicit when Innocenti, UNICEF’s dedicated research office, volunteered itself to pilot the debriefing programme in 2000. But at best, the relationship to research is ambivalent. More broadly, speaking of the link between tacit knowledge and research, or the question of how to extract tacit knowledge and from there to move on to a research objective, is not a much written-about subject. Most of the literature around tacit knowledge is about the conversion of this knowledge from tacit to explicit for the purpose of improving processes, procedures, and production, starting from the corporate field (Nonaka and Konno 1998) and imported into the aid world some years later (Ramalingam 2006). This is perhaps simply because the very exercise of extracting and organizing tacit knowledge is in itself research... but the question inside a busy humanitarian/aid organization will then be, ‘so what next’?

This is where the first problem arises, with a thirst for immediacy that links back to the state of ‘perpetual present’ and the ‘action-oriented’ humanitarian ethos. It is easy to see the inherent flaw in seeking to plug a gap in guidance by drawing on one person’s experience of one particular issue within one particular context at one particular time. Yet the temptation of real-time learning often still takes hold, leading to a false hope that debriefing some key staff (or crossing their impressions with recommendations from evaluations) will help draw up quick lessons that can be rapidly turned into guidance. But the flaw is in fact two-fold. First, there is only so much real-time learning that can happen and that can be fed quickly enough into real-time adjustment within the same response, or even re-used in a different emergency –

because of the time and logistics involved in capturing lessons, and because crossing contexts is never as easy as it seems (whether contextual differences are real... or perceived to be). Second, by making the goal informing guidance in near-to-real-time, the exercise is likely to yield lessons... that are already known. Taking a network perspective on tacit knowledge, UNICEF – or any similar organization – can be described as an organization with high network density (that is, high staff interaction, especially in emergencies), high turnover and operating in a complex dynamic environment. In such environments, complexity and density can mean lots of learning is happening but also a lot of the same learning, especially if one takes on board the point made by Minear that crises are not as unique as they tend to be portrayed to be. This leads to a point of saturation and tacit knowledge that is ‘oftentimes redundant’ (Droege & Hoobler 2003: 57). This phenomenon is demonstrated by how recurrent the lessons learned cliché has become: lessons documented time and time again, bringing little new to the table. This is the breeding ground for the cynicism about lessons learned and questioning the added-value of debriefing staff to turn their tacit knowledge into explicit findings, given that the output is likely to be superfluous confirmation of a ‘lesson’ already widely known.

Second, there is a problem with emergencies themselves as an environment. Though they do not make the link explicitly between both behaviours, Paul Knox-Clark and James Darcy point out in *Insufficient Evidence* how, on one side, knowledge in emergencies is ‘socially constructed and validated’ by emergency staff – i.e. taken on board if already ‘part of the humanitarian discourse’ (or doctrine) – and how, on the other, humanitarian policy-makers tend to be ‘selective’, ‘filtering evidence’ and ‘ultimately make the decision about which of the researchers’ recommendation for policy change they [are] prepared to accept’ (Knox-Clarke & Darcy 2014: 63, quoting Buchanan-Fabri, 2005). As a result, whether it is research, internal or external evaluation, the uptake is limited and selective, a fact that again is long-established (Walkup 1997; Minear 1998). Knox-Clark and Darcy see this obstacle to evidence being taken on because of organizational politics (or perhaps doctrine) and the push and pull of external pressures (donor pressure not being the least of it). Emergencies are messy, and the path to evidence is ‘seldom clear’, plus ‘where the evidence challenges received wisdom or standard approaches, it may well peter out altogether’ (Knox-Clarke & Darcy 2014: 64). With the competition to enter accepted humanitarian discourse and be ‘validated’, and with the politics around evidence uptake, one (or even several) staff’s ‘reminiscences, reflections and comments’ face an uphill challenge to even be considered a source of evidence in the first place.

What may not have been tried is returning to the fundamental original assumption that extracting tacit knowledge is a *research* exercise and should be approached as such^{vi} – acknowledging that research has its own processes, methods and timeframes to

generate evidence the organization can act on, in time. This is where to redefine the ambition. Failure to immediately feed guidance need not be automatically seen as irredeemable failure. Understanding the effort as a research exercise may, in fact, help change the relationship of staff debriefings, oral histories, and other such non-traditional sources of knowledge with the problems of time and immediacy, and with the questions of adherence or deviation from organizational doctrine. Time is key – rather than being gripped by *real* time, taking a longer perspective can change and afford a lot. Taking the time may help the redundant and smaller lessons fade, and not blur the exercise, allowing reflection on experience to focus on bigger questions. Other times, the smaller lessons may be valid to capture – but the exercise is best timed with a delay, not to run into institutional resistance about being self-critical.

It also is a matter of seeing and committing to sharing knowledge as a *public good*. Investing in a public good can be a serious ask in an organization working with finite resources and with a mandate to both deliver and reflect on its own delivery. Nevertheless, the size of the investment needed is negligible in relative terms and the return is possibly *more* concrete if given a focus on a thorough and in-depth debrief of one (or a few) staff, for the inherent value of documenting their experience. Debriefing exercises not governed by an impatience for immediate results but guided by the patience to work towards a solid, analytical output *have value*: by eliciting new research questions on what was different, new and non-redundant in that experience, or by yielding case studies that test experience against analytical frameworks, reflect on the broader context, and survey other available evidence. Learning by the case tends to be a preference as well among field workers, over scanning through generic guidance (ALNAP 2004). All that is needed is simply investing for the write-up to meet rigorous academic standards and benefit from peer-review, for it to be published as a piece of evidence – however modest and contextual it may be – into a broader academic discourse, while also producing spin-off synthesized versions for quick consumption in the field.

This approach is a crucial, small step among many in improving the level of available evidence in humanitarian action, contributing tacit knowledge, individual experiences and oral histories of aid workers themselves as part of the multiple streams of evidence. Of course, it needs patience to happen, and patience for the value to reveal itself. Not all staff debriefs and oral histories transcribed into papers and publications will immediately be consumed by field workers who, by some uncanny coincidence, are facing the same dilemma and finding in those materials the precise solution they were after. In fact, to be clear, that will probably never happen. But there is inherent value in contributing a ‘piece of evidence’ in the discussion, whatever it may be, to move the needle – if even by an inch or two - on the topic at hand.

A case study detour: research unexpectedly informing practice

Towards demonstrating the value of documenting staff experiences and contributing them into the academic discourse, a small example from the present author's experience may help illustrate the point. Back in August 2011 in Somalia, as the UN for the first time formally declared a famine (Devereux, Sida et al. 2017), UNICEF's Chief of Nutrition for Somalia worked to quickly organize blanket feeding, a large-scale effort to prevent malnutrition and mortality, for tens of thousands of people in the country. This had to happen from scratch: there was no pre-existing operation to scale up and blanket feeding is not a usual UNICEF programme. And it had to happen overnight: other agencies that usually run those efforts were not present (Maxwell & Majid 2016), with the notable exception of ICRC. Many therefore looked to UNICEF.

After internal deliberations on a first large-scale shipment of food, the decision was made to buy rice. Rice met nutrition requirements, was culturally appropriate, could be bought, stored and dispatched with relative ease, and was immediately available. Day-long conference calls and some procurement acrobatics later, a full shipload was on its way from India. Our expert then turned to some unread emails. One of them, left untouched since the morning, was from a colleague at the Food and Agriculture Organization (FAO), sharing an old journal article. Attached was a rough scan of a piece written *fifteen years* ago by an illustrious aid veteran, Andrew S. Natsios, on his experience during the 1992 Somalia famine (Natsios 1996). One lesson stuck out: avoid rice at all costs because it breeds speculation and ends up leveraged by warlords. While the initial decision could not be reversed, acting quickly on the basis of a fifteen years old paper helped limit negative impacts.

This anecdote illustrates that staff in emergencies use the experience of those in their network to inform decisions and that there is an inherent value in documenting an experience for the purpose of entering it into the academic discourse because its shelf life is invaluable extended. In this case, a research piece about a twenty-year-old crisis, written five years after that crisis, and shared fifteen years later helped make a major course correction.

Making it work: methods in the madness

The Somalia example above happened by apparent chance and, in fact, the lesson emerged too late. Keeping in mind past attempts in UNICEF's history, how can an operational organization effectively and systematically 'mine' tacit knowledge and oral histories as a source of evidence to inform better humanitarian action? This article argues it can be done provided there is a specific environment, a specific

approach, and rigorous research methods. The below articulates some leads on ‘how’, in the context of the new pilot ‘humanitarian fellowship’ initiative being tested by the UNICEF Office of Research – Innocenti.

The environment

What the environment needs to offer is simple: a space to nurture the right mix of ‘weak and strong ties’ – between emergency staff, researchers, and external academic networks – that allow for tacit knowledge to emerge at its most valuable and least redundant (Granoveter in Droege & Hoobler 2003). In UNICEF’s case, an office such as Innocenti can provide a space of epistemic diversity –where those holding the tacit knowledge and those facilitating its explicit conversion share just enough common practices (i.e. all are staff of the organization) but also have different or diverse epistemic standpoints: some may approach questions in a practical way, others will have a researcher’s eye. Both will challenge – and surprise – each other and through that process generate the knowledge and the lessons, hone in on the a-ha moments, or even simply the key points of experience worth putting on the page (Choo and de Alvarenga Neto 2010; Peet 2012). In the humanitarian ecosystem of operational agencies, policy think tanks and the world of disaster studies, such spaces are rare and need to be nurtured as they are a specific locus where one can actually build a bridge between practitioners and researchers and reconcile the different languages they speak (Fast 2017). Such spaces are also where a two-way exchange can be established whereby scholars and practitioners can ‘proactively collaborate [...] in framing research and making data and experiences available’ (Hoffman and Weiss 2008: 284). With the right commitment and follow-through what such rare places can provide is the space *and time* for proper conceptual framing. Lessons worth learning, codifying, systematizing and disseminating take *time* and minimal interference to be converted from tacit to explicit, including to benefit from a conceptual methodology and to be made analytical. A solid length of time and a *physical* space (rather than a virtual-only one) are critical. So is the need for the process to mix practitioners and researchers together, as learning from ‘stories’ and tacit knowledge ‘*is a social process*’ (Peet 2012: 48), acknowledging as well that ‘evidence generation [is] a process, and not an event, [with an] aim to build the body of evidence over time’ (Knox-Clarke & Darcy 2014: 68). Provided there is commitment to a conceptual and research anchoring (and the timelines for it to flourish), and provided some of the usual impatience for immediate re-usable outputs is temporarily suspended, a dedicated research space inside an operational organization (such as Innocenti or other dedicated programmes in other organizations) can have a real chance to succeed in making ‘tacit knowledge’ and ‘oral histories’ of humanitarian workers another source of evidence to inform humanitarian action, and research on humanitarian action. Hoffman and Weiss also finally point how this may ‘fill an ironic lacuna’ as the world of humanitarian-related research has focused a great deal more on systems, meaning ‘we know more about aid

work than we do about aid workers' (Hoffman and Weiss 2008: 284). In short, tacit knowledge and oral histories are... a research gap, and it can be filled in an environment of scholar-practitioner partnerships where 'practitioners [are not] mere objects of research, but also active in the design, execution, and processing of a research programme' (Hoffman and Weiss 2008: 284). A space where both scholars and practitioners will also be best positioned to package findings and the knowledge converted from tacit to explicit so that there is uptake in both the scholarly and practitioner's worlds. This leads to the question of how to go about it.

The approach

Simply put, what is needed are methodologies and the method to parse through the madness that is emergencies. Keeping always in mind the imperative for research timelines, a dedicated space for research in an operational organization can provide unique support to prospective staff fellows before their time in-house, once on board, and after. This can be by preparing, scoping and synthesizing the state of the evidence in advance; by linking staff's experience or their questions back to concepts, analytical frameworks and historical precedents; by suggesting the most adapted methodologies (anthropology, history, social and political sciences... or even econometrics) to go about the question staff want to explore; by helping ensure rigor in the methods; or even by challenging the question and the questioner to firm up the ideas and reach – even sinuously over whatever time is necessary – the valuable points of experience that should be put on the page, or the noteworthy research question to further explore. A hybrid space dedicated to research inside an operational agency can also cultivate academic connections to pair prospective field staff with external researchers, and link practitioners to academic support networks to enrich the conversation – and eventually enrich research outputs.

The method

Studies on humanitarian evidence point out how all too often humanitarian research is grounded in mostly qualitative methods, which can be 'poorly understood and implemented' (Knox-Clarke & Darcy 2014: 67). The same studies argue that quantitative approaches are particularly difficult to implement in humanitarian contexts and need experienced researchers and frequent communication with teams on the ground to hope to succeed (Knox-Clarke & Darcy 2014). The result is 'field *observations* by aid agencies [that] may be fit for purpose, but methodologically unsound, [and] data from scholarly studies [that] may be methodologically rigorous, but either too complex to use or not presented in a timely fashion^{vii} (DFID 2014: 18). Acknowledging that tapping into aid workers' tacit knowledge to inform disaster research is more likely to be a qualitative endeavour, the output is most probably going to take the shape of a 'case study'. In a humanitarian ecosystem, blasé by lessons-learned déjà vu and saturated with case studies, a critical research eye on

lessons learning is the way to be *analytical* rather than event-oriented and the way to develop case studies that look into ‘what really happened, identify the factors that led to certain outcomes, [...] compare within cases or between cases, [and] make analytical generalizations’ (Knox-Clarke and Darcy 2014: 44). But case studies are only one of different approaches available. What a dedicated space for research can offer inside an operational organization, is piloting exercises such as evidence syntheses, systematic reviews, evidence gap maps, etc. and producing handy, approachable – but still rigorous – summaries on the state of the evidence as is also the stated objective of a number of academic-based centres. And in the end, what such a space can offer is an outlet for publication so staff voices, experiences, concerns and ideas can be valued and contributed into the wider evidence base at the crossroads between the academic and practitioner’s worlds.

Conclusions: the question of commitment

Even though some point out – rightly – that it is an uphill challenge, today there is a growing recognition and appreciation of the need to be more evidence-based in humanitarian response, and to develop the right tools, products and mechanisms for evidence to better inform decision-making. Like many others, UNICEF recognizes this need, and is committed to being a learning organization and a knowledge broker for children. It strives not only to be evidence-based, but to *contribute* itself to the evidence discourse. A humanitarian fellowship pilot to tap into and contribute staff knowledge in emergencies is potentially one way to deliver on this commitment, although other options are possible. Giving this pilot a firm research grounding may be how to make this idea succeed where it previously has not. But the question that remains is not where such a programme should be housed or how it should be shaped, it is whether there is a broad, solid and lasting commitment to move this idea forward. That goes beyond the remit of Innocenti or any one office alone. In essence this revolves around whether it is possible to substitute the thirst for immediacy, and break from the trap of the perpetual present. There is method to do so, but the ‘cultural impediments’ Minear diagnosed twenty years ago can still feel very real today. A recent systematic review by UNICEF of the lessons it identified from six or so years of evaluating its humanitarian responses does point out indeed how ‘overall, the production and absorption of learning to improve humanitarian action in UNICEF is currently unsystematic’, while there is as well ‘a wider absence of formal corporate knowledge management systems’ (UNICEF Evaluation Office 2017: 41). What Minear spoke of then as organizational impediments are very much alive today because they are also organizational habits. Breaking habit needs organizational courage. Learning to learn needs organizational investment, and that applies whether the exercise considered is specifically learning from staff experiences, or more

broadly learning from organizational experience and lessons identified in regular, processual and mandated evaluation exercises. Thus, the question for any large humanitarian organization considering tapping into oral histories and tacit knowledge to inform its work then is simple: are they in short supply of either of those?

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ⁱⁱ Based on personal communication during consultations with former OoR-Innocenti staff, October 2017.

ⁱⁱⁱ Ibid supra.

^{iv} Based on personal communication during consultations with UNICEF colleagues by the author (April-August 2017)

^v Ibid supra.

^{vi} However for the Innocenti event in May 2000, itself designed as a pilot, the initial objective was somewhere between the 3 days of discussion it turned out to be, and a longer period case study visit for two to three week. It was not, at least initially, envisaged as a short exchange session.

^{vii} Although the case study example does provide some perspective on the notion of findings needed in a ‘timely fashion’.

TOOLS AND METHODS

Checklist for the development of portals for international development

Sarah Cummings, Nancy White, Michiel Schoenmakers, Victor van Reijswoud, Martine Koopman, Chris Zielinski, Cavin Mugarura, Ramin Assa and Srividya Harish

This guideline has been developed by the authors in a collaborative manner over the period May 2018-May 2019 in consultation with the Knowledge Management for Development (KM4Dev) community. It is designed to provide guidance for development organizations who are setting up portals – also known as knowledge portals, hubs and websites – as a way of counteracting what is known as portal proliferation syndrome. The guideline provides a checklist of issues which are important in the development of portals, covering what to take into account before starting, during the design phase and implementation, and technical standards and specifications. The checklist will be further developed to identify the most important issues.

Keywords: knowledge portals; checklist; international development; portal proliferation; guidelines; knowledge ecology; development organizations

Introduction

The symptoms are familiar. You seem to hear about a new climate information portal or knowledge platform being launched every week. You check it out and it seems impressive at first glance. Nice graphics. Promising headings. Ambitious objectives. Cool tools.

But as you click further you start to wonder. How's this different from that portal you heard about last week? Or that big World Bank one (or was it UN) that's been around for a few years? Which one is more useful for me, and how are they different? How can I make sure I'm getting the best information? There's so many out there, how can I make sense of them? And which one would I recommend to my developing country partner with a patchy internet connection and not a lot of time to play with?
(Geoff Barnard, 2011: unpaginated).

The field of international development has seen the establishment of an enormous number of portals, also knowledge as knowledge portals, platforms, knowledge hubs and websites. For example, a Google search reveals more than 4 million hits on this subject (see Figure 1). Even within specific development sectors there is a huge amount of overlap. Many of these different portals are providing the same information, reinforcing information overload. This phenomenon has been identified as the portal proliferation syndrome by Geoff Barnard (2011). Others have also observed the need for cooperation across portals (Ballantyne and Addison, 2000).

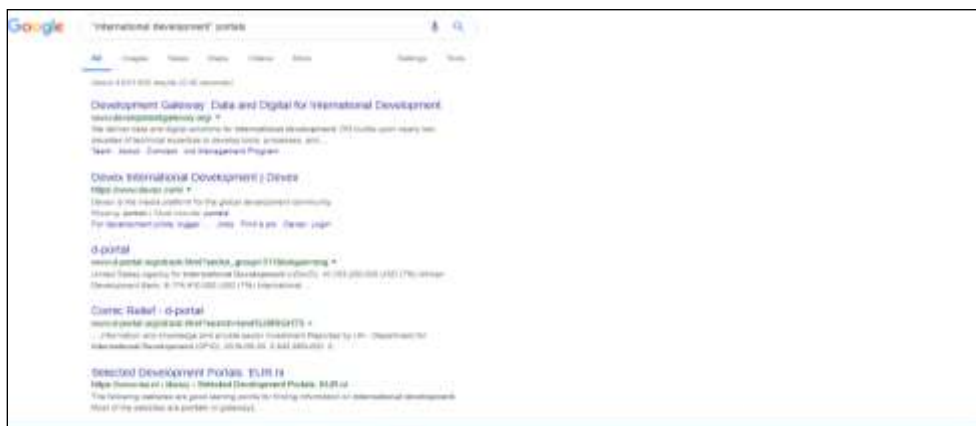


Figure 1: Overview of google search of portals on 13 June 2019

The field of international development has seen the establishment of an enormous number of portals, also knowledge as knowledge portals, knowledge hubs and websites, and even within specific development sectors there is a huge amount of overlap. Many of these different platforms are providing the same information, reinforcing the information overload. This phenomenon has been identified as the portal proliferation syndrome by Geoff Barnard (2011), although others have also observed the need for cooperation (Ballantyne and Addison, 2000).

The problem of portal proliferation has also been identified in the Agenda Knowledge for Development (Brander and Cummings, 2018), established to complement the Sustainable Development Goals and the Agenda 2020 (UN, 2015) from the perspective of knowledge. Knowledge Development Goal 6 ‘Knowledge strategies in development organizations’ includes Target 6.4 which considers that:

Development organizations should work with each other to find a complementary role in the knowledge ecosystem, rather than duplicating each other’s efforts. For example, the many web platforms and portals for specific themes need to take an ecosystem approach and work with others. (Brander and Cummings 2018: 4)

To provide one example of the portal proliferation syndrome, the Food Security Information Network has identified some 51 ‘key actors’ producing and sharing information on [food and nutrition security] on a variety of different platforms. Given this proliferation, when organizations plan to develop new knowledge portals, they need to be sure that they are needed and have their own specialized knowledge niche with unique online content or content combined in unique ways.

Within development organizations, staff members and their allied consultants in the field of Knowledge Management for Development (KM4D) have a wide amount of knowhow on how and why to establish portals but this often remains tacit knowledge – in the common sense that it is not codified and widely disseminated. For example, a critical portal design consideration is being in touch with the needs of constituents for portals and toolkits (Hansen undated). In this guideline, we have developed a checklist that brings together the experience of experts and others who developing and advising on portals as part of their daily work. A checklist format was developed because it is easy to use.

Developing the checklist

The first version of this checklist was originally developed in May 2018 by Sarah Cummings as part of her work as Knowledge Management consultant for the Pakistan Evidence and Learning Platform (PELP), implemented the United Nations Institute for Training and Research (UNITAR). The PELP was supported by UK Department for International Development (DFID) as part of the Multi-Year Humanitarian Programme (MYHP), originally launched in 2014. In order to improve the initial effort, Sarah posted the original checklist to Knowledge Management for Development (KM4Dev)ⁱ, a global, interorganizational community of practice of practitioners, policymakers and researchers concerned with KM4D. Many of the members of KM4Dev are experts in the development and management of portals. The message seeking support and feedback was as follows:

I am mailing to pick your brains a little and to dip into the collective wisdom that is KM4Dev.

With colleagues, I have been trying to develop a simple checklist as background to establishing new portals/knowledge hubs - as opposed to organisational websites - which you will see below, taking some of the principles of the Agenda Knowledge for Development into account. I would really appreciate your feedback. Do you think this is valuable at all? What have I missed altogether and what needs to be changed? Do you know of anything similar and better? (Sarah Cummings, 29 May 2018)

Several colleagues made suggestions to further improve the checklist:

Comment 1

This is already a good checklist. I miss one important category although it could fit under locally embedded: design with the user. Maybe good also to have a look at Principles [for] Digital Development: <https://digitalprinciples.org/> (Martine Koopman, 29 May 2018)

Comment 2

... a number of issues supplementary to your list that could be considered in relation to establishing new portals/knowledge hubs. Here is a suggest list of additions/deletions:

Current - it should be updated regularly. There's nothing older than out-of-date knowledge...

Owned - someone should own every page, in the sense that someone is continuously responsible for regular and knowledge-based updating and extension over time

Analysable - it should be equipped with knowledge-based analytics to measure traffic in an honest and explicit way (page views are not enough!)

Viewable in low-bandwidth - websites full of flash graphics and pdfs are all very well in high-bandwidth situations, but are problematic in the low-bandwidth situations typical of many developing countries. This is not just a technical issue, but an ethical one.

Taxonomy-based - this is in your list, but I am not sure that it is a good idea for a website to be taxonomy based. When we put the African Health Observatory together, we developed and adopted an extensive taxonomy, which proved to be a cage rather than a framework. Taxonomies are difficult to maintain, especially in a multilingual context.

Locally embedded - again this is in your list. No objections, but I would amplify this to declare that it must be locally desired. There are too many cases of bright-eyed and bushy-tailed outsiders foisting unwanted websites on locals, who are then unjustly blamed for resulting failures. (Chis Zielinski, 30 May 2018)

Discussion around the first revision

Based on these comments a new version was posted to KM4Dev on 6 June 2018, also drawing on the Principles for Digital Development. Additional colleagues replied:

Comment 1

Very nice - and looks like it might be very handy for a project we are considering. (Ian Thorpe, United nations Children's Fund (UNICEF), USA, 6 June 2018)

Comment 2

Thank you very much for this checklist. It will be very useful for our upcoming project. Glad to know we are on the right track. (Candace Hosang Charbonné, United Nations, USA, 6 June 2018)

Comment 3

These are some of the things I consider, however they vary based on the scope of the project.

- 1) Open Source Framework (Drupal / WordPress)
- 2) Ubiquitous Web Applications (Accessible on all devices Phone, Tablet, Desktop) sometimes referred to as responsiveness
- 3) Usability (how easy is it for the users)
- 4) Accessible (Section 508 compliance - a Federal law that enforces a set of standards to ensure people with visual and hearing disabilities can access the web portal)
- 5) Multilingual (Drupal is very powerful in this area), Google translate is not the same thing as multi lingual
- 6) The search experience (Employing faceted search and taxonomy helps users to find information). Faceted search is a technique for accessing information organized according to a faceted classification system, allowing users to explore a collection of information by applying multiple filters
- 7) Geo Location - Depending on the nature of the project, at times it's good to factor in geo codes
- 8) Security. Unfortunately, the web is full of threats that emerge every single day. Is the platform prone to hacking, have the loopholes been closed?
- 9) AI Chat Bots. Artificial Intelligence is growing in heaps and bounds. The ability to integrate
- 10) Open ID / Single sign on. No one wants to remember a new password to access your platform. Giving users an option to sign in with google, Facebook helps.
- 11) Deployment Environment /Version control. The modern practice for developing web portals involves instituting a version control system that involves, a staging, development and production environment is critical in release management.
- 12) Backups. Scheduled and Automatic backups are best practices for preparing for a rainy day.
- 13) Analytics. You want to track usage metrics, and other data that

14) Error reporting. A robust error reporting schema helps you identify errors in real time. You don't want a situation where users are reporting dead links or any other errors, this can be quite an embarrassment.

15) Speed and Performance. Part of ensuring a rich user experience, is to make sure the web portal is fast, even for users with low bandwidth. Clever methods such as using a cache come in handy. (A cache is an interesting way of providing users with old content (not necessarily true). If you content does not change every single hour or day, assume you have 2 users on your website, if the first user accesses content, you can give the second user access to the same content since the cache has stored it, versus the old method of requesting the database for new content which is the same anyway. (Cavin Mugarura, Blue Node Media, Ghana, 18 June 2018)

Comment 4

This is a very good list. I would consider adding who is the audience, the coordinator (manager) and some governance rules. (Ramin Assa, 9 July 2018)

Comment 5

This is a wonderful initiative and highly needed. We in ActionAid are developing a knowledge portal (for ActionAid and its partners use only for now) practically named "Learning and Knowledge portal". This will be to mainly support our programmes and help in the delivery of our mission. We have considered every single point that you have listed. It is good to know that we are not too off the mark in conceptualizing our portal.

A couple of items I would add, although not very different is

- Connected to organisation's mission – The theory of change of the portal should clearly state how it helps the realization of the organisation's goal. In certain cases, it may be how the portal supports project goals.
- Integrated – In relation to other portals, more than avoiding duplication, the portal should integrate and connect to the other systems that the organization (in our case) or the audience uses. This should serve as a one stop window for that particular knowledge need.
- Governance that derives from knowledge management principles – There should be a clearly stated governance policy. Here we are talking about both business governance that states who can use it, how and what but also IM rules that determine retention, archiving, workflows and search parameters...

I have an article on LinkedIn with our story on systems, please check it out
<https://www.linkedin.com/pulse/system-fairytale-actionaid-story-srividya-harish/?published=t>

We are willing to be challenged on our assumptions. (Srividya Harish, Action Aid, 10 July 2018)

Comment 6

I like your list, and think this is definitely a worthwhile endeavour. Portal proliferation syndrome is alive and well - so I think one can't bang on enough about how to avoid the most obvious pitfalls. Although I've divided up the topic differently, there's plenty of overlaps with issues I raised in the video I did for the Climate Knowledge Brokers group on 'Planning a Successful Knowledge Platform'. It's aimed at climate information people, but the lessons and pitfalls are pretty universal. I can't remember if I shared it on the list when it came out last year. (Geoff Barnard, 11 July 2018)

The second revision

Following these comments, a further revised version of the checklist was posted as a Google document which could be edited by anyone with the link. This resulted by further revisions by Michael Schoenmakers, Nancy White and Victor van Reijswoud. Their comments were resolved and a new version was developed on 7 May 2019. This version was further edited on 21 May by Nancy White. This version will remain on a Google document and can be further amendedⁱⁱ. It is published under the Community Commons Attribution-NonCommercial-ShareAlike license CC BY-NC-SA.

Next steps

This is not yet the final version of the guideline. In the future, it will be tested for consistency and completeness, although we will need to investigate how this could be done. We will also consider whether this can be used for the evaluation of portals. In a future version, we will also aim to differentiate between more and less important items, identifying the 10 most important. For these next steps, we will also go back to KM4Dev and ask for their opinions on these issues.

The checklist

<u>Category</u>	<u>Explanation</u>
Before starting	
<input checked="" type="checkbox"/> Purpose	Have a clear purpose. What is the portal trying to achieve? What is the Theory of change? (Why do you think this portal will fulfil the purpose?) This can be very simple.
<input checked="" type="checkbox"/> No replication	Be unique: Don't duplicate what is already available from other knowledge portals. Be clear what niche it is filling and how it is different from other offerings.
<input checked="" type="checkbox"/> Value-added	Add value to already existing digital content by adding new resources, by making resources more accessible, combining content with other sources to make new content, or by explaining it in a way

that its value is clearer. New content and greater accessibility add value.

- ☒ Locally desired Make sure the end users want this resource. There are too many cases of outsiders starting unwanted websites.
- ☒ Governance Develop governance based on knowledge management principles. This should include business governance that states who can use it, how and what but also information management rules that determine retention, archiving, workflows and search parameters.
- ☒ Locally embedded Embed the sources appropriately in the local context both in terms of value proposition and creation, software and hardware choices.
- ☒ Sustainable Plan for ongoing funding from donor commitment and a sustainable business model. Self-maintained hubs, such as KM4Dev, are extremely unusual and cannot be assumed.

Design phase

- ☒ Design with the user Know your users: Get to know the people you are designing for through conversation, observation and co-creation.
- ☒ Design for scale Think beyond the pilot and make choices that will enable widespread adoption later, be affordable and usable by a whole country or region, rather than by a few pilot communities. It should be possible to take platforms beyond the core capability through the addition of additional functionalities.
- ☒ Open standards Consider using Open Standards: An open approach to digital development can increase collaboration and avoid duplicating work that has already been done. Programs can maximise their resources — and ultimately their impact — through open standard, open data (following [FAIR data principles](https://www.eprints.org/FAIR/)), open source software and open innovation. http://www.ipm-coalition.org/lexicon/7#letter_o
- ☒ Privacy and security Take measures to minimise collection of and protect confidential information and identities of individuals represented in datasets from unauthorised access and manipulation by third parties. Be aware of and follow any applicable laws and policies.
- ☒ Language Consider Translation: Most knowledge hubs are in English in international development, but other languages may be more accessible to the proposed target groups. Although Google translate can support this process, proper translation is desirable, although it does have cost and time-lag implications which might not be feasible.
- ☒ Low-bandwidth Design for Low bandwidth: Portal should be viewable in low-bandwidth settings. Consider that flash graphics and pdf are problematic in the low-bandwidth situations of your users. This is not just a technical issue, but an ethical one.
- ☒ Ease of use Make it simple to use for the different user groups – administrators and members – and it should be simple to add content, preferably in a decentralised manner.

Implementation

- ☒ Current Update content regularly. Out-of-date knowledge is at best useless and could be incorrect or wrong.
- ☒ Owned Someone should own every page in the sense that someone is responsible for ongoing knowledge-based updating and extension over time
- ☒ Collaborative Share information, insights, strategies and resources across projects, organisations and sectors, leading to increased efficiency and impact.
- ☒ Realistic Keep realistic expectations of the amount digital interaction that can be built because the behaviour of digital interaction takes time to build
- ☒ ‘Analysable’ Include knowledge-based analytics to measure traffic honestly and explicitly. Metrics available through most software will include unique and repeat visits; traffic sources which can be organic, referral direct or from social media); bounce rate; top pages; and conversion rate. Page views are not enough!)
- ☒ Face-to-face Online interaction on a hub/portal is easiest to start when it has roots in face-to-face interaction and the building of trust, although ability to meet F2F is a privilege which might not be feasible.

Technical standards and specifications

- ☒ Open Source Use an open source software, such as WordPress and Drupal.
- ☒ Platform Design for accessibility on all devices Phone, Tablet, Desktop The Responsiveness most important is that they are cross-platform (MS, OSX, Linux, Android and iOS) and that it works well on the mobile platform.
- ☒ Accessible [Section 508 compliance](#) - a US Federal law that enforces a set of standards to ensure people with visual and hearing disabilities can access the web portal
- ☒ Search experience Employ [faceted search](#) supported by controlled vocabularies to help users find information. Faceted search is a technique for accessing information organised according to a faceted classification system, allowing users to explore a collection of information by applying multiple filters. The facets filters show result numbers avoiding the frustrating feeling of ending up on a page saying “no content found”.
- ☒ Geo-location Factor in geo-location as a potential visualisation tool when appropriate. This should be option as some users prefer to be anonymous for security reasons.
- ☒ Security Refers to access control, secure access, database encryption, malware data prevention, mitigating DOS attacks, addressing OWASP top 10 risks.

- ☒ Single sign-on No one wants to remember a new password to access the platform. Giving users an option to sign in with Google, Facebook, etc. helps (OAuth login).
- ☒ Deployment management The modern practice for developing web portals involves instituting a version control system that involves, a staging, development and production environment is critical in release management
- ☒ Backups Scheduled and automatic backups taking place outside the USA in areas, such as Europe, with privacy protection laws.
- ☒ Error reporting A robust error reporting schema helps to identify errors in real time.
- ☒ Speed and performance Part of ensuring a rich user experience is to make sure the web portal is fast, even for users with low bandwidth.

Platform for online communities/networks

- ☒ Development appropriate and low bandwidth ar
Email based Dgroups
www.dgroups.info

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ⁱ <https://dgroups.org/groups/KM4Dev-l>

ⁱⁱ <https://docs.google.com/document/d/1SkE1LL37glfYv348a2OtJ--3h0IL881rUJx2XxxIrPc/edit?usp=sharing>