

## **Further Learnings about Participative Design: Diversity and flexibility**

**Merrelyn Emery, 1988, 1993**

Since the advent of the little publication *Participative Design*, countless participative design workshops (PDWs) have been conducted in many highly diverse settings and ways. At one end of the spectrum is the Development of Human Resources Workshop (DHR) which publicly recruited organizations prepared to send teams into a formal learning environment. Then there are the small single organizations learning to redesign themselves in their own, often very informal circumstances and in their own time. Almost every contingency from multi-mirror group structures to different sections of an organization working together to small groups working alone appears to have been required and accommodated. The PD workshop can be used very flexibly.

Nor should it be assumed that PD is appropriate only to places of paid employment. It is as applicable to a group of kids wanting to set up their own local recreational centre as it is to a voluntary organization (Emery M, 1982). Whenever people congregate to plan or act there is also a question of how they can best organize themselves to achieve their goals.

While it is highly adaptable, there are some elements which must be present if it is to be a PD workshop. Basically it is an environment for conceptual and experiential learning about and designing democratic, learning organizations. For maximal learning it must include:

- information about the design principles, the genotypes of bureaucratic and democratic structure;
- an experience of working within a democratic structure; and
- experience of using the concepts and tools for its introduction and long term implementation

The first point probably requires some elaboration. Bureaucracy is a widely used word and to many, means waging the paper war. When the concepts of democratic and bureaucratic structure are presented, it is important to make clear that these can be found in any sort of organization; that they lie behind the superficial (phenotypical) features such as impersonality, busyness or poor communication. PD differs from many of its competitors in that it addresses the genotypical core, the design or system principle; the disease if you like, rather than the symptoms. It is possible to spend a lot of time teaching people how to temporarily relieve the organizational aches and pains while the disease merrily metastasizes below the surface.

These elements are non-negotiable. Others are merely good or bad practice and may be judged according to whether they are used with insight as to what is required to bridge an impasse, bring a taboo out of the closet, rationalize a conflict, bolster or restore confidence and integrate new people or sections into the process. Until one gets into a redesign, it is almost impossible to foresee what sorts of forces will be operating and what sorts of resources will need to be brought to bear.

The DHR workshops in their final form were probably as efficient and effective a design to produce first stage learning and cover most contingencies at this stage as any. It was residential hot house, intensive learning and at any point, there was a

choice of company, resource people, experience and advice to choose from. Significant and often extensive learning was done after hours. The final design was as follows:

## **Workshops with Mirror Groups**

### **Figure 1. DHR Workshops Final Design**

Plenary. Final briefing, expectations. Collection of data about changes in the extended social field

Small groups work on desirable and probable futures. Connections are made to democratic structures

Plenary. Briefing on concepts and tools

Mirror Design Groups. Two disparate groups work together, A + B analyse and redesign A's organization. C + D do the same for C's

Plenary presentation and discussion of designs

Reverse mirror groups. A + B redesign B's; C + D redesign D's

Plenary reports as above

Groups and/or plenary. Next steps. Strategy

Stage 1 followed the normal first stage of the Search Conference (see part IV or Searching, 1982) and was added in the mid seventies when we realized a contextual factor would add to general understanding of the phenomenon of democratization itself. This was at the time when many were perceiving that the sixties and seventies marked a radical change in social climate, mood and value system (e.g., Emery F, 1978). The workshop was begun late afternoon so that the context was part of a welcoming, introductory social atmosphere. These days when democratization is a well established idea integrated into the industrial relations context, the session on the extended social field and its implications is unnecessary.

The briefing on concepts and tools was given next morning followed by the group redesign work. Total workshop duration was three and a half days and nights. It usually finished at lunch or mid afternoon on the third full day.

We found the mirror groups were invaluable and we designed for pairs with maximum heterogeneity. Too often when working on their own, natural work groups fail to question their assumptions or 'the way we have always done it'. They tend to be suffused with precedent, unwritten conventions and patterns of interpersonal behaviour, all of which may range from highly conscious to unconscious.

Much of this is observed by the mirror group and they will question its necessity for the work, particularly when it is to be self managed. There were sometimes steamy moments as teams from private and public sectors debated procedures of control and

co-ordination. The designs which resulted were much the stronger for this questioning and debate.

This model (without the session on the extended social field) is still the most effective for an organization consisting of more than four natural sections. In one large Australian statutory authority we ran a series of four team workshops matching up teams of office based staff (predominantly female) with field based teams (predominantly male). This provided maximum learning about the whole organization and reduced the stereotyping of each which had grown in the absence of accurate information about the jobs involved.

Where there are still long assembly lines or separate but closely related functions such as production and maintenance which offer the possibility of integration, mirror groups will be paired to facilitate this purpose. Adjacent sections of a line can be paired to achieve designs incorporating a greater range of tasks and skills. These choices make the point that *there is a process of design at the level of the workshop itself.*

This basic model can be multiplied or enlarged to encompass many people. *Queensland Transport* covered every section of the organization by putting up to about 240 people through PDWs at a time, in different venues across the state, all within a week or two. Don't let anybody tell you the process of change must be slow and gradual.

### **Workshops without Mirror Groups**

Mirror groups serve the purposes of broader organizational learning, the merging of previously separate departments such as production and maintenance and the better handling of interdependencies between sections. While extremely useful, there are situations when it is more efficient and effective to take two or more teams from the one large section into a workshop where they will work in parallel on the design of the whole section. Each of say three teams A, B and C, each of which is a vertical slice containing a mixture of functions and skills, analyses and redesigns the whole organization or very large section. They follow the same process as described above and report to each other after each task. Consolidation and sorting out of discrepancies can be done at each stage so that an accurate and clearly defined redesign gradually comes into being.

### **Replications**

In large organizations with large discrete sections there will often be a need for repeated workshops. This applies to workshops both with and without mirror groups. Replication necessarily implies a later integration. Given that not all staff will have been personally involved in the redesign and there must be no imposition of a design, various integrative mechanisms have been tried.

Where people are working in face to face situations it is easy to have the designs further discussed on the job. When people spend their working day isolated in vehicles or geographically spread, special events are required to effect both discussion and integration. Meetings of as many as possible from the section can be organized.

The designs can be presented by the workshop teams, compared and the feeling of the meeting ascertained. It is not possible to do detailed design work in a large meeting but specific questions can be asked and those who have special concerns can not only raise them but can also identify targets for further more detailed debate.

### **Vertical Integration and the Management Workshop**

In organizations with many levels of hierarchy it is often necessary to design in workshops which overlap through the hierarchy. The overlap usually occurs with middle management who, therefore, go to two workshops, their own and that of management.

This provides greater choices for middle managers and also reassures the troops that top management is serious about the systemic nature of the change. There is often a lingering suspicion that redesign is seen as something which happens at the bottom of the organization and that management will retain DP1. "When is management having its workshop?" is not an uncommon question. It helps if a logical series of workshops has been designed right from the start. This reinforces the fact that there is design work to be done at the macro level of change through the workshops, not merely at the intra- workshop level.

The implication of all this is that systemic organizational change must proceed actively and adaptively as change progresses. On the question of whether change should begin at the bottom or the top, it becomes clear that the answer is both.

Top management must have done its homework before deciding to change the design principle and have made this known. The redesigns need to begin at the bottom. Until this work is done, management does not know how much work there is left for it to do. Management accomplishes two tasks in its workshop, the integration of all the previous redesigns into a coherent organizational structure and the redesign of the top levels.

### **Educational PDWs**

At the other end of the scale are those workshops which are strictly for the purpose of introducing individuals to the concepts and methods of PD. Sometimes they have been sent as part of an intelligence gathering tour of what is available if the organization decides to move into democratization.

The absolute minimum required in this class of event is a full briefing on the concepts and tools and some idea of how they are applied. However, as in most things the medium is the message and if there is no hands-on experience with the tools themselves, some go away with the idea that a PD workshop is still a top down exercise where the experts design a splendid new organizational form for the client.

Every effort should be made, therefore, for an experiential component. The best option is a PDW run with a section of the structure in exactly the same way as a real one. The only difference is that everybody is made aware beforehand that no guarantees are given that the design will ever be implemented.

Perhaps the element producing the most learning is the group completion of the six criteria as during this several new perceptions take place, even when the individuals involved are not members of the same organization. Foremost amongst these are the realizations that in DP1, people are often unaware of what other people's jobs are and how they perceive them; that many perceptions of how other people feel about their jobs are stereotypes. Those lower in the pecking order often assume that those at higher levels appreciate their 'good jobs' while the managers see themselves having for example, too much variety and inadequate support.

Above all, the experiential component should be sufficient to convince the most sceptical that the designs will be those of the participants, not the managers of the workshop and not the other vested interests such as top management and union officials. For various reasons, there are often suspicions that the workshop or process managers are only the stooges or front line troops for other parties. And the participants will, therefore, be analysing carefully every statement and move to uncover the professional's subtle manipulative tricks. If the genotypical democratic purpose is not clear, totally transparent and understood at this level there will be continuing scepticism that there will ever be a transfer of responsibility for co-ordination and control to the self managing groups.

### **Use In Relation to Other Problems**

The PDW also lends itself as a component of a variety of novel events. Such a one was the series of workshops to explore RSI and preventative strategies. Clearly, work redesign was indicated as a major factor in any preventative strategy but would have been of little use had participants left the workshops without a good understanding of what was actually involved and how it related to the incidence and nature of RSI. This series of workshops gave a glimpse of a further potential for PD which so far hasn't been fully explored (Emery M, 1988). Similarly, the components of the PDW can be mixed and matched with concepts and practices from other OST methods to form unique designs to solve any puzzle or problem (Emery & deGuerre, [change handbook, 2006??](#)).

### **Importance of Deep Slice**

In terms of the technicalities of design, it is necessary to stress the importance of the 'deep slice' or vertically integrated team. In a recent project at the Australian National University the industrial agreement governing the project specified a 'target group' which comprised only the lower levels of the hierarchy, specifically, the lower clerical, administrative and keyboard areas. While the intention was well meaning, it constrained the first phases and in the process, created and/or exaggerated problems way past the extent to which they are normally seen.

The first problem was that in most departments and sections there were not enough staff at these levels to provide any meaningful room to move to more optimal jobs, and certainly little if any opportunity to share the co-ordination and control of the sections. These functions rested primarily with the levels above who were excluded. In a highly specialized division such as Finance and Accounting, the separation of sections meant that some of the target group totally wasted their time in the early stages as they were the only target person and could not share across the internal

boundaries. The problem apparently arose because the parties to the agreement did not understand the concept of PD, the central role of co-ordination and control, and had seen the problem as only one of more equitable reclassification.

When there is little understanding of the design principles and the relocation of responsibility for coordination and control that takes place in democratization, people cannot see that the two principles are opposites and cannot be mixed and matched. An organization must be one or another throughout.

Another serious consequence was the paranoia which developed rapidly amongst the excluded. Although having been briefly briefed, they had no opportunity to experience the concepts and tools and, had therefore, no real idea of the collaborative sharing process which leads to a collectively satisfying design. As would be expected, those who normally have the most to lose in a flattening of the structure; i.e., some within middle management, were most badly affected as were some departmental secretaries. These latter considered they held good jobs apart from the fact that they were inadequately rewarded and could see only that they would be robbed of their job's better features and de-skilled into the bargain. Instead of all levels viewing it as an opportunity, the project became for many an extreme threat. All of this was unnecessary.

While the centring of democratization within the industrial relations sphere has long been overdue, it is now a responsibility of those involved in drawing up agreements to educate themselves as to what is involved and what will really serve the best interests of their constituents. It would appear that there is still a long way to go here and that unions themselves must accelerate the process of getting their act together. Another complication at ANU was the fact that different unions signed different agreements leading quite naturally to demarcations, which in turn created complications for any optimal co-operative and productive design.

It is probably worth stressing this point as it highlights the unpredictabilities which any such long term national process (1969-88 in Australia) throws up. Having long stressed the need for a single channel of representation, unions are now faced with the need to shape up to meet the responsibilities they have demanded and accepted. No longer are there the clear boundaries of the factory gate, the pay check, the heat or the noise. Nor is there the simple adversarial relation. All of this amounts to the need for a learning revolution for both unions and managements and while progress is being made, recent experiences show the gap which remains to be bridged.

Perhaps the reality we saw, as above, is the way it should happen but it seems silly that so many time consuming and self defeating mistakes are caused by a failure of both parties to consult with and take advice from those who have practical experience in the field. If this should sound like a whinge from one of the professionals, it probably is. But the whinge is not towards our greater glory but towards the most efficient and effective human solution.

On the simple issue of whether there is ever any place in a PD process for a lateral group, the answer is yes, but not as a team doing a redesign. Occasionally in the implementation phase there is need for some detailed negotiation between one level, one particular classification group etc, and others. Should this arise, the various

separate parties should meet to clarify their position and/or plan their negotiating strategy.

Sometimes a particular sub-group must meet to reassure or deal with one or more of its members. In this respect, the conventions do not differ from those established for any other party to the process. The only real issue is the constitution of the original group, and this must be in the interests of the whole.

### **Other Pitfalls**

There are two main classes of traps in running PD workshops. The first is turning it or allowing it to degenerate into a personally or relationship oriented, 'communication' or sensitivity, 'group dynamics' event. This is a trap for those who believe that change will only occur if we can change ourselves or the way we behave in relation to certain others. This philosophy has enjoyed a long run, despite the absence of hard data to support it. PD is supported by a large body of evidence that shows if you change the hard realities of the relationships between people; e.g., from the supervisor/supervised to peer or collegial relations, their communications and the general ways in which they treat each other change dramatically. 'Human nature' is not the static, unchanging entity that we have been led to believe.

Those change programs that have included this sort of exercise have generally been much longer and more expensive in terms of both resource and employee time and energy and many create their own problems during the course, some of which are sufficient to sink the project for once and for all. Don't complicate a simple tool with extraneous purposes and processes. They are dangerous in that people become suspicious as to what management or others are about and often resent what is being done to them in the name of better communication and democracy. Once there are conditions which make it in people's interests to communicate quickly and accurately, they will do so.

Half way houses or immature forms are also dangerous in that they can induce even deeper levels of cynicism. Such innovations as 'quality circles' in the western democracies have a poor track record in the longer term. They are only variations on the old suggestion box and show a similar life expectancy curve. If co-ordination and control are not devolved to the people doing the work, nothing really changes. This is the learning from history.

A genuine PD process will stress in all its aspects that it is evolutionary. Different groups will choose to start their learning about self management with varying numbers of tasks under their span of control. From their own chosen starting point, they will evolve at different rates showing irregularities that are analogous to the growth spurts seen in childhood. These individual differences should be understood and respected by management, unions and workers in associated groups.

### **Individual versus Group Work**

In this work as in all other it is necessary to practise what you preach. This means being open and democratic in all that you do and it also covers the ways in which you ask participants to work.

Several variations have been tried, for example, on filling in the matrix for the six criteria. Individuals have been given the six criteria on a sheet to fill in for themselves before the scores are shared and discussed with the group. Such an individualized approach is used for various reasons; a belief that some people may lack the confidence to put their scores up openly on the wall, will be influenced by others or be ashamed of their high or low scores. Once the individual has scored him/herself, the scores are then discussed. On one occasion, the rule was that an individual did not have to share or discuss their scores if they chose not to.

As this is usually an early part of the process the message it conveys is important. The individualized approach tells participants that it is still OK to behave as in a DP1 structure; i.e., work out your position before meeting the group, do not divulge your hand before getting the lay of the land and in the extreme case, claim your right to secrecy, or in other words, refuse to co-operate. These behaviours are the opposite of what is required for democratic working.

Compare the impression conveyed by the alternative practice of everyone sitting around the flip chart making various contributions of their own scores as they see them, their perceptions of other's scores, discussing and negotiating differences in perceptions, changing their scores if necessary and arriving collectively at a picture of how their workplace meets their needs, with an agreed set of relativities built into it. From the beginning the task is defined as a group task and one on which the group must work as group for a successful outcome; i.e., one which will serve as an accurate basis for the design work which follows. This approach features sharing within a context of openness, co-operation towards joint purposes and a positive emotional tone engendered by 'we're all in it together'. The notable characteristics of this include goodwill and good humour with jokes and quick quips designed to break down status barriers and offer an easy entry for those with less confidence. It is fun and group working gets off on the right foot while a great deal of learning about their workplace, about other's jobs and how they see them and about democratic group working, is accomplished.

### **The Implications for Minorities**

Most of the following is taken from various discussions of the consequences of democratization for women. This is no more than an historical accident as it is women who have been most organized and active in recent years to improve their status. There is little if any of it which does not apply in full measure to other minorities. The underlying philosophy of democratization is exactly the same as that of liberation or more narrowly equal employment opportunity (EEO) which it should be remembered covers Aborigines, ethnics and the handicapped as well as women.

What is this philosophy and what are its goals? Basically that people can function with and increase their dignity, expanding their range of choice in life and their personal resources to achieve human ends within an organizational environment which is designed by the people to fulfil their collective purposes and live with the consequences. The six psychological requirements are no more than a concrete statement of what is required for human dignity and well being. This includes a capacity to know of alternative ways of working and the environment in which they

strive. If these are the aims of liberation and democratization, then there are serious questions to be asked of the means used to achieve them.

Unfortunately, many of the variations on both democratization and the implementation of EEO have and are mechanistic, giving lip service to the principles but denying them in the practice. This applies particularly when recipes or formulas are devised for giving minorities a fair go but without the recipients having a say in the devising or the receipt. Mechanistic rules, for example, about the amount of time spent keyboarding were intended to prevent RSI and other injuries associated with keyboard and VDU work but as part of a process designed to increase control over one's work, they were counterproductive.

Many of the legislative and other formally imposed means for equality, equity etc have either been subverted by human ingenuity in the service of the status quo or have aroused backlashes even amongst those they were designed to help. But more seriously, the whole question of attitude and behavioural change appears to have been misconstrued. Pure consciousness raising is not the answer either. While there has been much of it and it has alerted people to possibilities other than their current circumstances, it has often been done without due regard for social environments and the means to change them. When there is a failure to turn humanitarian dreams into reality the dominant elites are alerted to the lack of means and can escalate their oppression. Attitude change by no means guarantees action based change.

Somehow we have to begin the long process of removing, for example, men's fears and hatred of women and white fears and hatred of blacks. History, let alone herstory, shows that these are not going to be achieved simply through legislation or other such direct means. There is a role for legislation but these fundamental changes can only come through processes in which people of all shapes and shades meet and get to know each other as peers around common purposes. Shared co-ordination and control are essential elements in the required structures and processes. And shared co-ordination and control can only be genuinely and constructively exercised in environments which are carefully structured to ensure their development and continuity; i.e., until it is taken for granted that democratic structures and environments are the normal form, that which meets basic human requirements.

As discussed above, there have been many attempts to adapt the basic PDW to better cater for groups perceived to be at some disadvantage such as low confidence, springing from their low status or membership in a deprived group. The problem with many of these attempts is that in their execution they only highlight and exacerbate the situation rather than taking a first constructive step towards redressing the balance. In a recent example, it was assumed that women would automatically be disadvantaged in working in a team setting with men. Therefore, the process must be one which secured an equal start. The changes made had the effect of both stratifying and individualizing it to the advantage of none (except the dedicated bureaucrats) while losing the opportunity of ensuring that right from the beginning, people would be learning that there was an alternative and simultaneously developing the qualities that had been stunted by their previous experiences.

Apart from the fact that the more one practises within a discriminatory structure under whatever guise, the more one reinforces that form of structure and its consequences, I

wonder today about the wisdom of making the assumption that certain designated minorities will lack confidence, ability to speak up, etc. In the above example it became very clear that many of the 'oppressed' were not only willing to speak up for themselves but did so in no uncertain terms, showing deep insight and sophistication in both their analyses and presentations. They were probably disadvantaged by the changes designed to help them grow out of their lowly status.

Rather than generalize and label, why not try a process which in its very congruence and gentleness allows those who are coming from behind to catch up without being marked as special or different? There has been and is a discriminatory structure built into our society. Nothing less than a wholehearted effort to create structures for learning about the roots of the alternative, how it works and how it feels, will overcome these sources of discrimination. Today, the propensity to form support and action groups of various kinds is one kind of welcome backup for democratization. Another is simply the intuitive realization based on years of exposure, however indirect, that there has to be something else. Planting a small seed is often sufficient to show that this intuition was correct.

And it should always be remembered that while the minorities who are at the bottom of the heap are sometimes badly damaged by living and working within bureaucratic structures, this form of organization damages all it touches, from the bottom to the top. Even if this was not the case, liberation or democratization of a minority will always fail in the long term if it is not the liberation or democratization of all. To paraphrase one of Mao Tse-Tung's most powerful sayings: If you are 90 per cent sure you want to liberate women, you will concentrate your effort on women. If you are 100 per cent sure that you want to liberate women, you will liberate both men and women.

It then becomes clearer why well intentioned strategies such as separating off a particularly at-risk target group such as clerical and keyboard staff will create problems and in many ways deny or devalue the change as one for all people. All are parts of the whole and derive their identities (and stereotypes) from the interdependencies of which the whole is composed. The creation of in-groups and out-groups by any line or purpose of demarcation will continue to haunt a process long after its short term ostensible benefits have been gained. I am using a 1988 example which shows that many, particularly within the women's movement, have not learnt this lesson. Unfortunately we live in times where some, particularly those new to the exercise of power, do not consider it necessary to consult history.

At stake are a set of values and ideals that bureaucratic structures cannot nurture and which separatist movements only further downgrade. If we do really value people and are working towards a sane, humane, ecological (SHE) future (Robertson, 1978) we must provide the settings in which all have the opportunity to gain confidence, not only in their own capabilities and powers but also in those of others. Those at the bottom of the heap obviously have more unlearning to do, of their negative self images and lack of confidence and most to gain. Becoming the new bosses, however, cannot achieve the second objective of bringing together those who were separate. No amount of power and role reversal can achieve its genuine antithesis which is power sharing.

What is commonly not recognized about democratization is the phenomenon of very strong transfer effects from the original experience with participation in and responsibility for co-ordination and control. Because minorities have more room to grow, they frequently change very rapidly and once such characteristics as self confidence begin to develop at this rate, there may be constellations of changes which appear to others as a personality change.

This inevitably affects the nature of the web of relationships in which a developing individual is embedded. A person treated as and taking responsibility as an adult at work for example is not going to continue to put up with being treated as a child or second class citizen at home or in their community associations. Democratizing a work place may then have the side effect of precipitating a rash of divorces or near misses. This was the experience of the CCE after democratization began in March, 1973 and other organizations have reported similar incidences. Empowerment, the in word at the moment is a direct function of responsibility for co-ordination and control. Thus while the PD workshop is in its structure and process, uni-sex, it is in its effects strongly biased towards women and other minorities.

There are, however, phases and plateaus in every growth process. A common first phase after democratization is developing up to one's first limit or expectation, and then what? Many tend to stop there, satisfied with their achievement which creates a problem for others of their minority group who wish to go further. This limit is often the result of conditioning; a built in barrier to expectations. It is often only a state of rest and consolidation before growth is resumed. But it sometimes hides a deeper reality and one that is rarely discussed. Many women particularly who have had the opportunity to make it to the top have balked at doing it in the old system. To make it would have meant suppressing the system of ideals and values that have shaped their life and to which they steadfastly adhere. To join the rat race in earnest and show how good they are would mean putting others down in a vicious competitive system which is the opposite of everything they believe in and hope to see. At stake here are ends and means. Can people who believe in equality and co-operation achieve them by playing successfully in such a system as a bureaucracy? Many women say 'no'. They opt out, taking only what they materially and psychologically require, without changing their sights; believing that the bigger system will not change and to play it will only damage themselves and others; only further the system.

Others take a paradoxically similar but opposite line (the similarity lies in the fact that they accept that this bit has changed but that the larger system context won't easily). 'Once we're in there, we can change it to serve our value system. Once there is a majority of women in the top echelons, then you will see a change.' That remains a hypothesis. Some go hell bent to win against enormous odds, against the system; some win, some lose. Some do genuinely win and retain their identities, others become the new oppressors.

These consequences contain several lessons. The first is simply that if you wish to redress the power balance between the sexes or other oppressor/oppressed groups, going to the heart of the problem does work and has flow-ons which some may not consider desirable, but which do indicate, perhaps more powerfully than at the original site, that the problem is one of bureaucratized power.

The second lesson is that women and other minorities have rarely been so badly damaged by their learning in bureaucratic structures that they need specialized training in assertiveness, stress management, effective communication or democratic behaviour. In short, they do not need activities divorced from their normal flow of life activities to learn that they are human beings and how to behave as such. All they need is a fair opportunity. But if oppressed minorities are to remain in bureaucratized structures, then of course they will require these sorts of boosts to enable them to survive.

If we were really serious about a democratic society then our strategy would be to change the structures in all our institutions, particularly the 'educational' ones. A combination of the second educational paradigm plus PD at all levels would be a powerful preventative of the human and organizational realities that keep social scientists in work today.

### **References**

Bion, W. (1959). *Experiences in Groups*. Tavistock, London.

Emery, F. (1978). Youth - Vanguard, Victims or the New Vandals?. In *Limits to Choice*, pp.4-32, Centre for Continuing Education, Australian National University, Canberra.

Emery, M. (1982). *Searching*. Centre for Continuing Education, Australian National University, Canberra.

Emery, M. (1988). Learning about the Unpredicted: The Case of Repetition Strain Injury (RSI), *Studies in Continuing Education*, 10(1) 30-45.

Robertson, James. (1978). *The Sane Alternative*. River Basin Publishing Co, Minnesota, USA.