
Combining rich and restricted languages in multimedia: Enrichment of context for innovative decisions

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ABSTRACT: This paper investigates ways in which context can be enriched, permitting identification of new resources and pathways for innovative decision making in situations where the restricted languages of conventional decision analysis offer only social exclusion to the decision makers. It describes how young decision makers in “socially excluded” communities authored and exchanged multimedia communications including audio-visual strata founded in rich language and contexts (which can support innovative conceptualisation and generate new possibilities for exploration) as well as strata employing restricted language and contexts (appropriate in assessment and monitoring these possibilities and in making tradeoffs and deciding between alternatives – a necessary precondition for turning fantasy into real action). It illustrates how the language of each stratum not only provided a different way of generating stories about what is, what could be, and what could be done about it, but also generated a different way of understanding the context in which such observations and potential actions are situated. Communicating in this way empowered the decision makers to discover new resources and implement new pathways through exploring enriched context. Their decision situations were no longer flat but integrated as strata in an arena founded on their own preferences and communications in extended language..

KEY WORDS: Innovative decision making, community of socially excluded young in Peru, multimedia communication, context

1. Introduction

This paper is about ways of enriching context so that new kinds of resources can be discovered and pathways found for innovative decision making in situations where the existing context appears, to the decision-makers, to be very harsh and barren. I will take as my particular example the case of the situation confronting young decision makers in fifteen “marginalized” communities in Peru, who find themselves dis-empowered and excluded for decision making that would enable them to gain more socially and emotionally satisfying lives and secure local development.

It is conventionally assumed that decision makers gain power through gaining control over the decision making process through centralising the power to take action on themselves (Vari and Vecsenyi, 1984; Humphreys, 1998) Any conventional decision analysis would indicate that these decision-makers have little chance of centralising the control of decision making about their own futures, or of any implementation of represented courses of action, upon themselves.

Decision analysis, within the rational choice paradigm, is founded on the use of restricted language that enables generation of a representation of “the decision problem, the language is restricted in that it is founded on functional and relational propositions linking elements sharing a common frames. Three general types of frame are typically interconnected in representing potential courses of action in decision analysis. These are frames employing rule based formalism, frames employing formalisms for describing future scenarios and frames employing formalisms for representing the decision-maker’s preferences (Marouda-Chatjoulis and Humphreys, 1998). The rule base frame is employed to represent constraining rules on potential courses of action, which are treated as non-negotiable (“facts of nature”, prescriptions from authorities). The future scenario frame links immediate acts through scenarios that also involve subsequent acts (though the acts of other are usually described as events not under the decision maker’s control (Brown, 1978; Berkeley and Humphreys, 1982) to consequences located at the decision horizon, which may be evaluated within the preference frame, according to their preferred and non-preferred characteristics. The languages used to describe and develop the content within these frames are restricted so that it is possible to police coherence in the problem representation being developed, so that inconsistencies can be avoided or resolved in exploring alternative pathways or asking “what-if” questions.

The restricted languages involved in these operations are founded in the narrative text of problem expressing language (Checkland, 1981; Humphreys, 1998) which is usually assumed to have at its core a prepositional structure: whereby predicates are linked to subjects in expressing subsequent acts and events, etc. Building decision problem representations is a matter of refining and precisising the expression and linking of these propositions within a particular representation means (act-event tree, influence diagram, etc) that can be “rolled back” from the decision horizon and courses of action evaluated for their attractiveness. The assumption is thus made that communicating about decision making possibilities is founded on constructing and telling stories about aspects of the situation as it is and telling what can be done about it.

However, telling, developing and refining stories in restricted language usually does not help decision makers in the kind of situations addressed here, where the course of action which can be represented and explored within them always end up in blocked opportunities, undesirable consequences or require non-available resources, and so all receive negative evaluation within the preference frame. Thus it often appears that the most attractive course of action for the decision-maker is to *leave the situation*. That is, to seek a totally new (for the decision-maker) context in which new possibilities should exist. In our Peruvian example there is plenty of information available through the mass media that suggest that re-locating to Lima, or to New York, would present the decision maker with a new situation in which decision making stories would not always end in impasse.

This kind of situation is not limited to our Peruvian case, it is the one in which the majority of inhabitants of this world find themselves. In the so-called “third world”, in ex-colonial countries, or indeed in any location where a small proportion of the population has hegemonic control over most of the resources available for exploitation. The endemic failure of possibilities for innovative collective decision-making in such situations has led to “social exclusion” (the condition, at a sociological level, that local decision makers, in the kind of situation indicated above, inevitably find themselves in) being defined as a whole field of study and research. But in such research, it is assumed that the “excluded people” are simply unable to take appropriate actions by and for them, and so the responsibility for problem identification and decision-making should be transferred to external agencies. Thus decision support may be offered to designers and managers of “participation programmes”. Conversely the decision-making problems faced by the “participants” within the community is reduced to how to comply with the prescriptions for action made by these external decision-taking agencies

2. Decision making on how to comply with external prescriptions

This paper outlines how we were able to support distributed innovative decision making in fifteen Peruvian communities (Andean, Jungle, Coastal and urban-marginal) which had all previously experienced being on the receiving end of externally designed and motivated participation programmes (e.g., CEDER 92; Sobrevilla and Caceres, 19 93; Gonzalez, 1994; La Rosa, 1995; MINSA 1996) which, it was generally agreed, had succeeded in doing more harm than good (Llosa, 1996; UNFPA, 1997; Ramella and Attride-Sterling, 2000). We focused particularly on young people within the community as they faced key decisions on how to achieve a satisfying lifestyle, both personally and collectively. In this respect they are key decision makers within the community (if they choose to stay) as they have the longest decision horizon, the greatest potential investment in living in the community and the greatest potential for decisions making. Typically, in this decision making, the youngsters were on the receiving end of conflicting prescriptions for participation in narratives emanating from external decision making institutions such as the Army, the Church and Non-Governmental Organisations (NGO’s), as indicated in figure 1.

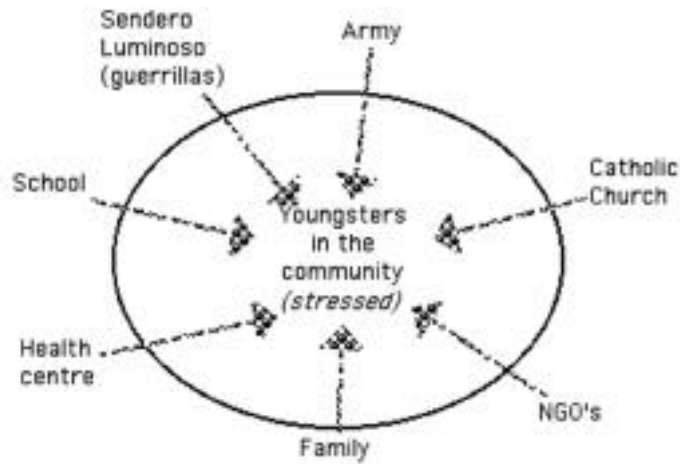


Figure 1. *Conflicting external pressures for “participation” on a typical Peruvian “marginalized” community*

These external institutions’ narratives aim, to act “on” or “in”, rather than “with” the community. Each attempts to set a context for decision making in the community according to what Brezillon and Pomerol have called the “engineering view [of context, which] assumes that context is useful for representing the reasoning taking place in a restricted state space within which a problem can be solved” Brezillon and Pomerol, 2001, p 268).

The youngsters in the community are positioned as participants within this space. Their decision-making narratives, like all narratives supporting innovative decision making, need to rely upon investigation and conjecturality (Eco, 1986). But, under the “compliance” requirements set by the external agencies which define the rules of participation, what kind of conjectures are available to them? Umberto Eco reminds us that a useful abstract model of conjecturality is the labyrinth. But there are several kinds of labyrinth. Exploring future scenarios and identifying rule-based constraints within a space defined by an external agency under the engineering view of context is like exploring the kind of labyrinth which Eco identifies as a mannerist maze:

“If you unravel it you find in your hands a kind of tree, a structure with roots with many blind alleys. There is only one exit, but you can get it wrong. You need an Ariadne’s thread [the prescriptions set by the external agency] to keep from getting lost” This labyrinth is a model of the trial and error process” (Eco, 1986, p57).

What happens when the decision-making arena in which the “participating” youngsters find themselves is characterized by competing narratives from external agencies, like those indicated in figure 1, each defining the context, according to a particular set of constraints. The youngsters try to find a shared context where all the constraints of the various agencies are made compatible. But this is an impossible

task: Each agency, in the engineering view of context, sets it as a mannerist maze. But what can youngsters do when exploring the maze where each agency sets the exit differently, and insists that Ariadne's thread takes a different route? Attempts by youngsters to solve the problem within a *rule-based frame* founders on contradictory constraints; attempting to follow Ariadne's thread within the *future scenario frame* gets one's conjectures tied in knots, Despite any number of trials, an exit which could satisfice within the *preference frame* is never found; errors, resulting in non-preferred consequences abound. There is little chance of finding a solution that would lead to a satisfying lifestyle, the decision making process is interminable; the result can only be stress.

3. Supporting the generation of communications that could enrich context in distributed decision making

In designing SaRA, Salud Reproductiva para Adolescentes, the community based action research initiative that provides the case study for this paper¹ we escaped from this impasse by turning the traditional "social exclusion" analytic paradigm inside out. We founded our research and development paradigm on ideas from decision theory and distributed decision support methodology, starting from the assumption that key members of the community could be viewed, fundamentally, as decision makers who had potential agency that was blocked off by external conditions. However, this experience of being "blocked off" does not have

¹ Between March 1997 and March 1999, SaRA succeeded in achieving social and network-based organisational transformation in 15 communities in Andean, coastal and jungle locations, both rural and urban-marginal which are all officially classified as "marginalised."¹ These achievements have since proved to be self-sustaining and to provide decision support for further development. The fifteen communities were distributed as follows: eight in the Department of Ayacucho, in the Southern Andes; five in the Department of Junín, in the Centre of Peru; one in the Department of Ica, in the Coastal Region; and one in the Province of Callao, in the Coastal Region adjoining Lima. The Ayacucho communities were the rural villages of Coracora, Murancancha, Cangallo, Huanta and Quinua, and the urban-marginal communities of Artesanos, Carmen Alto and Santa Ana (located in the fringes of the city of Huamanga). The Junín communities were the rural Andean villages of Concepcion, Chupaca and Paccha, and rural Jungle village of San Martín de Pangoa and the Urban-marginal community of La Victoria on the outskirts of the city of Huancayo. Ica's community was the rural village of El Carmen. Callao's was the urban-marginal community of Gambeta/Santa Rosa. SaRA clubs were initially set up in each of these communities in 1997. Plenary workshops, in which all the clubs were involved were held in Lima in March 1998 and in Ayacucho in March 1999. The Ayacucho workshop marked the end of the project funded by DfiD, but at this workshop the youngsters unanimously decided to transform the project into a self-organising network of SaRA clubs. t in these and other communities

to be taken for granted, as if it existed on an absolutely real basis. It is only a synthetic experience, resulting from limitations on the way in which scenarios for their futures (individual and collective) can be generated and explored.

Thus there should exist possibilities for the creative reconceptualisation and regeneration of these small worlds as self-sustaining *arenas* (Kieser 1997, Humphreys, 1998)² in which key actors could discover their own agency and previously “unseen” resources, permitting individual and collective decision-making resulting in consequences which achieve real gains in both participants’ emotional satisfaction and local development of their communities. Achieving this would, in effect, turn the flows of agency shown in figure 1 inside out, as indicated in figure 2. Within the community-based arena, actors would no longer be bound to inaction by externally scripted contradictory prescriptions for action.

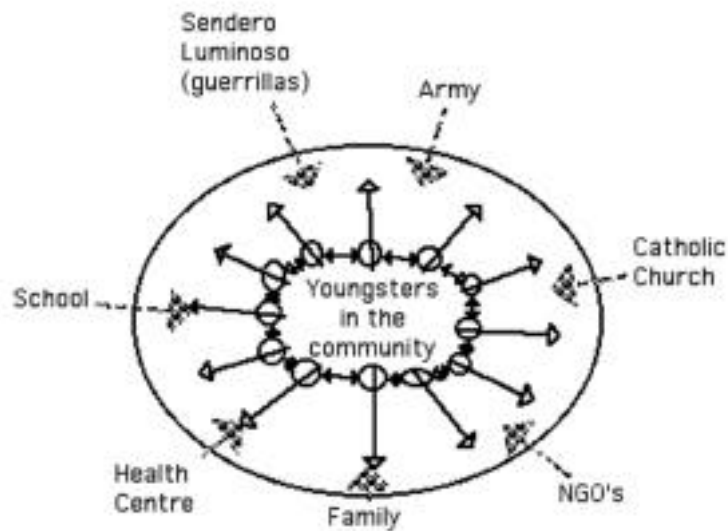


Figure 2. Flows of agency and innovation, which could be supported through SaRA in a typical Peruvian “marginalized” community.

² In traditional decision theoretic interpretations of “decision space” or “the small world containing all considered future scenarios (Savage 1954) on the decision maker acts, the “actions” of others are treated as events when they are presumed to occur. In the conception of the arena there may be multiple actors intercommunicating each with their own views of issues to be negotiated problems to be solved etc. Each actor is part of the context of each other actor’s decisions and actions, but their actions are more than events in such context. Their communications with each other help to define and change the context for each other, like gladiators in Roman arena, except that the arena considered here is founded on communication and cooperation more than threat and competition. Also its boundaries are not fixed, but are equivalent to the ends (if any) of pathways through the labyrinth.

This arena is generated and reconstituted by the participants who actually inhabit it through their interactions and communications that they author and interpret themselves. At the individual level, the arena is experienced through constructing scenarios within its horizons and exploring them as pathways. Resources may be innovatively accessed and their transformation imagined through voyages along these pathways. At the social level, the arena is activated through the participants making and exchanging stories about discovery, and innovation in the conceptualisation, utilisation and transformation of resources for living. These stories involve *showing* as well as *telling* what is, and what *could* be, rather than *being told* what *should* be. SaRA facilitated this by promoting and developing the formation of “clubs” by the youngsters themselves as informal organisations focused on communication, exchange of ideas and joint actions.

But we did not intend that these arenas would be bounded by within-club activities (like some kind of small-world oasis within a wider world where scenarios still lead only to dead ends). The arenas were initially centred on activities emanating for discussions within the clubs. But they were unbounded, and grew as the youngsters progressively extended their scenarios, and their realisation into their communities, effectively building new kinds of resources for living and networking with other local agents (and their community knowledge) who could help in their realisation.

The view of context which is useful in collective, distributed decision making by the youngsters in such arenas is follows the “cognitive science view”, as identified by Brezillon and Pomerol, where

“Context is used to model interactions and situations in a world of infinite breadth and that the human dimension is the key to extracting a model.... Context is considered as a shared knowledge space that is explored and exploited by participants during the interaction. Contextual knowledge acts as a filter that defines, at a given time what knowledge pieces must be taken into account (explicit knowledge) from those that are not necessary or already shared (implicit knowledge).” (Brezillon and Pomerol, 2001 p268).

Eco identifies the abstract model for investigation and conjecturality in this view of context as:

“The net or, rather, what Deleuze and Guattari call “rhizome”. The rhizome is so constructed that every path can be connected with every other one. It has no centre, no periphery, no exit, because it is potentially infinite. The space of conjecture is a rhizome space... it can be structured, but it is never structured definitively” (Eco, 1986, pp577-8)

Generating and realising innovative scenarios within this view of context is necessarily a social and distributed process. In SaRA, we supported this process through the provision of a creative infrastructure for accessing, composing and communicating the “knowledge pieces which must be taken into account” in the view of the authors of the communications. But the stories that are composed to communicate these “knowledge pieces” cannot be expressed solely on restricted language. If they were, the communications would convey only prescriptions, thus closing off parts of the Rhizome to further access and innovation.

Brezillon and Pomerol note, “context possesses a time dimension [which] arises from the interactions among agents as opposed to the context as a fixed notion relative to a particular problem or application domain” (Brezillon and Pomerol, 2001, p 268). When these interactions are founded on prescriptive communications, then understanding of context becomes increasingly closed off and impoverished: the Rhizome retracts towards the closed form of the mannerist maze: Innovative decision making, seeking to discover new resources, is reduced to attempts to find compliant pathways within this maze.

Our aim was different: to support the generation, exchange and interpretation of communications that would enrich the context for distributed decision making with an open and extensible arena. Such communications would need to be in multimedia: comprising audio-visual strata founded in rich, open, language which can support innovative conceptualisation and generate new possibilities for exploration of the rhizome.³ However in order to prevent the interpretation of these communications by their receivers into what Eco (1985) called “infinite semiosis”, it is desirable that such communications comprise also strata in multimedia employing restricted language to provide directions on the pathways appropriate in assessment and monitoring these possibilities and in making tradeoffs in deciding between alternatives – a necessary precondition for turning fantasy into real action. In multi-strata communications like these, restricted and rich languages do not compete for hegemonic interpretation, but jointly provide an extended language (L*) that can support innovative decision- making (De Zeeuw, 1992).

Figure 3 indicates how a communicative process, founded in extended language (L*), involves interplay between:

What is being conceptualised and communicated, through the language of observation and the language of action (following De Zeeuw, 1992)

And

How it is being conceptualised and communicated in *telling* through restricted textual (written, spoken) language and *showing* through rich audio-visual language (following Lorac, 1982)

Language mode

Language of	Language of
Observation	Action

³ A stratum is defined as a language plus a context. Within the structure of an integrated multimedia communication, the content-representation of each stratum is closed as a *layer* (by analogy with the use of this term in *Adobe Photoshop*) or *channel* (by analogy with the use of the term in *Macromedia Director*) But in the authoring and interpretation of such communications, the stratum is more than a layer, as it also includes the context the content in its authoring and interpretation

<i>Mode of Composing in Multimedia</i>	<i>Restricted:</i> Written or spoken	Telling about What is / could be	Telling what is / could be done about it
	<i>Rich:</i> Audio-visual	Showing about what is / could be	Showing what is / could be done about it

Figure 3. Interplay between language models and composing in multimedia in the communication process

Conventional school education concentrates on developing social competence in observational and textual language, neglecting competence in action language and in the audio-visual composing and communication process. Conventional methods for representing decision problems share the same priorities. Decision problem representations based on restricted language (where the elements are usually propositions demoted by text and linked through graphical and/or numerical representations) are constructed through, and employed as artefacts within, *discourses of truth* (Foucault, 1980, 1988; Humphreys, 1998). Within any discourse of truth, particular subjects and objects are identified by naming them, thus giving them implicitly fixed identities extending through time and space (Lacan, 1977). Information about the relationships between them is provided, in text communications, entirely in the terms specified by the communicator (Eco, 1985). Such *telling* about what “is” or what “should be, if” is useful for establishing control or coordination in local decision making processes, but locks out consideration and exploration of potential resources and pathways that are not described explicitly and exhaustively in the structure of the problem representation

On the other hand, audio-visual language prioritises authoring through editing material designed for *showing*, rather than just telling: the material shown offers more than the author of the narrative in which it is *mise-en-scene* may have noticed, or the, author, as editor of audiovisual material, may decide to communicate it because it “seems relevant” intuitively, even though he or she cannot say why. The audio-visual composing process, in effecting *mise-en-scene*, does not start from the identification of named subjects on which activities are predicated. Instead it provides viewpoints from which actions may be seen to occur. The receiver/viewer of what is composed is free to explore what appears *mise-en-scene* from his or her own interpretation of the viewpoint and scene. Naming of subjects and objects is not a pre-requisite for audio-visual, as opposed to text-based, communications about acts. Here, audio-visual composition and communication in multimedia can provide a rich language through which to invent resources, explore innovative pathways and investigate collective and distributed agency for decision making.

Within *extended language* (L*), as illustrated in figure 4, story-composing in rich, audio-visual language, provides innovative knowledge, (as *mise-en-scene*) for

content-generation and structuring in restricted language. Conversely, inconsistencies (gaps, contradictions, vicious circles), as well as prescriptions for action, identified through content structuring in restricted language, can provide entry points for pathways through the rhizome which could profitably be explored further in composing narratives in rich language.

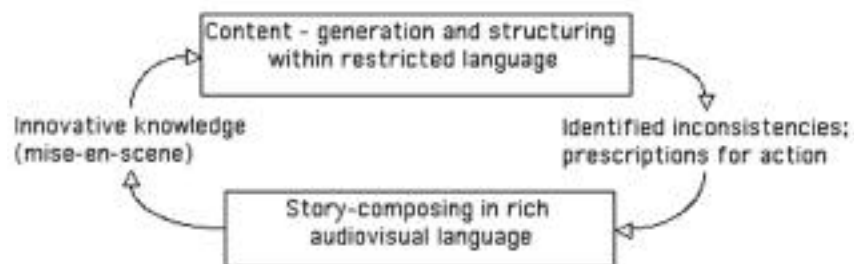


Figure 4. Relations between rich and restricted language strata in extended language supporting innovative decision-making

Thus a vital ingredient for the success of SaRA was the use of multimedia by the youngsters themselves in which audio-visual composing processes provide rich languages, linked with strata employing restricted languages describing both observation and action, to provide an extended language (L*, c.f. De Zeeuw, 1992) for exploring and communicating about innovative resources and activities, i.e., *showing* and *doing* as well as *telling* and *looking*.

4. Generating and communicating knowledge for innovation through making and exchanging multimedia productions

Through SaRA the youngsters in the 15 clubs in our Peruvian case study were provided with camcorders with integral colour LCD display screens (so recorded material could be instantly played back and viewed by a variety of participants, particularly in locations without electricity), and ample supplies of blank film, video and audiotape. The clubs in each locality also had shared access to VHS video editing and large screen display equipment. Very basic tuition was offered in the operation of the machinery. The youngsters developed for themselves a range of audio visual composing processes, operating at a number of levels and in different ways, which enabled them to employ rich language in exploring pathways through the rhizome and discovering possibilities for inventing and transforming resources for in three domains of particular importance in attaining, individually and collectively, satisfying lives within their communities. These were:

Exploring the nature of their own communities and how they would like to see them develop;

Participating in sustainable economic projects designed and developed by themselves, and

Investigating and sharing relational and emotional issues pertinent to their sexual health and well being.

The resulting multimedia productions were used both to communicate ideas and generate possibilities for innovative decision making in the local community. Each youngster now had the possibility to be an actor (*metteur-en-scene*), not just a subject (*mise-en-scene*). These productions were also the vehicle by which local experience was shared and developed with other communities across Peruvian subcultures: rural and urban-marginal, Andean, coastal and jungle.

4.1. Exploring the local community: creating multimedia resources supporting local development

When the youngsters were exploring their own communities with a video camera they were constantly making decisions about (i) what they wanted to consider/capture and (ii) what they were observing might mean both for them and for an 'other' audience. The audio-visual record provided a focus for 'seeing' and a possibility for reflection. It also provided a way of explaining their environments to others, who had never seen such places in extended language (L*) enhancing telling with a rich language for showing. Talk can easily describe and explain known phenomena, however when people can communicate in rich language that enables them to 'see' previously unknown places, people and things, understanding comes more easily and powerfully.

For example, the La Victoria club showed the community with a critical eye, interviewing lots of people, filming themselves showing the viewer around the community. Among other things, they made a visual case to stop the upstream city of Huancayo dumping rubbish in the river that passes through La Victoria. They also showed the need for a local park by filming a couple of youngsters embracing against the boundary wall of the school, with voices-over saying: [Girl 1:] "These are the consequences of not having a park." [Girl 2:] "They've nowhere to go." [Girl 1:] "It would be different if there was a park... we need a park here – urgently!" [Girl 3:] "Let's go and talk to the mayor". This multimedia communication provided effective inputs to distributed decision making in the community on how to clean up the river and make a park with recreational facilities. This action of the youngster's context on the external context, by means of multimedia communication has resulted in the little patch of open wasteland in the centre of La Victoria being landscaped into a park (including a football pitch provided at the initiative of the mayor). The rubbish that previously covered the wasteland is nowhere to be seen. The new park is kept clear of rubbish and litter by collective action of all the community members who appreciated the points made in the club's multimedia communications.

Many of the clubs video-recorded and photographed the activities going on within their local health centres. They invited the professionals working in the health centres to give talks to the clubs. They compared the videos they made of the talks by doctors, nurses, psychologists, etc, gaining insights into the nature of the prescriptions that they made. They examined the restricted language that the health professionals used, which was often intimidatory and directive. Then they organised

multimedia workshops within the clubs where they integrated the videos and pictures they had shot with commentary, and exchanged the material, with other clubs. They drew innovative conclusions, and then returned to interview the professionals, showing as well as telling them about the problematic aspects of their activities in attempting to promote health. More than 50 of these professionals have independently reported to us that they benefited from the knowledge they gained through this communication process in their decision-making on improving their health centres and discovering better ways of working in their communities.⁴ In this way the youngsters, multimedia communications provide mutual enrichments of the youngsters' contexts; enriching both pathways and resources for health⁵, both in their understanding of what could be accessed in this context and in the reality of what could be accessed in this context.

4.2. Creating multimedia resources supporting distributed local decision making on sustainable economic activities

When the youngsters in the clubs were recording the processes involved in the design and development of their sustainable economic activities they created audio-visual diaries. These diaries accessed the context of the decisions and their outcomes in rich language. This allowed the youngsters to analyse their successes and failures in terms of the decisions they made at the various stages of their process and to see the implications of those decisions. They made and exchanged multimedia presentations, using the diaries as resources informing innovative decision making.

For instance, one club (Concepción) initially organised a food stall in the local market selling *chicharrones de trucha* (trout pieces freshly fried at the stall). The initiative was not successful because old ladies were also offering chicharrones on neighbouring stalls. The audio-visual record showed how the customers clearly believed that grandmothers could fry chicharrones better than young people could. However, communicating this story in multimedia provided explicit chunks of knowledge that could be reused between the youngsters' contexts, enabling other clubs (Chupaca, El Carmen, etc) to make a success of selling freshly cooked food at the local market. For example, the youngsters in the Chupaca club decided that they had the initiative, knowledge and resources to construct a stall and source the raw materials to sell anticuchos (grilled brochettes of ox heart). But, after viewing the

⁴ This is why, in figure 2, we show an arrow indicating a flow of agency and innovation from the youngsters that confronts the arrow indicating external pressure from the health centre for "participation".

⁵ SaRA embraced the World Health Organisation's "social model of health" which emphasises that health is a state of complete physical, mental and social well being and not merely the absence of disease or infirmity. Health is therefore seen as resources for everyday life, not the objective of living: it is a positive concept emphasising social and personal resources as well as physical capacities (WHO 81, 82, 86, 93; Bankowsky, Bryant and Gallagher, 1997).

video diary from Conception, they gained ideas on how to improve the context for their activity: they decided to hire grandmothers to be seen cooking the anticuchos *rather* than cooking them themselves.

Another club (Callao) took over school premises (closing the deal by promising to help with the school's anniversary celebrations) and used the space to host a sports tournament with sale of *ceviche* (marinated fish with onions, peppers, etc a favourite Peruvian dish) made by mothers. The youngsters video-recorded all aspects of the event (not just the tournament) and showed and discussed the resulting video diary with youngsters from other clubs, recording the discussions. Then they composed a multimedia production (video plus inter-club discussions on it) which has served as a useful resource in distributed decision making on organising successful economic activities in many of the communities.

4.3. Gaining awareness of relational and emotional issues pertinent to sexual health and well being

The activities related to the awareness of emotional and sexual well being centred on the creation of dramas about relationships covering a variety of aspects important to the youngsters. These included sexually transmitted infections, abortions (personal trauma, medical consequences, resources for procurement), pregnancy, family support, homosexuality, violence, unemployment, friendship, and so on.

The process of creating a drama started with a discussion of the issues that might be addressed. Boys and girls would work together improvising scenes and dialogue, video-recording as they went, and using immediate playback (on the LCD screens in the camcorders) to discuss the results and synthesise new ideas for *mise-en-scene*. In this sense, the dramas evolved in rich language through the production process, rather than being produced according to prescriptions about how the story should be told.

The role of improvisation in the production of drama generated a different way of understanding the context in which such observations and potential actions are situated. Communicating in this way enabled the youngsters to discover new resources and implement new pathways through exploring enriched context. Differing viewpoints could then be suggested and explored as part of the evolving storyline. These would often address topics, which were generally taboo in the local community, as they could not be explicitly discussed within the restricted languages prescribed for communications between the sexes on topics ranging from homosexuality and transvestism to how to "chat up" a member of the opposite sex.

Analysis of the omissions and contradictions and omissions in such discussions, as improvised in developing the drama indicated what needed to be shown in the drama, so it could be discussed when the videotape of the drama production was shown and discussed. The resulting videos were shown and discussed in the clubs and exchanged between the clubs. The value of video recording the dramas was evident through the opportunity and rich language they provided for reflection, and

gaining awareness of other, gendered positions. Many of the discussions were themselves video recorded by the youngsters and integrated with the original videos as strata in multimedia communications, thus providing an extended language (L*) setting them in context and highlighting controversial issues. This enabled the youngsters to investigate the vast range of issues involved, including those that had previously been considered taboo, and to decide within the rich variety of choices that exist when such issues are considered collectively.

5. Generating and communicating knowledge for innovation through inter-club multimedia workshops

It is interesting to note the ways in which the telling and showing occurred during the collective inter-club workshops when youngsters from many communities came together. The youngsters would talk/present, answer questions, show a short video extract, discuss more; use the video to demonstrate an answer. They moved easily and comfortably between telling and showing using each language as appropriate. For example, at an inter-club workshop in Huancayo, La Victoria club performed a live dance, choreographed by themselves, called “Los Viejos Verdes” which addressed the issue of male stripping and female prostitution by re-working a traditional folk dance from Jauja. They created a special audio remix, costumes and choreography for the dance that started with traditional folk and finished, after half a dozen transitions, as techno music. The topics addressed were urgent but taboo – things that were not usually discussed in public (Leach, 1964)⁶. Subsequently the youngsters who participated in the discussion about the dance (which, was recorded audio-visually together with the dance for subsequent presentation and discussion in other clubs) told us that this discussion was the first time in which they could feel empowered and free to talk about the issues addressed seriously without the pressure to either “make a joke of it” or “say what you’re expected to say”. “Los Viejos Verdes” provided in rich language though which the youngsters could access contextual material for this discussion, providing serious examples which otherwise would have been excluded as taboo. This enabled the youngsters to escape from the communication straightjacket in which they would otherwise have been bound through being confined to conventionally sanctioned restricted language for “talking about sexual issues”.

This can be contrasted with another example, from the same inter-club workshop, of the presentation, by a girl from the Chupaca club, of a drama that the club had produced on video. The plot contained a sequence showing sexual relations leading to unwanted pregnancy and then to abortion and death. This sequence was

⁶ Leach’s theory of “Taboo and the distinctiveness of nameable categories shows how things which do not fit into subject/object categories defined and maintained within conventional restricted language become “unspeakable within social communication” i.e., taboo. “Language gives us the names to distinguish the things; taboo inhibits the recognition of those parts of the continuum which separate the things” (Leach, 1964, P35)

presented in the screenplay mainly in terms of “what you’re expected to say”. Youngsters in the audience initially challenged the presenter on the moral of the dramatic piece as evinced in the restricted language of the screenplay (i.e., “you should only have sex after marriage”) and on the presenter’s initial justification, trapped within that restricted language (“well, that’s the way it goes”). The multimedia record of the workshop transforms the implication of the drama from an echo of external prescriptions to an expose of pressures on youngsters’ communications. It also re-locates and grounds the significance of dramatic elements of the audio-visual composition in the community. Furthermore, it reveals that while restricted languages was employed, superficially in constructing the screen play framing the drama, the rich audio-visual language in the video presentation provides another stratum, permitting the use of extended language for interpretation, which resolves the impasse in restricted language resulting from the audience’s initial challenge to the presenter. The presenter rose to the challenge by explaining –“Of course the screenplay is conventional – in fact it was taken from an educational comic book. But you are not looking at the issues that matter. If you watch the boy [who gets the girl pregnant] you can see he is *different* [from the boys the community] he is *from Lima* and so he is skilled in chatting up the girl while thinking only of himself and knowing that he will leave again for Lima soon.” When asked about the alcoholism of the father of the girl who dies, the presenter’s answer, articulated in the multimedia record, was “You can see that the father drinks because, when he does not have problems *finding* work, he has problems *at* work; I mean, always having to take a shit job”.

In these examples, and in many other instances, the fact that the entire experience gets recorded, analysed, seen and discussed provided a superb opportunity, and an open, extended language for the youngsters involved, whatever their subject positions, to explore, reflect and relate better to their own environments. Distributed decision making could be witnessed in both the showing and the discussing. Innovative conceptualisation in rich language is crucial to gaining and communicating knowledge about often-taboo issues, which have a significant impact on sexual and emotional health, but which are excluded from communication in conventional restricted languages. It is significant that this was enabled and enhanced through using an audio-visual composing process. The youngsters confronted, and quickly mastered, the task of creating and communicating knowledge for distributed decision making, integrating both audio-visual composing and textual commentary into strata of multimedia communications.

For example, a video might be shown at an inter-club meeting as part of a multimedia performance which would also involve live dramatic elements (interpretative dance, sketches, etc) in the multimedia strata and which would be discussed live by the presenters, performers and viewers. Sometimes the discussion would also steer the presentation. Here, restricted language would be employed to temporarily close and direct the discussion to a position the rich language of an audio-visual presentation would open up new pathways for exploration. All of this would be recorded audio-visually (using still cameras, tape-recorders, and video), by various participating youngsters occupying different subject positions in gendered

space (Moore, 1994). The material presented (which was distributed on videotape around the clubs) would then be edited together with the recordings made of the process of its communication, to make new, multimedia presentations integrating additional strata supporting further distributed decision making on the issues addressed.

In this social process of developing extended language in multi-strata communications the cycle between rich and restricted language strata is really a spiral in which each layer in rich language adds to the understanding and enrichment of context, thus informing the effective use of restricted language in the subsequent layer to support innovative decision making addressing specific local problems. Diaries and stories of these local decisions making efforts and their results provide the stimulus for further strata of exploration and story production in rich language, and so the spiral continues through time involving diverse groups of story constructors and decision makers in arenas located both within the SaRA clubs and reaching beyond them into the communities.

6. Conclusion: What was the key to SaRA's success?

SaRA was very successful in improving decision making at both the personal and social level amongst the youngsters in the clubs and in the wider communities in which they were located. For example, one of the indicators of success that we identified with SaRA financial sponsors between 1997 and 1999, the UK Government's Department for International Development (DfID) was incidence of unwanted pregnancies amongst the youngsters participating in the SaRA clubs. The target we specified to the DfID at the time the grant for SaRA was given was that this incidence would be reduced throughout the next two years by 50%. This target was considered to be quite ambitious as most projects taking a conventional "reproductive health promotion" approach in similar communities elsewhere have managed to achieve only 10 –30% reduction. In the case of SaRA, the target was easily met – in fact the incidence of unwanted was reduced to 1/30 (3000%) from the baseline established at the start of the project.

What was the key to this success?

Prior to SaRA, the context for local decision making, which was mainly focused on finding ways to comply with external prescriptions had been closed off into a perverse mannerist maze, only one in which an exit to the problem situation could not be reached as contradictory external prescriptions had erected barriers in all directions. In the case of joint decision-making between youngsters on whether and how to have sex together, this usually resulted in issues that should have been explicitly shared as knowledge about each other's feelings, protection, etc, being excluded from discussion. Sharing the same way of life in a restricted gendered space (Ramella and Attride-Sterling, 2000), the youngsters would leave much knowledge implicit in their communications. Lacking a satisfactory exit from the sexual relationship problem maze, the "solution" would be reduced to compliance with prescriptions like "get drunk so I can't think about what I am doing", or "do it

and hope for the best”, Under such conditions unwanted pregnancies are likely to arise.

In SaRA, the interactions between agents that principally determined the temporal dimension of context that is, the youngsters themselves, were founded on the authoring and exchange of communications in multimedia. Here the model of conjecturality that is supported is that of a net- labyrinth – a rhizome. However this net-labyrinth does not simply provide a model of context that pre-exists, (even in infinite form), something that can be accessed and explored in authoring the content of these communications. Rather it is the communications themselves, through their interpretation as a basis for local decision-making, as illustrated in figure 4, that construct the context for this decision-making.

It is important in this respect that the youngsters *enjoyed* making productions in rich audiovisual language. They also *enjoyed* viewing and discussing the productions made by other SaRA clubs, particularly during inter-club workshops that they had often made a considerable effort to attend, travelling long distances under often-difficult conditions. Like in the case of “Los Viejos Verdes” previously taboo topics in negotiating sexual relations, use of protection, etc could be explicitly investigated and talked about in these workshops - not only in the SaRA club discussions - but also in discussion between youngsters considering becoming sexual partners. Under such conditions unwanted pregnancies are unlikely to arise.

If there had been no enjoyment in making, viewing, discussing and interpreting these multimedia productions, then the cycle shown in figure 4 would fail to materialise: the recipients of the productions would not bother to watch them, youngsters would not bother to travel to interclub workshops, or if they did, they would not bother to discuss the productions they saw there, or, even if there was discussion, they would not bother to record and edit it into a new layer in a multimedia communication. But the youngsters in the SaRA clubs *did* bother to do all these things in a self-sustaining way.

The enjoyment necessary for the youngsters to collectively sustain the cycle shown in figure 4 as a spiral through time, thus gaining extended language and enriched context for innovative decision making, could only be achieved because the youngsters working together on each club’s productions gained the creative and social skills that would ensure that their productions would be attractive and useful to their recipients. They quickly developed audio-visual composing and editing styles of their own, showing mastery of technical aspects like sequencing and camera positioning for continuity, construction of virtual spaces from disparate physical elements, and so on. They achieved complex effects, articulating rich language in audio-visual composition and communication, through innovative use of local resources.⁷ The SaRA clubs provided the arenas for discussion and

⁷ For instance, an inter-gang fight scene after dark appeared as *chiaroscuro*, through the use of low level horizontal lighting. This was achieved by shooting the scene in a yard next to a minibus stand. Knowing that the buses waited with their lights on, the youngsters set up the scene and then shot it on video the moment a bus arrived. Another scene (in which a boy dies after a fight) was shot entirely in crimson tones,

development of composing and production skills as well as arenas in which the contents of the recorded material could be reviewed, discussed and enhanced, creating new strata in multimedia communication

Finally, at the social level, the net-labyrinth of context construction and communication, as developed through SaRA, is a network *of trust*. In such a network, context is accessed and composed into strata in multimedia productions at the nodes in the network where their authors are positioned. They are communicated, received and discussed at other nodes in the network. The receivers positioned at these nodes need to trust that their authors have made the communications worth watching, thus enhancing their own capabilities for innovative decision making. They also need to author their own communications in multimedia (or add a new layer to one already received) in ways that they trust that their recipients will find useful.

This trust can be betrayed by communications that frustrate the recipients, through being difficult to watch or to understand. As authors' creative and compositional skills improve within the network, the chance of this trust being betrayed diminishes. The participants collectively gain extended language which gives them a powerful way of understanding the context in which such observations and potential actions are situated. Once this is achieved the participants in the network can learn from each other about how new possibilities for creative understanding and action could be synthesised.

This was the key to SaRA's success.

7. References

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an effect achieved through using the red light on the local radio station's transmitter tower (out of shot) as the sole light source.

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