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AN ACTION RESEARCH APPLICATION OF PERSONAL
CONSTRUCT PSYCHOLOGY IN ORGANISATIONS :
THE USE OF COGNITIVE MAPS TO PRODUCE POLICIES FOR ACTION

A dissertation presented in partial fulfilment of the requirements for the
degree of Doctor of Philosophy in Psychology at Massey University.

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ABSTRACT

The research developed out of an interest to clarify people's values and to relate these to a repertoire of past, present and future behavioural or environmental patterns. Cognitive maps, derived from Repertory Test and Laddering techniques, directly illustrate this relationship between superordinate values and subordinate behaviours, objects, symbols and environments.

Repertory Test and Laddering Technique are associated with Personal Construct Psychology. This dissertation describes Personal Construct Psychology and related methodology as founded by Kelly (1955). It then follows one branch of the further development of the theory. The second generation developments of Hinkle (1965) are examined, followed by subsequent developments and applications ; particularly those of Little (1983) and Eden (1977, 1978, 1980, 1988).

Using an action research approach, the methods developed by these personal construct psychologists, were applied to problems in three organisational interventions : 1. an individual client vocational-redundancy counselling situation, 2. an intervention with a work group who were experiencing dysfunctional internal relationships and, 3. in a team-building intervention with the inaugural Board of Trustees of a Primary School. In all cases the procedure used Repertory Test and Laddering procedures to identify individual cognitive maps. In the latter projects these were aggregated to form group cognitive maps, and in all cases the final intent was to produce a policy or specification for action. A pre-test post-test untreated control groups design was used in the final study to assess the comparative progress and development of three school Boards of Trustees.

In the vocational-redundancy counselling case, the procedure provided the client with a policy for action that he could use to guide future career and lifestyle behaviours. It revealed both lack of control over one's anticipated future and the need to reconstrue one's future, as sources of negative response to severance for this client. The study clearly demonstrated the notion that a construct is defined by that which is both superordinate and subordinate to it, and in particular enabled the client to define what his religious beliefs meant to him. In subsequent studies this method of construct definition formed the basis of a procedure for the content analysis of cognitive maps, describing them verbally and for aggregating them into collective cognitive maps. With the dysfunctional work group, identification of a collective cognitive map formed a description of the groups functions and was translated into a statement of purpose. It was also useful for enhancing self awareness, organisational awareness and for clarifying both group and individual role. In the team building intervention with a school's Board of Trustees, the Treatment group displayed not only improvement on more scales than the control groups, but also improvement of greater magnitude than the control groups. This data supported the Treatment group's self report of benefits gained from the intervention. The intervention provided the Board with a guiding policy for action, which they were then able to apply directly to formal policies required by statute.

It was demonstrated, therefore, in three separate organisational contexts, that an applied personal construct, cognitive map approach, based on repertory test and laddering techniques, was viable for intervention purposes where role clarification, values clarification and formation of a policy for action was desired. Methods were refined for portraying cognitive maps and expressing these verbally. Issues surrounding organisation development, content analysis of construct systems and the role of action research were discussed. The processes and findings of the dissertation were related back to the theory of personal construct psychology. Kelly founded Personal Construct Psychology in the applied setting, and it is claimed that it is in the applied setting that it displays particular power.

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Chapter 1.

INTRODUCTION

This dissertation explores the application of aspects of Personal Construct Psychology and related methodology to problems encountered in organisational settings. It describes a series of studies in which a common theme has been pursued. That common theme, has been an attempt to describe cognitive maps : pictorial or graphic expressions of the hierarchical construct systems that individuals use to link superordinate intangible values to subordinate tangible actions, objects, symbols and environments. The methodological problem addressed in these studies has represented an attempt to refine the process of aggregating these individual cognitive maps into some sort of group cognitive map. Group cognitive maps may be construed as a description of community or culture, since they outline the values inherent in the group and the behaviours, symbols, objects and environments that reflect those values. At a practical level, the purpose of this activity has been to generate specifications or policies for action that the clients and participants may use to guide them in their futures.

Personal Construct Psychology was founded by Kelly (1955). Some ten years after Kelly's publication of the theory a second generation of Personal Construct psychologists emerged, who expanded and elaborated both the theory and the associated methods. Hinkle (1965) was one of these second generation of construct psychologists. There then followed a third generation of researchers and practitioners, who form but one branch of the

evolution of Personal Construct Psychology, and who expanded the theory from Hinkle and extended the use of his methods into the applied setting. In the context of this dissertation, the most significant of these is Eden (1977, 1978, 1980 and 1988).

The current writer's interest in this branch of Personal Construct Psychology stems from that prevailing psychological problem of making the inferential linkages from the intangible to the tangible, from the abstract to the concrete, from the internally psychological and cognitive to the overtly behavioural and environmental, from the superordinate construct levels of values, goals, beliefs and ideas to the subordinate construct levels of actions, environments and objects. Hinkle provided a direct method for linking superordinate values and goals to subordinate actions : namely, Laddering Technique.

The writer's first experience with this technique was personal. He used Repertory Test and Laddering Technique to explore his own career and lifestyle options. In addition to providing valuable personal insight, this process also revealed the potential power of the technique for identifying both current and future alternative actions that related directly to a person's superordinate values and goals.

An initial career move into the academic arena provided the opportunity to **study** this aspect of Personal Construct Psychology and its associated methods. A career change, some three years later, into the personnel management, human resource development arena provided the opportunity to **use** it in organisational situations.

Throughout the late nineteen-eighties there was a trend in New Zealand, for managers and organisational professionals to leap onto a bandwagon in pursuit of the Japanese model of human resource management and quality improvement. In mid nineteen-eighty-eight, the present writer found a brief management magazine item (Birchfield, 1988) which stated that New Zealand business needed to develop a management style that reflected the country's own culture and values instead of imitating a Japanese management practice based on a history and culture which few New Zealanders could identify with and understand. Managers were eager to imitate but much less inclined to invest time and resources to develop styles

of organisation and operating that were in harmony with the size, culture and values of this country. The magazine item stated that values and especially shared values were critical to assessing the success and effectiveness of organisations and their managers. With the wide range of ethnic and cultural backgrounds in New Zealand, the need for shared values was clearly demonstrated. It advocated examination of New Zealand's own dominant cultures to see what aspects of their value systems and behavioural patterns might contribute to a New Zealand approach to management and organisation.

While only a brief item in a magazine, and while rather unimportant in itself, the article reported above was significant for the extent to which it provided insight that enabled movement towards completion of the dissertation itself. Throughout the entire research the attraction to Hinkle's (1965) developments of Personal Construct Psychology related to the study of people's values, the actions, objects and environments that reflect these values and the problem of aggregating these individual construct systems into some sort of description of the essence of a particular community, or if you like, culture. It was apparent that the current research was leading to a method for doing precisely what the magazine article advocated : examination of the value systems and behavioural patterns inherent in communities and cultures in order that these might contribute to a relevant local approach to management and organisation.

This dissertation begins by following the evolution of Personal ,Construct Psychology through the branch or lineage outlined above. It commences, in chapters two and three, with a description of Kelly's Personal Construct Psychology and the associated methods he used for exploring people's personal constructs . Some of Hinkle's theoretical elaborations of Personal Construct Psychology are outlined in the early pages of chapter four, along with a description of his methodological developments.

A review of the third generation Personal Construct psychologists such as Eden (1977, 1978, 1980) forms the latter part of chapter four.

Following the theoretical review of Kelly's Personal Construct Psychology, and the developments of Hinkle and Eden, chapter five links these to a series of applied action research studies which are reported in chapters six through to eight. These include applications in counselling and organisation development interventions.

The studies described in the later chapters of the dissertation follow the organic, action research approaches of Argyris (1976) and Lewin (1946, 1947). Each study, in turn, posed questions to be investigated in the next study. Hence the studies progressed in a cyclical fashion, towards technical refinement. The process was one of exploiting the practical strengths of Repertory Test, Laddering Technique and cognitive maps, while simultaneously attempting to improve any methodological weaknesses that emerged.

The studies described in this dissertation are unashamedly practical and client- participant centred. The investigator was, and still is a practitioner in the field. Throughout these studies, his first responsibility was to the clients and participants. They owned the projects reported below ; the investigator enabled them to happen.

Chapter 2.

PERSONAL CONSTRUCT PSYCHOLOGY

2.1 Kelly's Personal Construct Psychology

During the 1930's psychologist, George Kelly, developed an alternative psychology, founded on his personal approach towards the treatment of his clients. It was not until the mid 1950's that Kelly published this orientation, and with this publication (Kelly 1955) an interest in Personal Construct Psychology emerged. Kelly's contribution is frequently referred to as Personal Construct Theory. However as Bannister and Fransella (1980, p. 8) state, to refer to this contribution as a theory "is imprisoning" ; it is in fact a total psychology and hence , throughout this dissertation it is referred to as such.

Personal Construct Psychology has never been a dominant theoretical force in psychology. It has nevertheless gathered popularity among a select and energetic group of psychologists and has become "respectable" with the greater body of psychologists (Bannister and Fransella's 1980, p.8). Mahoney (1988, p.1) goes as far as to say that Personal Construct

Psychology has "played an important role in the differentiation and development of scientific approaches to psychotherapy in the second half of the 20th century". According to Adams-Webber (1979), to begin with, only a few highly innovative investigators kept Personal Construct Psychology alive, until others gradually began to show interest. Mahoney states that the approach founded by Kelly can now claim more than 1,000 publications, most of them empirical and many of them valuably practical. It is probably significant that the article by Mahoney (1988) can be found in Volume 1, Number 1 of a new journal devoted entirely to Personal Construct Psychology : "The International Journal of Personal Construct Psychology".

There are a number of well compiled and easily readable reviews, summaries and publications on Personal Construct Psychology (Bannister 1962; Sechrest 1963; Bonarius 1965; Bannister and Mair 1968; Bannister and Fransella , third edition : 1986; Adams-Webber 1979; Fransella 1981(a); Stewart & Stewart 1981; Landfield & Epting 1987). The following review therefore is intended to be brief and succinct. It should be noted that in many instances the authors cited above have been quoted directly rather than Kelly (1955) since they have made efforts to remove sexist language inherent in Kelly's original writing.

Kelly made his theory formal by stating a fundamental postulate and eleven corollaries to that postulate. Kelly's original client pool were university students and Personal Construct Psychology was developed for the counselling of this population. Easterby-Smith (1980) assumes therefore that this factor influenced Kelly's choice of "man the scientist" as his model of human behaviour. In other words, Kelly viewed people as "fundamentally active and inquisitive and likely to be inquiring keenly into all aspects of themselves and their environments " (Easterby-Smith 1980, p.8). People are in the business of making sense of their world and they do this by developing implicit theories from which to generate hypotheses to test empirically. If experience confirms the hypotheses then our view of the

world strengthens; if experience disconfirms them we adjust and fine tune our models of the world to suit.

In his fundamental postulate (Kelly 1955) indicates that people are best understood in terms of the way they anticipate events. Kelly construed people as neither prisoners of their biographies, objects to be pushed about, nor input and output processors of information. Rather he viewed them as inquiring psychologists, actively attempting to make predictions about future events. One tests the degree of sense one has made of the world by checking how well one can anticipate it. Kelly stresses that people are "in business to understand their own nature and the nature of the world and to test that understanding in terms of how it guides them and enables them to see into the immediate and long term future" (Bannister & Fransella, 1986 p. 8). The fundamental postulate that "a person's processes are psychologically channelised by the ways in which they anticipate events" (Bannister and Fransella 1986, p.170), is elaborated in the following corollaries.

The Construction Corollary states that people anticipate events by construing their replications. Here Kelly is raising the notion of personal constructs. People recognise replications and patterns and formulate these into constructions of the world. They use these constructions as transparent templates through which they view their world and which serve as a metaphor for the constraints placed on one's world view. It appears that these are both personal and cultural constraints. Gaines & Shaw (1981) describe these templates as necessary to filter perception, in order to allow past experience to relate to, or anticipate, future behaviour. As a result we each form private universes in which we locate everyone and everything that we have interacted with, whether in reality or imagination. This private universe concerns the way the individual construes the world. That is, the way he or she perceives, discriminates and interprets events that occur within his or her experience. In that it is the way one construes the world, it is referred to as a system of constructions or construct system. It is noteworthy that a theoretical trend gaining recent momentum is that known as "constructivism", (described in more detail below).

The process of construction is based on the human ability to recognise replications and patterns, such as melodic themes in music, or time-of-day patterns such as breakfast, lunch and tea. For example, the reader may be familiar with a piece of music called "Tubular Bells" composed by Mike Oldfield. In this piece, Oldfield plays a particular theme or passage of music repeatedly with a variety of different instruments, or with the same instrument played in a variety of manners. The current author recently witnessed another graphic example of the same thing when the Danish comic pianist, Victor Borge played "Happy Birthday to You" in the style of five or six of the most notable composers of all time. Each presentation was quite different, and yet one was able to recognise the replications of the theme. We make sense of the world by recognising repeated themes, by organising these themes and then by using the subsequent organisation to attach meaning to both the experience around us and the likely forthcoming experiences pending. When we meet people for the first time, on the basis of perceived replications in past experience, we expect particular behaviours from those people. We expect them to perhaps say "Hello", give their name and shake hands. Before we meet them we predict their future behaviours, and like a scientist, we put our predictions to the test. If, when we first meet a person, he steps forward and hits us squarely on the jaw, then our predictions are likely to have been disconfirmed.

Bannister & Fransella (1986) note that this capacity to recognise replicated patterns and themes is fundamental to conditioning but Kelly acknowledged the unique personal nature of the process. It depends on the meaning attached to the replicated theme whether or not it will result in a conditioned response. Bannister & Fransella (1986) assert that no-one ever responded to a stimulus; we respond to what we interpret the stimulus to be, and this in turn is a function of our unique construction within our personal universe.

The individuality corollary refers to the notion that we are each totally unique individuals who construe our world in completely idiosyncratic ways. Each person's "private universe" has its own unique processes of change, development and decay, and no person's private universe is like anybody else's. When placed in identical situations, people obviously do not respond in identical ways. Even when people do act in the same way in the same situation, this does not mean that at a cognitive level they attach the same meaning to that situation. For instance, when a race horse falls 100 meters from the post and fails to recover, you are likely to witness a number of people running towards that horse ; same behaviour in the same situation. However, for each the intent of the behaviour and the meaning attached to it is different. For the veterinarian the reason for the running behaviour is quite different compared to that observed from the horse's owner, concerned about an investment. The situation has different meaning again for the horse's trainers, the Press photographers, and for the more macabre members of the public who run to the spot in the hope that they may witness the veterinarian's administration of treatment to the doomed horse. This is because each individual does not construe the situation the same way. We each differ in our perception of and interpretation of the situation.

This does not mean however that individuals don't have some resemblances in construing the world, but none of us construe the world in identical fashions. In that each person differs from each other in their construction of events, "each of us lives in what is ultimately a unique world, because it is uniquely interpreted and thereby uniquely experienced" (Bannister & Fransella 1986 p. 10).

The Organisation Corollary states "each person characteristically evolves for their convenience in anticipating events, a construction system embracing ordinal relationships between constructs " (Bannister & Fransella, 1986 p.170). We structure the way we see the world in a pyramidal hierarchical organisation of superordinate and subordinate constructs. An individual's constructs are inter-related and not just a chaotic jumble of compartments. At one level in the structure a person may construe other people as being "warm versus cool". This may be linked by superordinacy and subordinacy such that "warm vs. cool" is related to one

pole of a construct such as "emotional characteristics versus intellectual characteristics". This construct might in turn be subsumed by the construct "mental processes versus physical processes". This hierarchical arrangement makes the world organised and manageable, and it is interesting to note that similar structures are advocated for managing information processing and learning (see for example Bower, Clark, Winzenz and Lesgold 1969). It enables us to handle that myriad of information which comprises our private world or private universe.

Kelly (1955) postulated that people tend to arrange thoughts dichotomously. That is they tend to view concepts in a bi-polar fashion. In this respect, Kelly alluded to similar postulates put forward by other modern influential thinkers in other disciplines. Namely, in psychology Osgood, Suci & Tannenbaum (1957) developed the Semantic Differential at about the same time. Another included the structural anthropologist, Levi Strauss (1963) who even went as far as to surmise that this tendency to dichotomise was a result or reflection of the bi-lateral symmetry of the human form and hemispheric nature of the brain. To some extent Marx (1845) recognised a similar tendency in discussion of the dialectic, with its thesis pole, antithesis pole and subsequent synthesis position between the poles. And, like Marx's theoretical position, Kelly's is a theory of change. The dichotomy corollary states that "a person's construction system is composed of a finite number of dichotomous constructs " (Bannister & Fransella 1986, p.192).

While bi-polar in origin, constructs can be seen as continua which can be used in a scalar fashion, with shades of grey being acknowledged between black and white (Diamond 1982). Kelly viewed one pole of these dichotomous constructs as being a pole of affirmation and the other as a negative pole. This arrangement distinguishes our way of viewing the world as different from simple uni-polar categorisation. The construct is "black versus white" allowing for shades of grey between, rather than being "black versus non-black" which allows only for inclusion or exclusion.

Those bipolar constructs with readily available labels are easily acknowledged (for example, "warm versus cool" or "black versus white") but constructs can be very conceptual in nature and not readily attributable to a label. Constructs contain nuances of meaning which are not necessarily translatable into language. Sometimes a person may only be capable of

producing a label for one pole of the construct (which is known as the "emergent pole"). Kelly claims however that we do not assert the emergent pole without implicitly denying or contrasting it with another pole within a context. Kelly asserted therefore that there exists an "implicit pole" which contrasts with the "emergent pole". We continuously contrast things in our private universe with other things, even if there is no label readily available to describe that construct. Bannister and Fransella (1986, p. 12) state, for example, that "there would be little point in asserting that 'I am tired' if the contrast assertion of freshness and energy were not implicitly around somewhere to be negated".

Not only do we each possess a construct system through which we view the world, but also as hypothesis testing "scientists" we seek to develop and elaborate that system, just as the system has already developed and been elaborated to its current status. With the choice corollary Kelly stated that persons choose "for themselves that alternative in a dichotomised construct through which they anticipate the greatest possibility for the elaboration of their system" (Bannister & Fransella 1986, p.170). In other words we tend towards that pole of the construct that makes more sense of the world for us and which has the greater number of implications for us. For example, if there are more implications for us having a "warm" personality then we will choose to move towards that pole rather than the "cool" pole; we will seek to be a warm person. If in business however, there is more to be gained by being "cool", then we may choose to move towards that pole in the business context. Kelly asserts that this process is one of affirming in ever increasing detail, aspects of experience that have already been subject to fairly active scrutiny and construal and/or it is a process of expansion so as to increase the range of the constructs' usefulness or applicability in areas that are not so fully understood. Furthermore, we don't necessarily elaborate successfully; only that we seek to move away from confusion towards understanding.

The range corollary states that a "construct is convenient for the anticipation of a finite range of events only" (Bannister & Fransella 1986, p.170). Constructs are, to varying degrees, context related. Each individual has a finite number of constructs, some of which are used in specific contexts only. Some constructs in the individual's system are relevant or applicable to only a narrow range of events, objects, actions or situations. Kelly used

the term "focus of convenience" to describe those things for which a construct was specifically developed. The construct "memory" had as its focus of convenience a human process for the storage and retrieval of information. The range of convenience on the other hand, is all those things to which people might eventually find the construct applicable. Thus the term "memory" has come into common usage to refer to the electronic storage and retrieval of information. The term has also been coined to refer to mechanical devices that return moving parts to a constant pre-set location - as if the inanimate device has remembered its previous state.

Implicit in the experience corollary is the notion that people continually develop and grow psychologically. "A person's construction system varies as he or she successively construes the replication of events, " (Bannister & Fransella 1980, p.24). A personal construct system is a person's guide for living, which Bannister & Fransella (1980) describe as a repository of all that a person has learned, a statement of their intents, the values they live by and the banner under which they fight. It is a theory being continually put to the test of experience. Confirmation or disconfirmation leads to the system's affirmation, or to either minor remodelling or possibly major overhaul.

Personal Construct Psychology is a general psychology of change, within which the modulation corollary outlines how the changes that occur with experience, take place. The modulation corollary stated that "the variation within a person's construction system is limited by the permeability of the constructs within whose range of convenience the variants lie" (Bannister & Fransella 1986, p. 15). "Permeability" refers to the degree to which a construct can easily be applied to other contexts. The construct "seam bowler versus spin bowler" has relative impermeability since it relates exclusively to the sport of cricket. As such an impermeable construct like this one helps us to better understand the context in question. Without it, we would have greater difficulty understanding tactical bowling in cricket. The construct exists, however, in a very limited context range and there is very little room for its expansion of use. The construct "warm versus cool" on the other hand has a broad range of context usefulness and is a construct which can be readily used in new contexts or new experiences. This construct can be used to describe personality, colour, clothing, temperature, emotion, music, horsepower, a person's physical energy, and when faced

for the first time ever with a job interview, a cocktail party, or a negotiation with a trade union official, the construct can be used to describe that too.

In other words, when faced with a new situation, we generally try to make sense of it via permeable constructs that readily assimilate new elements within their range of convenience. It is claimed that permeable constructs therefore allow us to expand, learn and accommodate new experience whereas impermeable constructs lock us into specific contexts. As stated in the previous paragraph however, impermeable constructs sometimes help us to better understand specific existing experiences and contexts.

In the fragmentation corollary that "a person may successively employ a variety of construction subsystems which are inferentially incompatible with each other" (Bannister and Fransella 198, p. 16), Kelly suggests that change is not and need not be logical, nor should we expect a person displaying a construct in one situation to display the same construct in another situation. Bannister & Mair (1968) use the example of the parent who at one moment hugs and kisses a child, at another moment smacks the child, and then a moment later ignores the child completely. While the behaviour suggests inconsistency in the parent's construction system, at a superordinate level constructs concerning "parenting" and "upbringing" give some semblance of consistency to the behaviours observed. Bannister & Fransella (1986) note for instance that the construct "cruel versus kind" assumes this sort of logical consistency in the superordinate notion that "sometimes you need to be cruel to be kind". Also it is possible that a person who vehemently applies the construct "smoker vs. non-smoker" in relationship to judging those she meets socially, may ignore that construct completely when making recruitment judgements in industry, because other constructs are more applicable, such as "commercially sound vs. commercially risky" or "good vs. poor business sense".

Despite the emphasis on individuality people may be similar to others to the extent that they view things in similar ways, construing along shared dimensions. Explicitly the commonality corollary states that "to the extent that one person employs a construction of experience which is similar to that employed by another, his or her processes are psychologically similar to those of the other person" (Bannister & Fransella 1980, p.27). The extent to which our ways of viewing the world are shared, or have approximately

the same psychological meaning, is an expression of, or acknowledgement of the extent to which we belong to groups, cultures or psychological communities. Landfield & Epting (1987, p.21) state that "personal constructs often, but not always, reflect the concerns and values of one's past and current cultural milieu". They thereby acknowledge that many of our constructs are developed from other people and some aspects of self-construction mirror the ways in which people have construed us.

People do spend a certain amount of energy communicating with others about their construals of the world, and those aspects of their construals that are similar or different. Kelly's sociality corollary recognises that the construing of individuals and groups is negotiated with those with whom they interact : "to the extent that one person construes the construction processes of another, he or she may play a role in a social process involving the other person" (Bannister & Fransella 1980, p.28). Hence the extent to which we negotiate and communicate our shared or disparate construals is an expression of the rôles we have in relation to one another. This does not mean that the role or interaction is an expression of the similarity of construct systems, but that through one person's construct system (say that of a parent) they are able to develop a meaningful picture of the other person's construct system (say that of a child), thus enabling a role to be performed.

2.2. Some More Recent Directions in Personal Construct Psychology.

As is the nature of Theory building, the shape of Personal Construct Psychology has changed, developed and been elaborated since Kelly. In the present series of works the elaboration of the theory by Hinkle (1965, reviewed later in Chapter 3) takes centre stage, along with subsequent developments from Hinkle's work (for example, Eden 1977, also reviewed separately in Chapter 3).

It is pertinent however to briefly mention some other more recent directions of thought and intellectual pursuit regarding Personal Construct Psychology Landfield & Epting (1987), while concentrating on the use of Personal Constructs in psychotherapy have restated the theory in a series of fifteen assumptions. These assumptions reflect the notions put forward by Kelly's fundamental postulate, corollaries, and discussion of the nature of constructs but provide a good illustration of recent attempts by writers to reduce and simplify Kelly's original concepts so as to optimise their applicability to the contexts of those writer's principal interest. In other words it is apparent that Kelly's followers extract from the original theory those aspects that are most meaningful to them and which contain the optimal range of convenience for them.

In brief Landfield & Epting's (1987) assumptions are :

- that construct dimensions sometimes can be verbalised and discussion of similarities and differences is the usual ploy to encourage a client to verbalise his or her constructs;
- Personal constructs often, but not always, reflect the concerns and values of one's past and present cultural milieu although that which is interpreted from the outside will be construed and interpreted individually by the person;
- personal constructs are not necessarily semantically logical in terms of their polar labels;
- each pole of a construct enhances the meaning of the other pole;
- a person may use a construct symbol or label differently in different contexts, and different people will use the same construct symbols in different ways;

- a construct may be stated in a way that reveals little of its meaning;
- a person may apply two constructs in a similar fashion despite their verbalisation suggesting quite different meaning to an outside observer;
- feeling, valuing and behaving are components of personal constructs and at any one moment the feeling, the value or the behaviour may predominate;
- constructs vary in their importance for a person on a dimension that extends from core interests, concerns and values to peripheral ones;
- a personal construct may vary in importance according to the context in which it is being applied;
- a person's own behaviour may be anticipated from the constructs he or she applies to describe others;
- people may construe themselves on the same dimensions as they construe others;
- a person's verbalised constructs may reveal his or her immediate concerns, conflict areas and important contexts of decision making; and lastly,
- anticipation involves hypothesizing about similarities and differences in the familiar world to the imagined but as yet unknown world, and as such ties together the processes of integration, differentiation and generalisation about the future.

Another development has involved movement away from Personal Construct Psychology per se, and movement towards the more encompassing orientation known as "constructivism". A succinct introduction to constructivism has been prepared by Mahoney (1988), who defines it as a "family of theories that share the assertion that human knowledge and experience entail the (pro)active participation of the individual" (Mahoney 1988, p.2). Personal Construct is but one of that family of theories, and according to Mahoney it is a relatively recent addition to the family. Mahoney describes the developmental psychologist Jean Piaget as the most visible and influential constructivist of the twentieth century, but in the realms of personality theory and psychotherapy there is "little doubt that George A. Kelly was the pioneer constructivist. His relative obscurity in American psychology during his lifetime may never be fully understood, but it clear that he 'started something' that has yet to reach its historical zenith" (Mahoney 1988, p. 27).

The three basic features of constructivism, according to Mahoney are proactive cognition, morphogenic nuclear structure and self organising development.

The principle of proactive cognition asserts that human knowledge, experience and adaptation are characterised by proactive participation by the individual and/or collective. According to Mahoney we are literally co-creators of the "realities" to which we respond, and, our responses are anticipatory and proactive rather than reactive.

Morphogenic nuclear structure means that human systems are organised such that their central, core or nuclear processes dictate and constrain the forms expressed at peripheral or surface levels. In personal construct terms, core constructs dictate and constrain the forms of expression at the peripheral levels.

The principle of self organising development asserts that individual human systems organise themselves so as to protect and perpetuate their integrity, and develop via structural differentiations selected out of trial and error variations. Constructivist theories, according to Mahoney (1988) acknowledge that psychological realities are inherently private, even when shared collectively, and that the forum for psychological change lies in the domain of a set of dynamic processes known as "the self". Mahoney points out that it is no coincidence that Personal Construct Psychology is inherently personal.

Mahoney (1988) concludes that constructivism represents a major conceptual refinement in our thinking about human experience and its complex determining processes. Its contributions include a holistic integration of thought, feeling and action as well as transcending resolution of the longstanding dichotomies within ontology and epistemology. Mahoney asserts that although constructivism remains a minority view in cognitive science and is cited as a recent arrival, its origins are discernible in the 18th century writings of Vico, Kant and early 20th century theoreticians such as Vaihinger, Piaget and more latterly Kelly.

Adams-Webber (1979) devotes an entire chapter to new directions in Personal Construct Psychology. This discussion centres around new areas of application and research rather than around theoretical changes or advancements. "The new currents of application have extended the range of convenience of the theory and related measurement techniques far beyond its original province, that is personality and clinical psychology ; and occasionally outside the field of psychology itself as it has been traditionally defined" (Adams-Webber 1979, P. 181). Bannister and Fransella (1986) indicate that the range of convenience has extended into fields such as architecture, anthropology, religion, literature, commune life, map construction, body image, language, children's self concepts, delinquency and deviance, teaching techniques, methods of group psychotherapy, liking and disliking, depression, social skills, racial identity, economics, history, computerised learning, mental handicap, asphasia, and vocational guidance.

Chapter 3.

REPERTORY TEST TECHNIQUE

3.1 Introduction

As in the case of the theoretical side of Personal Construct Psychology, a number of publications have reviewed the method Kelly developed to investigate and measure personal constructs (for example, Bannister & Mair 1968, Slater 1976, 1977; Fransella & Bannister 1977, Smith and Stewart 1977; Easterby-Smith 1980; Stewart & Stewart 1981; Fransella 1981b; Eden & Jones 1984; Beail 1985; Bannister and Fransella 1986).

Stewart and Stewart (1981) report that Kelly was uncomfortable with the methods being developed by his colleagues in psychology, in that they did not adequately facilitate practitioners to get to know their clients, to classify them meaningfully, to understand their points of view nor to help clients understand themselves better. Kelly, along with a number of his contemporaries, was also concerned that normative studies did not allow for precision in the assessment and treatment of individuals, did not avoid observer bias on the part of the practitioner, and relied upon the practitioner as "expert" without acknowledging that people can take responsibility for their own development. Kelly sought a method to overcome the discomforts he felt, and in the process developed Repertory Grid as a technique for getting individuals to reveal their construct systems to him.

Smith (1980) describes Repertory Grid as a technique for producing cognitive maps which consist of two main components : firstly elements which are the objects of thought, and secondly, constructs which are the qualities used to describe elements. Repertory grids are described by Smith (1980) as merely a way of obtaining an individual's elements and constructs in order that a cognitive map may be produced. Furthermore, Repertory Grid constitutes a method in its own right, and there is no obligation to accept Kelly's theory in order to make use of the method. Bell (1988) states that there is no generally accepted definition of what a Repertory Grid is and hence offers to define it as "a set of representations of the relationship between the set of things a person construes (the elements) and the set of ways that person construes them (the constructs)" (Bell 1988, p.102).

The term "Repertory Grid" came into being since the technique involved the mathematical interplay of elements and constructs in such a way that the data obtained lent themselves to a matrix configuration and analysis. The term "repertory" was adopted because the technique revealed the person's psychological repertory; the word has the same root as the term "repertoire". It is the person's repertoire of ways of viewing the world, or a particular context of the world, or as Harrison and Sarre (1971) state, it is an individual's repertory of feelings about a particular context of elements.

When first introduced the technique was known as the Role Repertory Test whereby a subject named a number of acquaintances who fulfilled roles such as "a happy person" or "a person I admire". These roles became the elements and constructs were elicited on the basis of these. In its original form the process ended there, having revealed some insight into the subjects' construals of their interpersonal environments. When extended into a matrix configuration, in addition to the construct elicitation, the subject considered every element in relation to every construct and placed a tick in the appropriate cell of the grid if the person (element) could be described by the emergent pole of the construct in question. Later the bipolar constructs were considered as rating scales and it became more common for the elements to be either rated or ranked in terms of the construct scales.

Since Kelly's original Role Repertory Test, other sorts of elements have been used such that there is no fixed form or content of grid technique, the procedure not only being adaptable but also commanding adaptation to the problem at hand (Harrison and Sarre 1971, Bannister and Fransella 1986). Indeed Landfield & Epting (1987) indicate that while traditional Rep. Test may be the most fitting measure of personal constructs, it may require modification. Just as personal constructs have their differing ranges of applicability, methods also have their most appropriate uses in time and space.

The above, is a very brief introduction to Repertory Grid. Smith and Stewart (1977) indicate that the key features of grid technique exist under the headings of Eliciting Elements, Eliciting Constructs, Completing or Scoring the Grid, Analysis and Interpretation. Below, the technique is described in a little more detail under these four headings followed by some comments on reliability and validity.

3.2. Eliciting Elements

The usual point of entry with the Repertory Grid Technique involves the elements. Kelly warns that the elements should all come from the same sub-field of construing, otherwise meaning will vary from element to element. While Kelly originally used roles as elements there is no reason why actions, tasks, photographs, or objects cannot be used, provided they all relate to the same context and do not represent a mixture of contexts (for example, if people's views about houses are of interest, then use houses as elements, and not a mixture of, say, houses and faces).

Elements are typically obtained in one of three ways : provided by the subject as appropriate to the context of interest, elicited from the subject to fit a number of role or type definitions, or supplied by the investigator as interested in a particular subject matter. Smith (1980) warns that care be taken to ensure that the domain of the elements is relevant to the objectives

of the exercise and to ensure that participants can both understand them and have views and opinions about them.

3.3. Eliciting Constructs

Typical construct elicitation follows what has become known as the triad method. This involves presenting subjects with sets of three elements at a time and asking them to distinguish between them by describing a way in which two of them are similar, but on the same dimension different from the third. The resulting response is viewed as a bipolar construct that may be used as the basis for a scale that describes the extent of that attribute (Harrison and Sarre 1971). Three elements are used at a time since this is deemed to be the minimum required to derive a similarity-difference polarity. The triads to be considered may be selected at random or arranged to test for discrimination between particular elements. While the triad method is typical the process can be streamlined by using a dyad method, (see Ryle and Lunghi 1970, and also Stringer 1974a, 1974b and 1976, who found the use of Repertory Grid and related procedures very time consuming depending on the relative interest and fluency of the respondent).

The bipolar distinction that is derived is considered as a verbal description of the way in which the respondent cognitively organises his or her environment. Presentation of successive triads, or dyads, of elements elicits a range of such personal constructs, each, according to Harrison and Sarre (1971), having relevance to the respondent's behaviour in relation to the elements. Construct elicitation can continue until the subject can produce no more, until available time runs out, until all possible triads or dyads have been tried or, until elicitation of a sufficient number as determined by the investigator. With regard to the latter of these 10x10, 12x12 or nxn grids are commonly used, where the number of constructs elicited is equal to the number of elements under consideration.

Smith (1980) discusses lack of definition in the objectives of investigators and warns that this often leads to large and unwieldy grids. If there are too many elements or constructs then completion of the grid or "interview" is a

major undertaking and Smith (1980) points out that with large undefined grids there is a risk of alienating the respondent such that rapport collapses and the quality of responses is subsequently poor. Interestingly, Chetwynd (1974) found that once seven constructs had been elicited, each additional construct made little difference to the element distribution, and Smith and Stewart (1977) describe this as a remarkable validation of Miller's (1956) magic number 7 ± 2 hypothesis.

Problems in construct elicitation include representativeness whereby it is impossible to be certain that sufficient of a subject's personal constructs have been revealed (Harrison & Sarre 1971, Gaines & Shaw 1981), and as alluded to above, the difficulty that some people have in producing constructs (possibly due to lack of fluency, Stringer 1974a). Another difficulty arises in that the elicited construct will be a verbal description or label for a psychological construct which may be conceptual in nature and which may not necessarily lend itself to verbal description. Some investigators have supplied constructs to subjects (for example, Bieri et al. 1966). Such action seems reversion back to the very normative methods Kelly sought to avoid, and while construct provision saves time, it destroys the particular sensitivity of the subject's ideas, a factor that Harrison & Sarre (1971) describe as one of the major features of the free form grid. Furthermore, the investigator needs to be wary of the suitability of elicited constructs. Constructs are likely to be unsuitable, for example, if they are impermeable (cannot admit new elements to their context), superficial, vague or simply an alternative way of expressing the element/role title (Hunt 1951, Chetwynd 1974).

3.4. Completing or Scoring the Grid

Having considered elements and elicited constructs, depending on the purpose of the study, the procedure could cease there. However the richness of the technique lies in part in the matrix format and ability of subjects to score each element in relation to each construct. Kelly originally only used the dichotomous responses whereby each element was ascribed to either one pole or the other. Harrison & Sarre (1971) point out that such a method neglects the degree to which an element can be ascribed to a construct attribute and the possibility that it cannot be identified clearly with either pole. More sophisticated rank ordering and category scaling methods have developed. A typical method therefore involves the placement of, say, a 5-point rating scale between the two poles of each dichotomous construct. Each element is then rated 1 to 5 for the extent to which it can be ascribed to one pole or the other. Landfield & Epting (1987) state that the broader the rating scale (they have used a 13-point scale) the greater the capacity to measure and analyse polarisation, which can be used as an index of meaningfulness (Adams-Webber 1979, Bonarius 1971, Landfield 1977). Stewart and Stewart (1981) on the other hand cite evidence to suggest that a 7-point scale comes close to most people's limits of discrimination and that scales larger than 5 points become difficult to examine visually. Landy (1985) advocates that a rating scale should consist of no less than 5 points and no more than 9 points. The result is a quantitative expression of the individual's construal of a particular context of elements.

3.5. Grid Analysis and Interpretation

Repertory grids contain a large amount of information in very flexible form and a whole range of matrix analytic tools can be used. Bell (1988) describes Rep. Test data as a deceptive set of information since its format is so compact. Bell offers a formula for assessing the amount of information contained in a grid, whereby, if we have n elements and m constructs, the amount of information is $[n+(m \times 2 \text{ poles})] + (n \times m)$. Thus in a 10x10 grid there are 130 pieces of information to be digested, and in a 15x15 grid, 170 pieces of information. Add to this the data collected from a small sample of just 10 people and there are 1300 and 1700 pieces of information to digest respectively.

Since there is such an enormous amount of data inherent in a grid, Bell (1988) states that it is no surprise that methods of summarising construct/element relationships have been developed, and these are the "cognitive maps" referred to above. These are usually of two kinds : spatial representations and tree representations. Spatial representations involve the plotting of constructs and/or elements within orthogonal space in order to show the closeness or similarities of elements and/or constructs. For instance, a clinician may be interested in how close together a client construes the elements "Actual self" and "Ideal self". Gaines and Shaw (1981) state that from this point of view, each construct becomes represented as a point in multidimensional space whose dimension is the number of elements involved. This space is often referred to in the literature as "construct space". Constructs that are zero distance apart are such that all elements are construed in the same way in relation to those constructs. We may infer therefore that they are being used in the same way and hence are in some way equivalent constructs. Tree representations, by contrast, attempt either to group constructs and/or elements into "families" according

to Bell (1988) or to depict constructs and/or elements for their superordinate-subordinate relationships within the hierarchical system or organisation.

Types of analysis range from the crude and simple, to more sophisticated dimension seeking techniques. As a clinical tool, analysis usually involves the consideration of individual data, while at an applied level Harrison & Sarre (1971) indicate that analysis is more likely to involve comparison of individual grids or derivation of some sort of "average" grid over specified groups. Because of the inherent uniqueness of individual grids, comparisons are likely to be structural. When comparing grids, increasing sophistication reflects increasing reliance on the validity of communality of meaning across individuals. Harrison and Sarre (1971) also contend that increasing sophistication often requires standardisation of elements, constructs or both, although the impoverishment of data produced from supplied elements or constructs has been alluded to above.

Stewart and Stewart (1981) recommend that before executing a grid interview, the practitioner should consider very carefully, the aims of the study, the resources available for analysis, ownership of the data, which form of grid to use, constraints of time relating to provision of feedback to subjects and, who is to be included in the interpretation of the data. Smith (1980) reiterates the importance of the practitioner taking time to define objectives and to pilot test the technique for its applicability to the objectives.

Landfield & Epting (1987) indicate that two main types of analysis or diagnosis are used : one related to CONTENT and the other related to STRUCTURE. Content analysis examines the elements and/or constructs

themselves while structural analysis examines the relationships between constructs and/or elements and the total organisation of the construct system. By far the most commonly reported analytic techniques are structural in nature.

Harrison & Sarre (1971) describe the simplest analysis as consideration of individual protocols. Here the particular constructs and elements elicited are of primary interest and this tends to be a clinical form of analysis. It is likely that consideration of individual protocols will involve some level of content analysis, described by Stewart & Stewart (1981) as the arrangement of elements and constructs into a series of categories. (Content analysis receives a more detailed discussion later in Chapter 8 of this dissertation). Closely related is the use of frequency counts of particular elements and constructs to ascertain common trends among people. Both frequency counts and content analysis are simple and uncomplicated in the use of statistics. Both are concerned with the frequency of specific semantic groupings and both tend to be used in the analysis of group data rather than individual data.

The most common structural comparison involves analysis for cognitive complexity. Smith and Stewart (1977) indicate that considerable research literature is available concerning cognitive complexity, which is most commonly associated with Bieri (1955, 1966). Bieri (1966) defined cognitive complexity as the capacity to construe social behaviour in a multidimensional way, and Bieri (1955) designated the degree of differentiation of the construct system as reflecting its cognitive complexity-simplicity. A construct system that differentiates highly is considered cognitively complex, while a system that provides poor differentiation is considered cognitively simple. Bieri & Blackler (1956) indicated that when considering cognitive complexity, we are essentially asking, in how many different ways can a person perceive a certain set of events.

Smith & Stewart (1977) report that different authors have used different indices of cognitive complexity, and that within various methods of analysis, several indices of cognitive complexity can be derived. Firstly, Bieri, Atkins, Briar, Leaman, Miller & Tripodi (1966) made paired comparisons of construct ratings on the same elements. In comparing any two construct rows a score of 1 was given for any identical ratings of any one element. As such, on a 10x10 grid, if two constructs are used in an identical fashion, then the maximum row score would be 10. Since a 10x10 grid provides for 45 row comparisons the maximum score is 450. The higher the score, the more cognitively simple the subject is deemed to be within the context in question, since higher scores indicate an inability to use the construct dimensions in a differentiated manner. Secondly, Smith and Stewart (1977) report that the percentage variance accounted for by the principal component of a principal component analysis can be used as an indicator, the greater the variance, the greater the cognitive simplicity. Thirdly, an alternative index favoured by Smith & Stewart, is the number of components with roots (eigenvalues) greater than two; an index which relates complexity to superordinacy.

In simple terms, cognitive complexity appears to refer to the number of independently useful construct dimensions elicited by a subject, or as put by Landfield & Epting (1988, p. 50) "an expression of units of independent construction". Landfield & Epting refer to measurement of polarisation in responding ; that is, the tendency to score at the polar extremes of the rating scale rather than towards the centre. They claim that polarisation can be used as an index of both meaningfulness and construct organisation, related to cognitive complexity and positioning of constructs within the hierarchical system, although Brook (1981) found only a weak relationship between response style (rating extremity) and cognitive complexity.

A rather crude, manual system of comparing grid rows and columns is referred to as visual focussing (Smith & Stewart 1977, Thomas & Harri-Augustein 1977, Stewart & Stewart 1981). The aim of this process is to rearrange the grid so that both similarly rated elements and similarly rated constructs are placed next to each other. Focussing involves producing a matrix of row and column "agreement" scores, and then visually examining for high and low scores. The grid data is then sorted so that like data is placed near other like data. The cycle needs repeating several times, the result tending to be the formation of some sort of construct families, or element families.

At a higher level of sophistication, construct families are derived by using grid data as correlation material for cluster analysis and factor analysis.

Cluster analysis is a method of grouping together constructs that are close to one another in construct space (Gaines & Shaw, 1981). Cluster analysis searches the raw data for the two highest correlating sets of data (say, the two highest correlating construct rows). These two sets are then "married", in effect averaged, to form a single new set of data. The grid is then re-examined including the new data set, but excluding the two original data sets that formed the "marriage", again searching for the next two highest correlating data sets. Again the two identified data sets are "married", and the process is repeated until all data has been incorporated into a single data set. The information so gained is generally displayed as a "tree" diagram, or dendrogram, visually showing the associated constructs or elements in relation to a correlation matrix. Stewart & Stewart (1981) describe the basis for cluster analysis as concern with inspection for close similarities between elements and/or constructs, and separation of these into families. Smith & Stewart (1977) state that some researchers advocate that cluster analysis ought to be the principal technique for the analysis of grids.

We use factor analysis, according to Gorsuch (1983) to reduce large and often confusing domains of variables to smaller and more comprehensible domains. Gorsuch states that the usual aim of factor analysis is to summarise the interrelationships among variables in a concise but accurate manner as an aid in conceptualisation. This is achieved by including the maximum amount of original information into as few derived variables or factors as possible while still keeping the solution understandable. Kerlinger (1979) therefore described factor analysis as a method for determining the number and nature of the variables that underlie larger numbers of variables or measures.

Parsimony in describing data, according to Gorsuch (1983), leads factor analysts to recognise that any relationship is limited to a particular area of applicability. Areas qualitatively different (that is where relatively little generalisation can be made) are referred to as "separate factors", so that each factor represents an area of generalisation that is qualitatively distinct from that represented by any other factor. Factor analysts seek to express the amount of generalisability found between each variable and the explicit factor. The further a factor loading is from zero, the more one can generalise from that factor to the variable. Factor analysis is therefore a statistical procedure that provides both qualitative and quantitative distinctions.

Gorsuch (1983) describes implicit factoring procedure as the grouping of variables together from an examination of appropriate procedures. These procedures include correlation coefficients, covariances, measures of distance or any other measure of degree of association that summarises empirical relationships. Hierarchical clustering schemes also fall into this general category. Gorsuch notes that variables are associated, and it is the concept underlying that association that constitutes the factor, and not the variables themselves.

Principal factor analysis (also known as Principal Axis analysis) is a factor analytic procedure described by Gorsuch (1983) as generally used in the extraction of factors from a correlation matrix. The primary characteristic of Principal Factor analysis is that each factor accounts for the maximum possible amount of the variance of the variables being factored. The principal factor will be that combination of all variables that produces the highest squared correlation between variables and the factor ; squared correlations being a measure of the variance accounted for. The second factor is then extracted such that it is uncorrelated to the first. The second factor maximises the amount of variance extracted from the residual matrix after the first factor has been removed. Each succeeding factor or component is extracted in like manner, and the factor analysis solution is often expressed in terms of eigenvalues (also known as Latent Roots or Characteristic Values; Ryan, Joiner & Ryan 1985).

Gaines & Shaw (1981) indicate that in personal construct analysis, factor analysis is used to identify equivalence in responding on various construct dimensions, the assumption being that perfect equivalence points to some equivalence in meaning and use of those constructs. The main form of factoring in grid analysis is known as Principal Components analysis. According to Gorsuch (1983) Principal Components analysis is a particular form of Principal Factor analysis. The full procedure accounts for as many factors as there are variables, but many of the smaller factors are generally trivial and don't replicate. The smaller factors are generally dropped, the result being a truncated component solution. In this respect many principal components computer packages default at the extraction of the first three components. Principal Components analysis calculates the correlation between all possible pairs and then seeks to determine the number of independent dimensions needed to describe all relationships within the matrix. Rather than extract all independent dimensions an investigator may alternatively seek to examine a specified number of principal components. The result enables the plotting of elements and/or constructs on orthogonal scales (presumably 3-dimensional in form if more than 2 principal components are extracted).

Gaines & Shaw (1981) state that for constructs that are not equivalent, we may examine the entire construct space to determine a set of axes onto which the constructs or elements may be plotted. This is done such that the projection of each construct or element onto the first or principal axis accounts for most of the distance (or variance) between them. The projection of a subsequent axis accounts for most of the remaining distance and so on. And that, according to Gaines & Shaw (1981) is the process of Principal Components Analysis.

The interpretation of the resulting cognitive map or construct space, involves examination of the relative positions of various elements and/or constructs in order, for instance, to describe the closeness or distance in meaning assigned elements or constructs. If so desired the extracted orthogonal scales can be assigned labels which may be referred to as the "principal components". Stewart & Stewart (1981) suggest that the labels may equate to the elements or constructs most closely associated with each axis.

Smith and Stewart (1977) indicate that multidimensional scaling (MDS) is a relevant means for analysis of grid data (see Canter, Brown and Richardson 1976). O'Hare (1980) provides an introduction to MDS, and describes it as a means to provide a relatively simple form of analysis for investigating the perception and organisation of complex stimuli. All MDS techniques represent the relationships between stimuli in terms of a geometrical model of distance or similarity scores. O'Hare (1980) indicates that MDS is frequently used in tandem with clustering techniques of analysis, and states that the technique tends to be used in an exploratory or hypothesis-generating fashion in areas where there is doubt as to the number of attributes of a stimulus that are relevant for judgemental tasks.

3.6. Reliability and Validity

Smith & Stewart (1977) state that from a methodological viewpoint and given the vast range of repertory grid techniques, together with the wide range of applications, it is doubtful if the concepts of reliability and validity apply to the ideographic uses of grid technique. Indeed, according to Landfield & Epting (1987), when Kelly introduced the Rep. Test he called into question "that cardinal virtue of the psychological test, its reliability or stability over time" (Landfield & Epting, 1987, p. 91).

Bannister & Fransella (1986) report Kelly as referring to reliability as "a measure of the extent to which a test is sensitive to change", and Landfield & Epting (1987) cite Kelly as stating that the reliability coefficient of a test may well point to its degree of insensitivity to change. Kelly then substituted the term "stability" with "consistency" and referred to short-term and long-term stability as well as consistency within contexts of situation and dimension. Mair (1964a & 1964b) suggested replacing the traditional concept of reliability (that a reliable measure is expected to yield near identical scores for the same subject on different occasions) with the notion of predicting whether or not there should be change, and that we should seek to understand change rather than view it as an interference upon reliability.

Both Bannister & Fransella (1986) and Smith & Stewart (1977) write of the difficulty in referring to the reliability of grid technique; the former authors going as far as to say it is "nonsense" to do so. Smith & Stewart (1977) report Slater's argument that the reliability and significance of a grid cannot be investigated by traditional means because the theory from which psychometric methods for measuring reliability and significance are derived, assume that samples can be drawn at random from an objectively defined population; an assumption that can be satisfied by the nomothetic data of test scores, but which cannot be satisfied by the ideographic data of the grid. Slater further argues that to assess the significance of a grid one should assess the null hypothesis; in other words the probability that the grid data would obtain by chance alone. To this end Slater generated

specifications for grids of particular sizes, such that, for example, a 10x10 grid whose first principle component accounts for at least 55% of the variance is almost certainly not random.

It is concluded by Bannister & Fransella (1986) that it seems sensible to consider "reliability" as an area of inquiry into the way in which people maintain or alter their construal. They advocate estimating the value of the grid not by reliability, but by its capacity for effective enquiry into the problem at hand. Despite the level of argument to the contrary, some authors are reported by Smith & Stewart (1977) to have attempted to assess reliability of the grid by conventional methods such as test-retest (Epting, 1972). It has been suggested however that completion of a grid is therapeutic of itself and that this factor alone influences the way in which subjects respond on re-administered grids, hence producing something of an unreliable indication of reliability !

Landfield & Epting (1988) point out that test inconsistency seen in the context of a single response does not necessarily point to the method's uselessness or invalidity. For example a person who experiences a good day may express a view of hopefulness, only to reverse this the next day in the face of an intervening failure, to a view of hopelessness. The constructivist investigator should seek the primary consistency at the level of whole dimensions of personal meaning rather than at the level of the positioning or response on a particular dimension at a particular moment in time. For example, at one point in time, a doctoral candidate may have experienced hopefulness and confidence about his/her Ph.D., and on other days may have experienced a sense of hopelessness and uncertainty. In spite of this vacillation in feeling and behaving, the individual has consistently applied the dimensions of hope and certainty. Although the individual has varied his/her allocations of hope and certainty, (slot change), those allocations have consistently involved the questions of hope and certainty.

Smith & Stewart (1977) state that validity of the grid is also complex to assess. Bannister & Fransella (1986) state that since the technique is not a test and does not have specific content, its validity can only be referred to in the sense that we can question its capacity to reveal patterns and relationships in certain types of data. The grid does not measure traits or characteristics and hence, for instance, there is no way of testing the grid for concurrent validity. While Kelly equated validity with usefulness and increased understanding, Bannister & Fransella do not rule out the viability of more traditional styles of validity study and cite their own study which enabled fairly accurate prediction of subjects' voting practice in a general election - predictive validity, (Fransella & Bannister 1967). A number of case studies (Salmon 1963, Fransella & Adams 1967, Rowe 1971) suggest that construct relations are meaningfully linked to what is known about the subject and that certain predictable patterns pertain. Bannister & Fransella point out that the fundamental postulate contains the term "anticipate" because it carries implications beyond mere prediction. We seek to understand so as to involve ourselves with our world and to act upon it. Therefore Bannister & Fransella conclude that validity should be seen as referring to the way in which a mode of understanding enables us to take effective action. Some constructivist theorists distinguish "validity" and "viability", stating that the key issue, especially in the applied setting is "pragmatic utility rather than bedrock validity" (Mahoney 1988, p.5).

3.7. Why use Repertory Test

Boose (1988) describes the application of Repertory Test based instruments to the problem of extracting knowledge from experts in order to produce information bases. Boose states that such instruments are useful for interviewing information sources directly, and helping them to refine, expand, analyse and test their problem solving knowledge. Repertory Test-based tools work best when applied to analysis problems, or those parts of synthesis problems that can be reduced to analysis problems. Analysis problems, according to Boose, are those whose solutions can be enumerated and include classification, interpretation and diagnosis problems. Synthesis problems are those built up from components and include configuration, design and planning problems.

Eight uses of Repertory Test tools outside of clinical psychology, are listed by Boose (1988). They can be used :

- By individuals as decision aids for one-off decisions (for example, "Which car shall I buy?").
- To develop and deliver information or knowledge (for example, "How to diagnose an electrical fault").
- As a group decision aid (for example, Senior Management Strategic Planning Decisions).
- To establish large scale information or knowledge data bases for users (for example, Stock Market advice).
- For feasibility study and project exploration (for example, "Which project idea is technically feasible ?", "Given a project idea, what knowledge do we require to put together a specification ?").
- As an expert system building tool
- As a teaching aid (for example, "How can we take an expert's knowledge and structure it into an academic course ?").
- For situation insight.

Boose (1988) lists numerous successful applications of Repertory Test based methodology, outside of traditional clinical uses. In addition to business applications reported by Smith & Stewart (1977), Smith (1980) Easterby-Smith (1980) and Stewart & Stewart (1981), Boose lists 181 uses in generating knowledge or information based systems. These include applications such as producing : an automatic Flight Control diagnostic aid, a house plant selection guide, a house selection aid, a golf swing diagnosis and correction tool, a word-processing manual and a wine tasting adviser. Boose lists another 29 applications of analytic hierarchy procedures including : development of a transport network in the Sudan, strategic planning for electric power use, estimating impact of future sales, promotion and tenure decisions and job, career selection.

"Use of Repertory grids can offer many advantages : Rapid prototyping and feasibility analysis; vocabulary, solution and trait elicitation; interactive testing and refinement in knowledge acquisition; implications discovery; conflict point identification and generation of expert enthusiasm" (Boose, 1988, p. 305). Such tools are also claimed to improve the quality of knowledge and information and to improve their maintenance and comprehensibility. Boose continues that Repertory Test-centred tools may be used in many contexts and are beneficial in a variety of applied fields. Their capabilities make them powerful decision aids.

Repertory Test methods provide a new way of viewing people and things, according to Landfield & Epting (1987), from which novel interpretations and practical applications can often be derived. Repertory Test can almost be construed as a structured brainstorm, whereby as much relevant context specific information as possible is extracted from the individual. Furthermore, this is not just information about the context, but information about how the person thinks about, feels about and acts towards that context. When the outcome of Repertory Test and associated techniques display the complete structure of superordinate constructs, through to subordinate actions and concrete objects, the technique goes some way towards addressing the problem in psychology of linking inferred covert psychological constructs with overt behaviour. Rather than inferring the presence of psychological constructs from overt behaviour, Landfield and Epting (1987) claim that we can infer, or anticipate an individual's behaviour through firstly knowing what psychological constructs they apply.

Chapter 4.

HINKLE (1965) : RESTATEMENT OF PERSONAL CONSTRUCT PSYCHOLOGY.

4.1. Hinkle's Theoretical Elaboration of Personal Construct Psychology

4.1.1. INTRODUCTION

Ten years after Kelly (1955) described his conception of Personal Constructs, the first major elaboration and definition of some aspects of that theory was attempted by Hinkle (1965) in the course of doing his Ph.D. Hinkle's subsequent dissertation describing a theory of Construct Implication and Change has not been published, and hence comprehensive knowledge of the work must either come directly from a copy of the dissertation itself, or from reviews by other authors (for example, Bannister & Mair 1968).

Hinkle stated that his theory of construct implication arose firstly in response to an attempt to conceptualise the visual representation of construct subsystems. He visualised them as three dimensional "genealogical tables" or pyramidal networks of linked constructs (see Figure 4.2). Secondly, he considered the extent and nature of the way constructs were linked to one

another. Thirdly, he dealt with the question of construct definition. Responding to the question "what defines a construct?" represented the essential point of departure of Hinkle's work from Kelly's.

Differential implications of the two poles of a construct can run up the construct system (be superordinate) or down it (be subordinate). Kelly originally defined superordinate as a construct which includes another, as one of the elements in its context. Subordinate was defined as a construct which was included as an element in the context of another. As operational definitions of the terms, Hinkle saw a superordinate implication as one that was likely to be the product of the question "Why?" and that a subordinate implication was likely to be elicited by questions such as "how do you know that?" or "what is your evidence for that?". For example, in relationship to a construct like "warm vs. cool", a person may declare that she wishes to be a warm person. When asked "Why ?", she may respond that warm people are popular and she too wishes to be popular. In this context "popular" is considered to be a superordinate aspect of "warmth". When asked "How ?" she could become a warm person, she may state : "by ensuring I smile alot", in which case "smiling" is considered a subordinate aspect of "warmth".

Hinkle stated that the definition (clarification) of a construct requires a statement of both the subordinate and superordinate implications of each of its poles. "Such a definition--in context--is called the range of implication of that construct. It is the sum of the subordinate and superordinate ranges of implication. The total number of implications in the range of implication of a construct could be used as a measure of the meaningfulness of that construct" (Hinkle 1965, p.17). Hinkle devoted considerable attention to discussion of subordinate versus superordinate, and in so doing emphasised a prime difference between construct theory and earlier work on concept formation : namely, concept formation treated all concepts as "equals" in adjacent categories, whereas construct theory stresses the hierarchical nature of construct networks.

From this argument Hinkle drew conclusions that superordinate constructs carry a greater number of implications than subordinate constructs. In a sense the system tapers upwards towards a smaller set of increasingly abstract superordinate constructs, through the question "Why?" It "fans out" or spreads downwards into more concrete possibilities for action through the question "How?". To say that a superordinate construct has more implications than a subordinate one, is similar to saying the General Manager has a greater impact on a greater number of people within an organisation, than does a more subordinate First-line Supervisor.

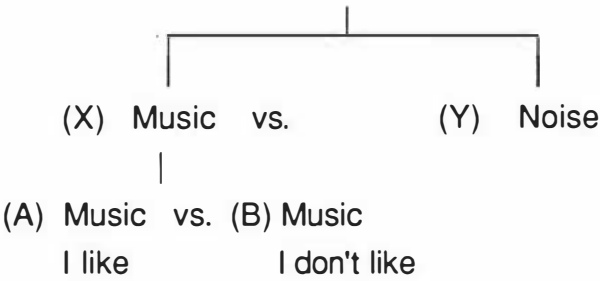
Hinkle assigned the term "Laddering" to the procedure for moving up the system with "Why" questions and down the system with "How" questions. It follows that the laddering process, becomes a manifest hierarchical chain specific to the context under scrutiny.

Hinkle dealt in some detail with the various forms of implication that hold between two constructs. This draws attention to the complexity of construct interrelationships. He named four commonly observed implicative combinations. Using the constructs A-B & X-Y these combinations are:

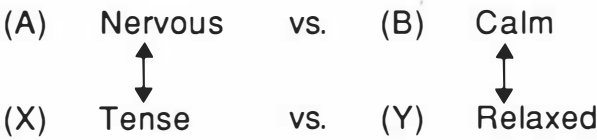
(a) PARALLEL: A implies X and B implies Y. These could also be termed "aligned" constructs. For example :



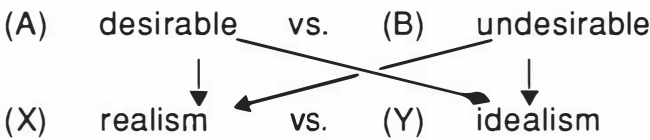
(b) ORTHOGONAL: A implies X but does not imply Y. Also, A and B both imply X but neither imply Y. This could also be termed a pyramid hierarchy, for example :



(c) RECIPROCAL: A implies X and B implies Y, also X implies A and Y implies B. This relationship suggests a functional equivalence of construct labels. It is a specific form of "aligned" construct and the relationship between the constructs is very close to that which Gaines & Shaw (1981) have referred to as "entailment".



(d) AMBIGUOUS: A & B imply X, and B implies Y. Also A implies X & Y, and B implies X & Y.
An example from one of Hinkle's subjects:



For this subject, there were both desirable and undesirable aspects in realism and idealism.

4.1.2. THE QUESTION OF CONTEXT

Constructs with wide ranges of convenience may be used in a number of different contexts, and the interrelations between them may not be identical from one context to another. This raises the question of the sense in which we think of constructs as being "the same" from one context to another, and highlights the need to keep in mind the distinction between the construct's LABEL and the ACTUAL CONSTRUCT ITSELF. Hinkle tentatively suggests that the TRANSCONTEXTUAL IDENTITY of a construct should perhaps be defined as "the points of identical subordinate and superordinate implications." Hinkle argues thus: (see Figure 4.1) If, in **context X**, A & B imply "honesty" and in turn "honesty" implies 1 & 2, while in **context Y**, B & C imply "honesty", and "honesty" implies 2 & 3, THEN: THE TRANSCONTEXTUAL IDENTITY of "honesty" consists of **B & 2** .

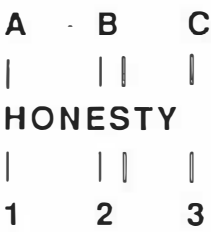


Figure 4.1. Depiction of Transcontextual Identity of "Honesty" as B and 2.

For example : A might mean "Avoid trouble with authorities", B might mean "Be fair to others" and C might mean "Be a good role model for others". 1 may mean "Do not steal", 2 may mean "Be truthful" and 3 may mean "Do not cheat". If Context X involves working as a Bank Teller, then "avoiding trouble with authorities" and "being fair to others" may imply "honesty" which in turn may imply "Do not steal" and "Be truthful". If Context Y, on the other hand, is a game of Tennis, then "being fair to others" and "providing a good role model" may imply "honesty", which in turn may imply "Be truthful about close line calls" and "Do not cheat". The transcontextual identity of honesty, in this case, consists of being fair to others and being truthful.

Consider also the following three contexts of the construct "WARM vs. COLD".

- 1 : Social context, as in "friendly vs. hostile"
- 2 : Physical context, as in "High temperature vs. low temperature"
- 3 : Interior decorating context, as in "red-orange vs. blue-green" range of the colour spectrum.

In all three of these contexts, at a superordinate level, warmth may be related to PSYCHOLOGICAL COMFORT (WELLBEING), (physical warmth, friendliness, feeling at home), while implications at the subordinate level may include PROPERTIES OF FLAME & FIRE, whether that be open fire or the sun itself (glowing red/orange fire, sunny day, and smiling "sunny" faces). The transcontextual identity of "warmth" therefore may consist of relationships to PSYCHOLOGICAL COMFORT AND THE PROPERTIES OF FLAME.

Hinkle therefore stressed that a construct must be defined in terms of its subordinate and superordinate implications.

4.1.3 CONSTRUCT CHANGE.

Hinkle chose to study CHANGE as a prime aspect of construing and sought to answer the following question : " What determines the relative resistance to change of different personal constructs?" He began with Kelly's distinction between SHIFT CHANGE and SLOT CHANGE .

SHIFT CHANGE is movement from using one construct dimension to using a completely different dimension in a given context. For example, a bank auditor looking through one person's work may quickly begin viewing it in terms of the construct CAREFUL-CARELESS, but after a little more scrutiny may find it more appropriate to shift to a different dimension altogether : DISHONEST-HONEST.

SLOT CHANGE occurs when use is made of the alternative pole of a construct dimension rather than calling on an alternative dimension. The

auditor may initially see the work as HONEST, but may change to view it as DISHONEST ; that is, may slide his/her assessment from one pole towards the other.

Hinkle concentrated on studying SLOT CHANGE. He measured this as willingness of subjects to make a slot change on one construct rather than on another construct. He construed the choice corollary as implying that a person seeks to use his/her dichotomous constructs in such a way as to achieve a greater number of implications for his/her system; a person will resist movement in the direction of reduced implications (threat) or relative absence of implications (anxiety). Hinkle suggested then, that slot movement would be more likely to occur when constructs had approximately equal implications for each pole and for which each set of implications was estimated to be equally compatible with the rest of the construct system. Put another way, there would be a greater likelihood of slot change, when each of the two poles of a construct offered the same opportunities for elaboration. There would be resistance to slot change when there were markedly more implications for one pole than the other (that is, where one pole offers a greater opportunity for elaboration than the other pole), or where acceptance of one of the sets of polar implications would involve widespread incompatibility of inference in relation to other parts of the system. In other words, where change on one construct means change on many others and hence means the upheaval or a major restructuring of the construct system, resistance to change can be expected. On the other hand when change means only a minor fine-tuning on one or a few constructs, resistance can be expected to be lower.

Consider the following scenario of a dual career couple. Person A, the female, wished to change from "WORKING MOTHER" to "NON-WORKING MOTHER". This could be seen to have arisen because the implications at the "WORKING MOTHER" pole had narrowed and decreased to become approximately equal in number and effect with "NON-WORKING MOTHER". Person A could vacillate between the two ideas without too much discomfort. Her spouse, (Person B), was resistant to her proposed change. For A to shift to the "NON-WORKING" situation, (that is, non-salaried, lower ability to cover mortgage), decreased the implications for B and would have seriously affected the lifestyle which he was comfortable in, and would have lead to minimal elaboration for him. The greater implications at the A

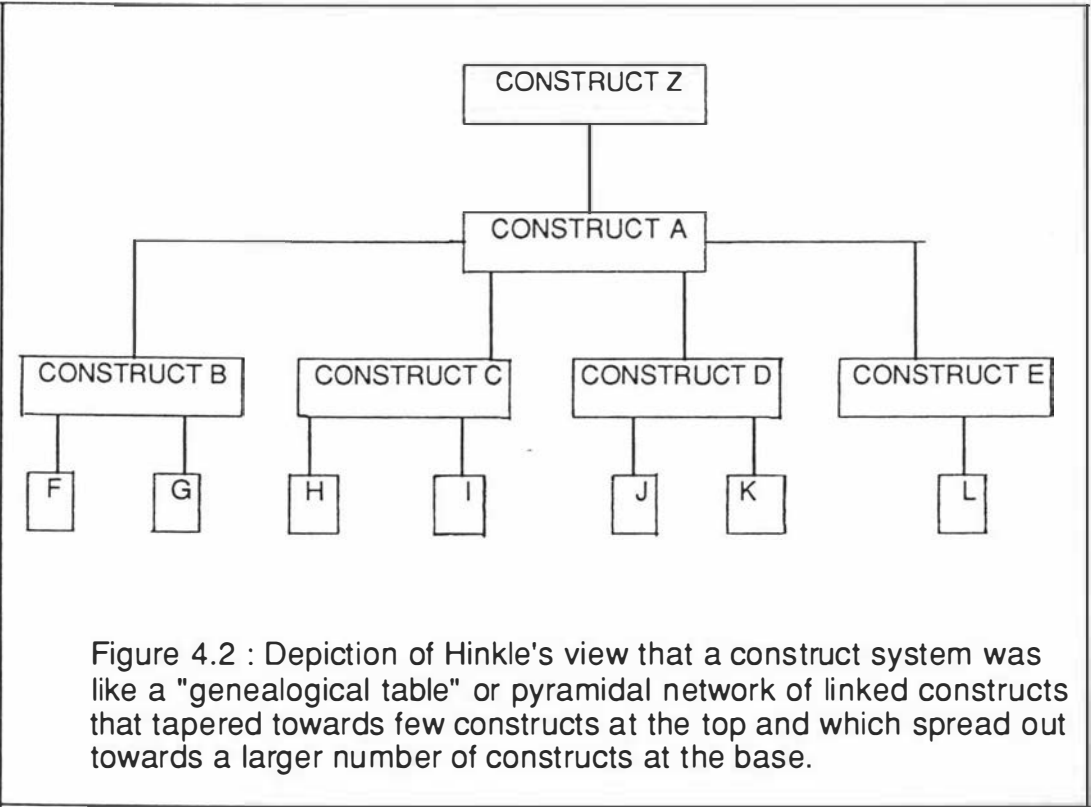
is a "WORKING MOTHER" pole were not only financial, commodity, lifestyle factors but also reflected some of B's more basic tenets related to concepts such as, (a) having a "girls can do anything" role model for their daughter, (b) he viewed his wife as an intelligent independently thinking person, (c) he feared that his image would be tarnished in that he could no longer be overtly seen as a liberal, progressive, relatively non-sexist husband who saw his wife as an important person, as opposed to being seen as a conservative sexist male who sees his wife as a convenience and object, and (d) to some extent it effected his image of himself as an intelligent, independently thinking person who stands apart from the run-of-the-mill person and A's change would overtly have reduced him to being run-of-the-mill. He was resistant to change, since that change also required change on many other constructs.

From the organisation corollary, however, Hinkle argued that the higher in the hierarchy the construct, the greater the range of implicative links to other constructs. From this he reasoned, constructs higher in the hierarchy would be more resistant to change, because any change at that level would also require a larger number of related changes on linked constructs and greater risk of developing inferential incompatibility within the system. To change on a highly superordinate construct would mean major overhaul of the construct system (a source of threat), while change on a subordinate construct would mean relatively minor fine adjustment to only a few constructs in the system.

Hinkle therefore hypothesised that a construct system would be akin to that depicted in figure 4.2, with the exception that he viewed it as 3-dimensional. The structure tapers towards the top and spreads out towards the base, giving superordinate constructs an accumulation of direct and indirect subordinate relationships. A change on the construct at the apex of the system would have impact on virtually every construct below it.

In summary then, Hinkle discussed the nature of superordinacy and its role in defining constructs. He emphasised that a construct must be defined in terms of both its superordinate and subordinate implications. He suggested that a construct's transcontextual identity comprised the points of identical superordinate and subordinate implications in different contexts. Hinkle also discussed the nature of a person's change or shift in construal,

particularly as it related to the willingness or resistance to change on one construct compared to others. A person would be resistant to change on a construct that also had a large number of implications for change on other constructs.



4.2 Hinkle's Research.

4.2.1 METHOD OF STUDY.

Hinkle's subjects were 28 first or second year undergraduate psychology students, participating in the study as part of their course requirements. There were 17 females and 11 males, with a mean age of 20 years.

Subjects experienced relatively normal triad elicitation of constructs on a simple 10 X 10 role repertory grid in order to elicit 10 "subordinate" constructs. Each subject's own name was always one of the elements in each triad. The remaining elements comprised the names of 9 people who currently played an important role in the subject's life, and whom the subject knew well.

Laddering, which is a very simple procedure, then took place to elicit 10 "superordinate" constructs. This procedure involved the subject in choosing that pole on each construct that described the kind of person that he/she would prefer to be like. For example, on the construct "warm vs. cool" the subject might indicate that he/she would prefer to be a warm person. In this case preferred self constructs were sought, not necessarily actual self constructs. This was followed by movement upwards in superordinacy by answering the question "why?": "Why did you choose this pole and not the other one ?", "Why would you prefer to be warm rather than cool ?"

Hinkle laddered upwards by repeatedly asking "why" questions, either until the subject could no longer give further dimensions or until he/she had provided ten superordinate responses or dimensions.

Hinkle then carried out RESISTANCE-TO-CHANGE procedure. Here the ten originally elicited "subordinate" constructs were listed. Added to these were ten "superordinate" constructs elicited through laddering. The twenty constructs were then presented to subjects two at a time in such a way that each construct was paired with every other one. Subjects were asked, if they were required to change from the preferred to unpreferred pole on one of the paired constructs, but allowed to remain as is on the other one, then on which of the two would they prefer to remain unchanged. Each construct was scored for the number of times it had resisted change during the pairing sequences. Constructs were then rank ordered for frequency of resisted change.

The final procedure was the IMPLICATION GRID or IMPGRID. Most authors simply say, that here, each construct was compared with each other construct to see which implied which others. This does not describe the full power of the procedure. Hinkle in fact took each construct in turn, for example, CONSTRUCT 1, and said to subjects, imagine "...if you were to be changed back and forth from one side of the construct to the other - that is, if you woke up one morning and realised that you were best described by one side of the construct, while the day before you had been best described by the other side... what other constructs of these...remaining ones would be likely to be changed by a change in yourself on this one construct alone? ...Remember, a change on just this one construct is the cause, while the changes on these other constructs are the effects implied by the changes from one side to the other of this construct alone." (Hinkle 1965, p.37).

This meant that each construct was paired TWICE with each other construct, once as a CAUSE - or independent variable - related to every other construct, and once as an EFFECT - or dependant variable - when each other construct was considered as a cause. Grids were scored in terms of total number of required changes for each construct and these were rank ordered for frequency.

4.2.2. RESULTS AND DISCUSSION

Laddering Technique was a measure of superordinacy, Resistance-to-change grid was a measure of a subject's relative resistance to slot change on elicited constructs, and Implications Grid measured the number of implications that each construct held. Hinkle hypothesised that : (1) Constructs with more implications would also have greater resistance to change (that is, there would be a correlation between Impgrid responding and Resistance-to-change grid responding); (2) Constructs deemed superordinate as a result of laddering would have a larger number of implications than subordinate constructs (that is, there would be an expected relationship between Laddered responding and Impgrid responding expressed as a frequency) ; (3) Superordinate constructs would have greater resistance to change than subordinate constructs (that is, Resistance-to-change grid responding would be different for ladder derived constructs compared to Rep. Test derived constructs).

Firstly, the results indicated that relative resistance to slot change, or the "threat effect" of slot change, on constructs with a large number of implications was substantial and highly significant (Spearman's $\rho = +0.59$, $t=3.708$, $p<.0005$, one-tailed, $df=26$). Secondly, the results demonstrated that superordinate laddered constructs had almost 18 percent more superordinate implications ($\chi^2 = 618.34$, $df=27$, $p<.001$) and nearly 19 percent more subordinate constructs ($\chi^2 = 1012.65$, $df=27$, $p<.001$) than did subordinate constructs. Lastly, Hinkle's subjects demonstrated a significantly greater rank order for resistance to slot change on superordinate constructs (mean resistance rank = 7.86) compared to subordinate constructs (mean resistance rank = 13.14), ($t=10.369$, $p<.0005$, one-tailed, $df=27$).

Hinkle claimed therefore, that a few of the formal characteristics of the theory of construct implications were demonstrated by his results, along with the viability of the methods in relation to the problems. More

importantly however, the methods also provided a vast pool of information regarding specific construct linkages ; information which can be studied in terms of its "meaningful context." At the broader theoretical level, Hinkle claimed that the results provided support for the Choice and Organisation corollaries of personal construct psychology. Hierarchically arranged construct systems were elicited by Laddering, and their nature indicated movement towards that pole of a construct that held more implications for subjects.

Hinkle stated that it was redundant to say that a dissertation about implications has implications for further research, but such was the case. In fact he stated that one of the heartening aspects of the results was that they posed a myriad of questions. Hinkle's entire "Discussion" section of his dissertation is simply comprised of a list of 27 future research ideas. Detail of these is not appropriate at this point, and indeed his list of 27 questions for future study seemed a rather soft conclusion to the study.

4.2.3. SOME CONTRASTS BETWEEN HINKLE'S AND KELLY'S APPROACHES.

Hinkle's implications approach was developed primarily as a way of assessing construct relationships as indicated by subjects themselves, whereas with the Rep Grid these relationships are inferred by the investigator from similarities in element allotments for 2 or more dimensions. In this way the basic difference between Hinkle and Kelly grids lies in Hinkle's requirement for subjects to work at a superordinate level, while Kelly required only identification of more subordinate constructs from which superordinate relationships may later be identified by statistical analysis. Bannister and Mair (1968) point out that by using "subject's preferences", Hinkle used only one of many possible approaches to gaining insight into superordinate constructs and conclude that further investigation of other approaches could be of considerable clinical interest (see Bannister and Mair, 1968, p. 94).

Both Kelly and Hinkle were concerned to provide methods for estimating linkages between the construct dimensions used by an individual. They differ in that Kelly approached the problem indirectly, while Hinkle asked his subjects directly. It seems that neither approach supplants the other, but rather supplements it.

According to Bannister and Mair (1968), Kelly's method may uncover possible construct links of which the subject him or herself is unaware, while in Hinkle's situation only relationships construed by the subject can appear. Bannister and Mair indicate however that there is the possibility of inferred links when say a subject states that construct 1 implies 2, 2 implies 6, and 6 implies 10. This establishes a potential inarticulated link between 1 and 10. Speculatively we may redefine concepts such as "the unconscious" or "non-verbal constructs" in terms of second-order interrelationships that affect construing but which are not articulated by the subject; they carry implicative weight but are not part of the person's self awareness. Hinkle's system may be preferable where an understanding is sought of what the individual thinks of his or her own system, and may partially avoid an inherent danger in the Rep. Grid method, of inferring relationships between constructs where no functional links exist for the subject him or herself.

4.3 Superordination - Subordination and "Implications Procedures" : Direct extensions of Hinkle.

From the review on previous pages, it is apparent that "Superordination - Subordination" emerges as an important topic. The following section comprises a review of literature where issues relating to Superordination - Subordination have been discussed and/or elaborated from Hinkle's original work.

4.3.1. THEORETICAL DISCUSSIONS AND EXTENSIONS.

Landfield and Epting (1987) refer to a group of methods in Personal Construct enquiry that share a common intent to provide an understanding of how constructs line up in superordinate-subordinate hierarchies. Landfield & Epting refer to these as "implications procedures". The hallmark implications procedure appears to be Laddering, which Boose (1988) described as a strategy for helping people to build and refine hierarchies which allow for the dissipation of complex problems into pieces of convenient sized and similar levels of abstraction.

It is noted by Landfield & Epting (1987) that this ordinal aspect of system organisation has never been fully appreciated by psychologists. Hinkle (1965) dealt substantially with the question of construct superordinacy and Fransella (1972) operationally defined superordination as a construct which had been "laddered" from another one ; an operational definition that was claimed to have experimental support from Hinkle.

One elaboration of Hinkle's work comes from Little (1983) who relied heavily upon a Personal Construct approach and who made use of modified grid methodology. Little used Personal Projects, rather than roles, as the units of analysis or elements. Personal projects are those things that

"we think about, plan for, carry out and sometimes (though not always) complete" (Little, 1983, p.303).

Little also borrowed from Hinkle in the use of laddering involving "Why?" and "How?" questions. The term "VALUE LADDERING" was assigned by Little (1983) to the procedure of asking "Why are you engaged in this project?" ; a procedure which was used to examine the extent to which people's projects are closely linked with superordinate values, goals and motives to which they are committed. He assigned the term "ACT LADDERING" to the procedure of asking "How will you be carrying out this project over the next few weeks?" ; a procedure which was used to examine issues relating to behavioural load and the extent to which individuals phrase their projects at the level of molecular acts (for example, "putting out the cat") as opposed to the level of molar phenomenon (for example, "transforming Western thought").

Little (1983) construed Personal Projects as middle level units within a conceptual hierarchy of subordinate acts and superordinate values as principal concerns. His use of "VALUE LADDERING" to refer to movement up the hierarchy as achieved by "Why?" questions and "ACT LADDERING" to refer to movement down the ladder by "How?" questions seems useful, and hence these two directions of laddering will be referred to as such from this point onwards.

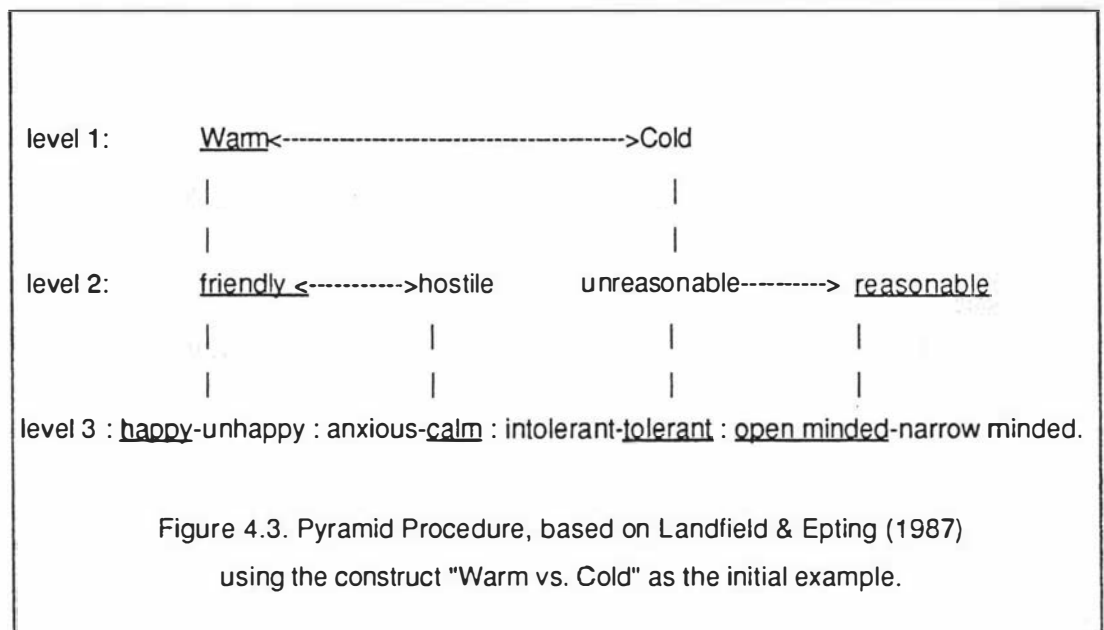
Landfield & Epting (1987) have made extensive elaboration of Hinkle's methodology and have developed a number of their own implications procedures. These two practitioners express some reluctance about the use of full-blooded Repertory Grid method, and it is interesting to note these authors' pervasive use of the term "Rep. Test" rather than "Rep. Grid." Landfield & Epting suggest that the practitioner use an abbreviated Rep. Test that goes no further than the construct elicitation stage, since certain construct methods such as Hinkle's (1965) Laddering technique, and their own Implications Assessments, Social Decision Technology, Pyramid Procedure and FVB (Feelings, Value & Behaviour) Analysis, require only constructs.

FVB Analysis, used to construe social contexts, is a close relative of laddering technique. Here a pole of a construct is presented to an individual who is then asked what a person characterised by that pole would value. For example, if the construct was "warm vs. cold", the practitioner would ask "What does a warm person value?" The response may be : "Friendship." Next, the practitioner asks how a person who values that response, may feel ; for example, "How does a person who values friendship feel?" The client may respond : "Comfortable." Thirdly, the practitioner asks how a person who values the former response, would behave ; for example, "How does a person who values friendship, behave ?" The client's response may be : "In an extraverted way, willing to approach people, smiling and at ease." We identify therefore, in this client, an alignment of the concepts warmth, friendship, comfort and behavioural reflections of these as extraversion, approachfulness, smiling and psychological ease.

While FVB Analysis elaborates from a construct, it only hints at levels of superordinacy. Taking a lead from Act and Value Laddering the level of the behavioural response could be construed as subordinate, and the level of the value analysis response construed as superordinate.

Social Decision Technology (Landfield & Epting, 1987) is modelled on Hinkle's (1965) Resistance to Change procedure. Decision making is the central theme of enquiry as opposed to Hinkle's central theme being resistance-willingness to change. Also, rather than responding to one pole of a construct in preference to the other, the client considers the entire dimension and is required to make paired comparison judgements as to which dimension is more important in decision making procedures as they relate to a particular context. For example, using the constructs "Warmth" (Warm vs. Cold) and "Intelligence" (Intelligent vs. unintelligent) as the paired comparison, the practitioner may ask which of the two dimensions is more important for making commercial decisions in business. The subject may respond : "Intelligence". The procedure closely follows Resistance to Change Grid procedure and also uses the same premises and assumptions to infer superordinacy.

Landfield & Epting (1987) also describe a construct elicitation procedure, the very title of which suggests an enquiry into the hierarchical organisation of constructs : Pyramid Procedure. This procedure exploits the notions of similarity and difference in eliciting constructs from previously derived constructs. Again, we will use "Warm vs. Cold" as a sample initial construct derived from Role Repertory Test. The client is firstly asked a similarity question about one pole of the construct : "What sort of person is warm?". The client may respond : "A friendly person". The client is then asked a difference question based on that response : "What sort of person is not friendly?". The client's response may be : "A hostile person". Attention would then be turned to the other pole of the initial construct, in this case "Cold", and the procedure repeated. The client may respond that a "Cold person is unreasonable," and the converse of this is "A person who is reasonable". Landfield and Epting claim that in this fashion a second level of associated constructs have been elicited : "Friendly vs. Hostile" and "Unreasonable vs. Reasonable". The process is repeated using both of these second level constructs ; that is, with each of the four polar responses. This elicits a third level of associated constructs. A likely depiction of this structure, based on the "Warm vs. Cold" example, above, is produced in Fig.4.3.



Pyramid Procedure to this stage elaborates on the initial construct, produces synonyms or near equivalents and identifies construct content relationships. It does not however make explicit the levels of superordinacy. It is in effect a clinical interview technique designed to enrich the information gained from the client, but we do not know which is the more superordinate ; "Warm" or "Friendly".

To provide some information about superordinacy - subordinacy, Landfield & Epting (1987) suggest a further optional procedure that can be appended to Pyramid Procedure. The additional procedure is similar to Act Laddering in that the client is asked "How?" and "When?" style questions in relation to their level 2 and 3 responses. The client is asked either a few or all of the following questions : "How would you know that a person is characterised by this pole?", "How would you know if a person was not characterised by this pole?", "When would a person be characterised by this pole?", "When would a person not be characterised by this pole?", "What would a person say, do, think or feel if (if not) characterised by this pole?"

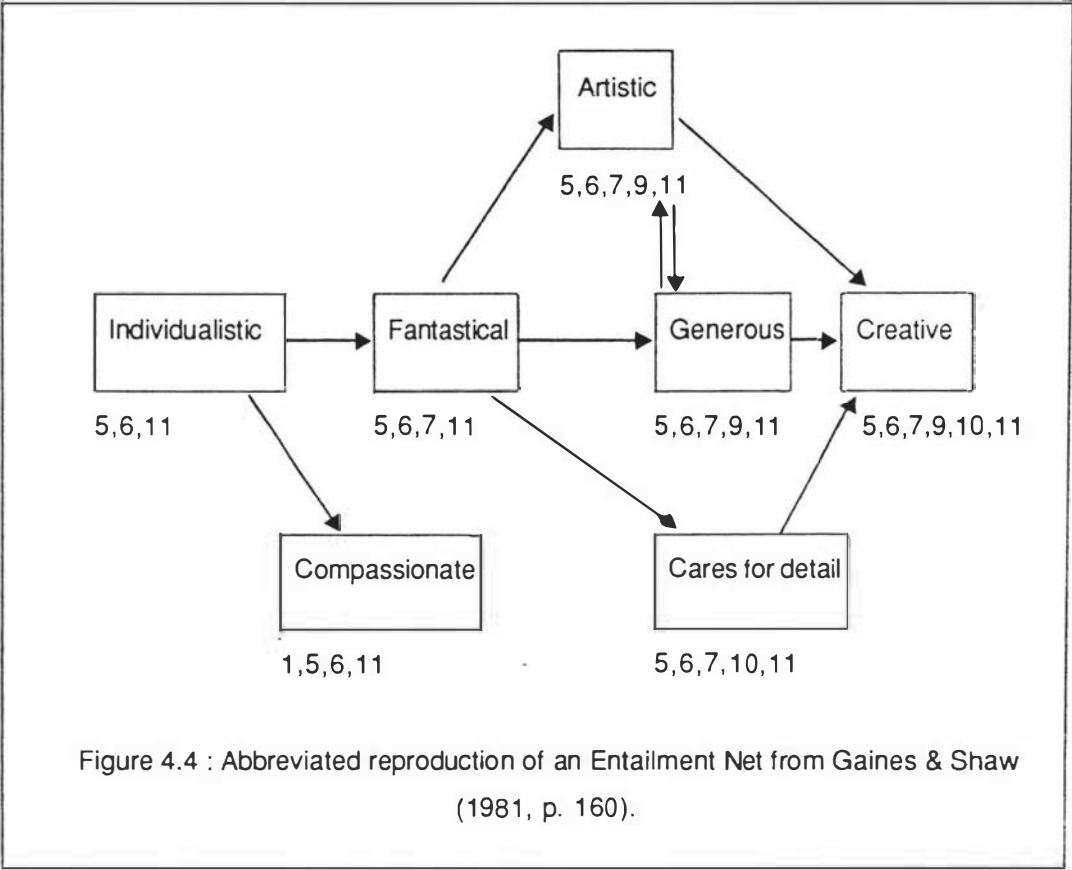
Following from the example in Figure 4.3, above, the client may respond that he might recognise a friendly person if they were smiling, and recognise a unfriendly person if they avoided eye contact. A person may be friendly on occasions when they are presented with no threat, and may be unfriendly when someone invades their territory in some way, or when they are ill at ease with the world in general. A friendly person may say encouraging things, approach people, think all people are basically good, and feel comfortable. An unfriendly person might say insulting things, may use aggressive mannerisms, think the world is against them and feel anxious. From this example, we can see that some level of subordinate behavioural and situational componentry has been elicited.

A type of implications procedure developed by Gaines & Shaw (1981) is known as Entailment. Entailments are derived from implications, but are logical implications that are true for all elements currently under consideration. As such entailments perform as do sufficient conditions.

Gaines & Shaw cite the relationship between the constructs "runs vs. does not run" and "energetic vs. passive". It is a true proposition that a person who runs must also be energetic, hence the "runs" pole of the former construct entails the "energetic" pole of the latter. But, the converse does not necessarily apply : it does not necessarily entail that an energetic person will also run, (he or she may dance, cycle or build houses). Gaines & Shaw state that it is simple to derive the entailment structure between poles of constructs since we need only check the truth of the four possible implications for all elements used in the clients Rep. Test. If all elements rated on the grid as runners are also rated as energetic then running entails energetic. Only if this is reciprocated in all cases will energetic entail running. For example there may be some cases on the client's grid where people rated as energetic were not also rated as being runners.

Gaines and Shaw (1981, p. 160) provide a case study of a client who rated five acquaintances #5, 6, 7, 9 & 11 as "Artistic" and rated six acquaintances #5, 6, 7, 9, 10 & 11 as "Creative". Since all five acquaintances who were rated as artistic were also rated as creative, for this client "Artistic" entails "Creative". Note that acquaintance #10 was not rated as both artistic and creative and therefore the converse does not apply : "Creative" does not entail "Artistic".

The product of the entailment procedure is an Entailment Net (a graphic network of constructs and their linkages) derived through analysing implicational links. An abbreviated Entailment Net for the case study cited above is reproduced in Figure 4.4. The text of the net represents construct poles and the numbers below the text represent the acquaintances of the client rated in accordance with that pole. The arrow indicates the direction of the entailment. Figure 4.4 indicates that for this client, "Individualistic" entailed "Fantastical" and "Compassionate". "Compassionate" in turn did not entail any other construct pole, while "Fantastical" entailed "Artistic", "Generous" and "Cares for detail". "Artistic" and "Generous" were applied to an identical set of acquaintances and hence entailed one another. Both these and "Cares for detail" entailed "Creative"



Gaines & Shaw (1981) claim that the directed entailment depiction is reminiscent of the type of structure obtained when considering superordination-subordination between constructs. Entailment appears to treat constructs at the same level and yet to derive a hierarchical structure amongst them. Gaines & Shaw infer that a construct is superordinate if the relationship is sufficient but not necessary. Hence, if it is true that a person who "runs" is also "energetic", but the converse is not true (that a person who is "energetic" does not also "run"), then "energetic " is deemed to be superordinate to "runs".

Miller & Wilson (1979) discussed, as part of a study of cognitive differentiation and integration, the question of construct representativeness as elicited through traditional triad Rep. Test method. They claimed that triad method does not control the level of abstractness of the constructs

produced. Those appearing on a first-time up Rep. Grid could be derived from any level of a person's hierarchical structure and hence vary in their degree of superordinacy. Considerations of conceptual differentiations by comparison of numbers of constructs between individuals may be ill founded since one subject may be using few, but highly abstract dimensions (which according to Miller & Wilson implies complex functioning) while another subject may be using a greater number of concrete dimensions (implying simple functioning). Miller and Wilson (1979) contend therefore that further information on the level of superordinacy of constructs is required and advocate that the techniques of Hinkle (1965) and Landfield (1971, 1987) (for example, Laddering and Implications Grid) should be used to establish hierarchical relationships before making assumptions about people's complexity-simplicity in functioning.

It appears to the current author that the question of construct representativeness as raised by Miller & Wilson (1979) is crucial when considering methods for determining superordination and subordination. Some of the methods described above rely entirely on the representativeness of the constructs elicited through Repertory Test (for example, Resistance to Change Grid, Implications Grid, Social Decision Technology, and Entailment). Others merely hint at or indicate rather shallow ranges of superordination while providing an enrichment of information from a client (for example, Pyramid Procedure and FVB Analysis). Laddering appears to be the exception in terms of providing both richness of representativeness, and depth of superordinacy.

In summary, Laddering technique uses traditional Rep. Test method to winkle out of the client, some of the dimensions on which he or she construes a particular context. These dimensions are assumed to be middle order constructs, although they may have relative superordinacy-subordinacy in relationship to one another. From these middle order constructs other more superordinate or subordinate constructs can be derived. Superordinate elicitation can be taken through fundamental values at the apex of the system, that express something of the client's "philosophy of life". Values tend to be fewer in number than the middle order constructs from which they were derived since ladders link into one another. The

resultant hierarchical structure or cognitive map is therefore rather like a "family tree" with relatively few "ancestors" at the top, and a greater number "descendants" at the bottom.

If our aim is to examine a client's most complete and enriched hierarchical construct system, as opposed to depicting the hierarchical structure of the Rep. Grid sample of constructs, then Laddering seems to stand out as the most effective means for doing so. It is the only direct method of eliciting superordinacy. In all other methods reviewed above, superordinacy is either only hinted at or assumed (inferred by the investigator). In comparison Laddering is both simpler and a more plausible method of establishing superordinacy, and appears to be the only reliable way of being certain that superordinacy has been elicited.

Therefore, throughout the remainder of this study, the operational definition of superordinacy will, like Fransella (1972), be a construct that has been Value Laddered from another and a subordinate construct will be one that has been Act Laddered from another one. Hence laddering is the chosen method for examining superordinacy throughout the works reported in following chapters.

4.3.2. RESEARCH AND APPLICATIONS

This section continues the discussion of Superordinacy-Subordinacy but emphasises the use of not only Repertory Test, but also Act and Value Laddering (Hinkle 1965, Little 1983) and the use of Personal Projects as units of analysis (Little 1983). The following represents a review of research and applications of Laddering Technique and Personal Projects.

An early application demonstrating the use of laddering procedure occurred in Fransella's (1972) clinical treatment methods which paid particular attention to the proposition that constructs are defined by their superordinate and subordinate implications. Fransella also discussed a difficulty encountered using Laddering with her sample, who were stutterers : identification of the opposite pole during elicitation of both superordinate and subordinate constructs. Fransella gave the case of a construct "strong personality vs. weak personality". Laddering up the "strong" side indicated for a client that "strong personality" implied "a person who is admired". When asked to give the opposite of this the response was "a person who is scorned". However, when ladderred up the "weak" side, a "weak personality" implied "a person who is ignored" rather than one who is scorned.

Fransella (1972) also indicated that her subject pool of stutterers were better able to ladder on the non-preferred side of the construct. She demonstrated that despite the proposition that one moves and hence prefers the direction with most implications, some of her client's preferred pole often led to fewer elicited responses than the non-preferred pole. They would often prefer to be "A", but were better able to respond in terms of "not A" because people who are "not A" are also many things that they would prefer themselves not to be. They had a greater knowledge of what it meant to be "not A", since they themselves were "not A". It is probable that their reason for entering counselling was because they wished to to be "A" rather than "not A".

This difficulty is probably not confined to stutterers as a subject pool. For instance, in a personal communication from Prof. G. Shouksmith to the current author, it was indicated that use of critical incidents technique in Personnel Psychology often showed that personnel found it easier to take the negative and express "what is not wanted" rather than "what is required". It is probable that the negative pole has more implications, especially at a behavioural level, than the positive pole.

In a later paper, Fransella (1980) reports on the application of Laddering Technique in a teaching and group process course on Personal Construct Psychology for Clinical Psychologists. Laddering was a major practical component of the group workshops which Fransella helped to facilitate. She reports course participants who summed up by saying they "didn't know what life was like until I discovered Hinkle" (Fransella, 1980, p. 203).

Pask, Kallikourdis & Scott (1975) discussed a research base for the development of a theory of learning and teaching. A procedure is described by Pask et al. which permits the construction of representations of the domains of tutorial conversations ; in other words a procedure which permits the identification of knowledge structures. This is accompanied by an account of the procedures used for structuring academic subject matters. In effect it is an interview procedure designed to extract the relationships between content domains of a subject matter and the the entire conceivable range of ways that the material could be taught.

Pask et al. (1975) suggest that the interview can be prefaced by the interviewer asking the subject-matter expert (or source) to list all the conceivable ways that the subject-matter could be taught. The interviewer's role is to translate the response into more precise expression which the source can then review, match and modify. The authors contend however that the interviewer needs to be pre-equipped with a probing interview method should the source develop a psychological mind "set", have an almost unconquerable inclination to state only one way of teaching the material, or should the conversation dry up completely because the source is either unwilling to impart the information or incapable of expressing what

he or she understands conceptually. If such blockages are resilient, Pask et al. suggest that the interviewer resort to Rep. Test technique. The previously stated or well known topics can be used as elements to elicit source concepts as constructs. It is often appropriate, according to Pask et al. to employ Hinkle's laddering technique or a comparable device (Bannister & Mair 1968, Landfield 1971, Landfield & Epting 1987) to extract subordinate and superordinate relationships as well.

Honikman (1973) applied Personal Construct Psychology to environmental evaluation and discussed possible applications of the approach and how it may be combined with other theories so as to expand understanding of how people interpret the environment. To Honikman it appeared that if it was possible to examine how people construed the environment, then it would be possible to see which physical characteristics were significant to the person and how that person's assessment of them contributed to his or her overall environmental evaluation.

Seventeen colour photographs of living rooms were used as elements by Honikman (1973). Constructs were elicited by traditional triad method and then construct Act laddering (Hinkle 1965) was used to identify subordinate constructs. In a later paper which reported the same study, Honikman (1976) acknowledged laddering as an important part of the study as it enabled the "physical characteristic constructs" to be elicited. In almost every case, as the constructs descended in ordinacy they became clearly identified with the physical characteristics of the environment under consideration.

Honikman considered the originally elicited construct to be superordinate and used these on a Rep. Grid where elements were scored on a 7-point rating scale. This was followed by Resistance to Change and Implications Grids (Hinkle 1965), the former to establish the status of subjects twenty elicited and ladderred constructs in his or her construct hierarchy. In other words this grid was used to confirm the level of ordinacy of the constructs, and to confirm the superordinacy of the initially elicited construct. The

implication grid was used to establish whether each construct implied any other and whether the implication was reciprocated or uni-directional.

The actual data obtained was less important to Honikman, than that the study demonstrated the viability of a particular theoretical and methodological approach (to some extent Hinkle, 1965, expressed the same thing). Honikman (1973) maintained that the procedure established the physical characteristics which were significant in the way the person construed the environment elements, and the various links between these and superordinate constructs could be traced through a cognitive map of the construct hierarchy. Honikman (1976) indicated that three links between constructs were considered : links by principal components loadings, links to elements by triad elicitation and links between constructs by laddering. This enabled the development of a meaning pattern to be traced from the physical characteristics, through increasing levels of ordinacy to the superordinate area of evaluation.

It is probably pertinent to note that the original notion at the outset of the current doctoral study involved the current author's assumption that Personal Construct and Laddering process had potential for the architectural profession to determine design relevant physical features that reflected superordinate constructs or values when designing built environments for particular clients or groups of building users. This line of enquiry was prompted by a relationship which the current author had established with the Government Architect for Design, who acknowledged his accountability to the public, as users of his buildings. He wished to discover "the internal mind maps" of building users and the design relevant features reflected in those "mind maps", so that he and his architectural team could more adequately design buildings of optimal acceptance to the building users. This line of study was discussed but was never pursued in depth.

Stewart & Stewart (1981) discuss laddering in relation to business, industrial and organisational applications of Personal Construct methodology. Stewart & Stewart's book is a practical guide directed more at the level of the lay person, the practicing Personnel or Human Resource Development Manager, rather than at the level of the professional consultant psychologist. Stewart & Stewart describe Laddering as a technique vital to determining the relative importance or salience of different types of constructs. The construct system can be viewed as "a series of interlocking ladders, getting smaller in number and stronger in influence/strength as one reaches the top" (Stewart & Stewart 1981, p.22). The practitioner is implored to expose as much of this system as is appropriate to the context in question. Laddering is suggested as the technique for gaining depth and perspective in an interview or practitioner-client interface, and enables movement from the general to the specific and vice versa.

In conclusion, it can be seen that use of Hinkle's laddering procedure either has not been extensive or, has not been widely reported in the literature. Because it is a simple and plausible procedure however, many constructivist practitioners and some researchers appear to have accepted it as a viable tool that results in valuable products. Probably because of this, there has been little literature on the subject since the early nineteen-eighties ; authors merely reporting that they used Laddering without devoting time and space to its justification.

4.3.3. EDEN'S ELABORATION OF HINKLE AND APPLICATION OF METHODOLOGY IN ORGANISATIONAL INTERVENTION.

One application has particular relevance to the current series of studies. Eden (1977) attempted an extension of constructivist theory and reports the applied use of Hinkle's procedures in an organisational intervention. The following review of Eden's work represented a major cornerstone in the direction of the present investigator's professional approach and hence had a major impact on the studies reported in subsequent chapters.

Eden (1977) studied the process of environmental planning for the future within a British Local Authority. The study represented an exploration of decision making and acts that influence the future. From this a model was developed which was derived from the sociological tradition of "defining situations" (see McHugh, 1968) and the cognitive psychology of Neisser (1976) and Kelly (1955). The project was in progress at the time of Eden's (1977) interim report which was aimed to stimulate discussion around a number of problem areas. Later papers (Eden 1978, 1980) report later developments in the same project : some of which were unanticipated developments which demanded a modified approach to the study.

According to Eden (1977) when a local body engages a consultant or model builder for environmental planning, three classes of model content are defined :

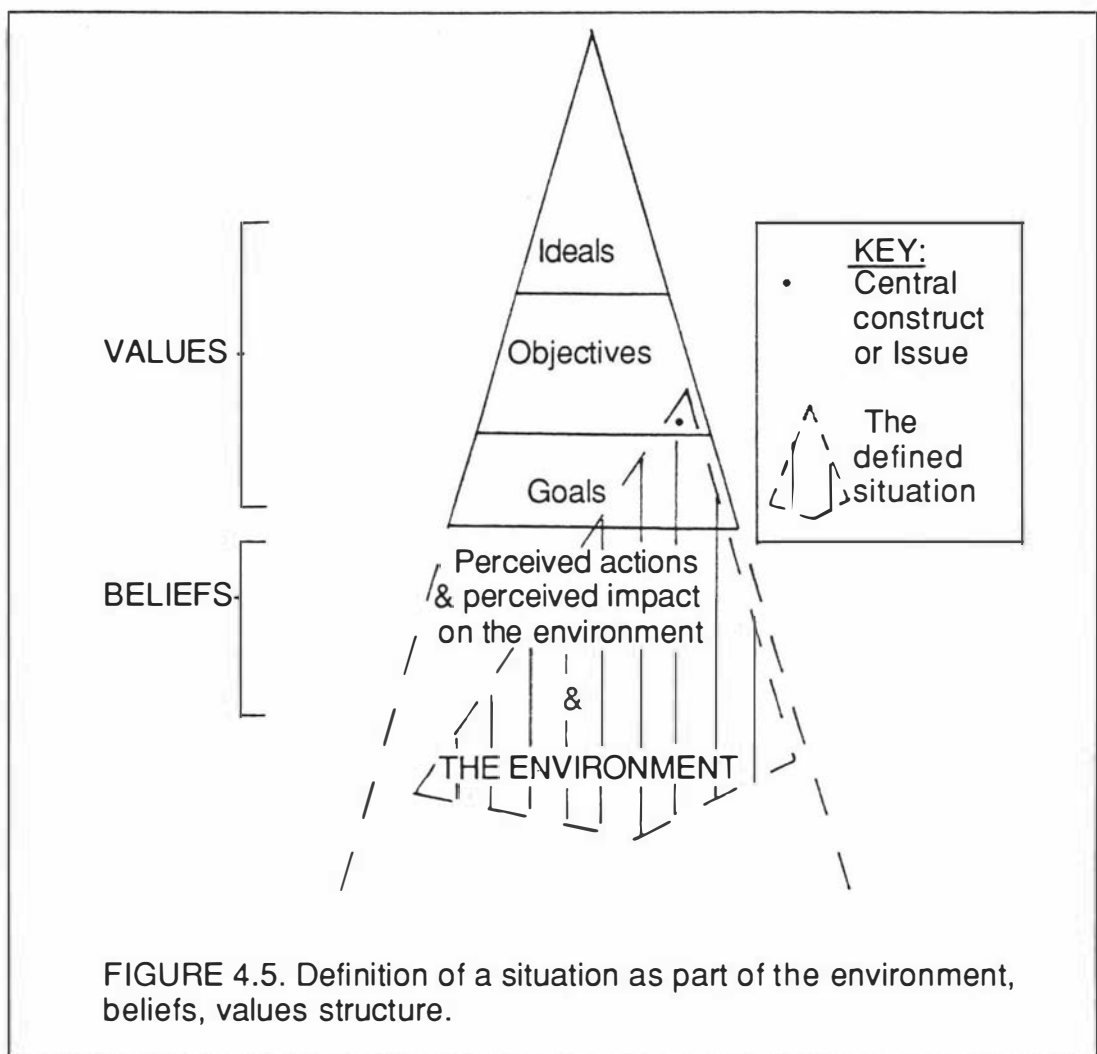
- (a) the state of the environment,
- (b) decision makers who can be influenced directly (namely, the client's own staff) and,
- (c) decision makers who cannot be influenced directly (namely, the elected council members).

It is necessary according to Eden (1977) to identify the decision makers and acknowledge the relationship between the environment itself, and the decision makers all of whom construe the world in their own unique manner. It becomes necessary to describe operationally how decision makers define their environments, how events in their environments are

interpreted and how this directs the decision maker towards the issue about which strategy and policy will be established.

Eden (1977) describes in Personal Construct terminology the way decision makers, in other words ordinary people, construe their world, emphasising the hierarchical and bipolar nature of construct systems. Values, norms, ideals, objectives, goals and roles are related concepts within this bipolar hierarchical scheme. Eden (1977) holds that we must predict our values before we can meaningfully predict our futures. Values, according to Eden are dichotomous, ordinaly related constructs which may be described as ideals, objectives and goals which are hierarchically related and reflect role. Lowest in the hierarchy which defines "values" are **goals** which have immediate intended outcome, next **objectives** which are long term intended outcomes and highest of all are **ideals** which are ultimate pursuits which may or may not be attained but which are deemed worthwhile pursuing all the same. Eden (1978) acknowledges that here, he has used a different operational definition of values than that found in most texts, and also his use of the terms "goals" and "objectives" are far from universal. In addition the content of a defined situation includes **beliefs** about the environment and alternative policies.

Policies are evaluated by exploring the perceived action possibilities and their expected impact on the environment. The decision making process is conceived such that the main **objective** creates an issue which is described by a framework of subordinate objectives and goals, and a cognitive map of the environment and alternative actions believed to effect it. Figure 4.5 depicts this hierarchical relationship of the environment, beliefs and values. A defined situation can be construed as a template that maps onto parts but not all of the structure and which has a Central Construct or issue at its apex.



Ideas underlying Repertory Grid method (Kelly 1955) and the revision by Hinkle (1965) were seen as the appropriate means for eliciting data about values and beliefs. Recent decisions by subjects were used as elements for identifying constructs that describe an outcome. These were then the basis for analysing the implications of one objective or goal for another and the identification of the hierarchical network of superordinate and subordinate constructs (ie. ideals, objectives and goals). Eden used Implications Grid technique. Data obtained in this way was used to formulate the conceptual models derived from decision makers, which identified the relationship between the central construct and :

- **events** likely to lead to an issue,
- **values** associated with achievement or failure of the objective,

- unrelated independent constructs, and
- the **constraints** on recognising the central construct as an issue or value.

Eden (1977) states that this method facilitates model construction, but does not account for the aggregation of decision makers' constructs and values. The method is useful for a group whose values are reflected in a dominant manager or politician, but does not account well for groups that consist of people who are distinct in their views but at the same time powerful decision makers.

Exploration of organisational decision making in this manner, involves the interaction of events (subordinate) generated by the environment model, and the way these are interpreted and perceived by decision makers. The environment model continually presents decision makers with a set of "portfolios" or repertoire of possibilities.

While Eden (1977) was concerned with operational research, Eden (1978) reports an unanticipated outcome of this research in that it led to an organisation development intervention. "Organisational development achieves its goals through planned interventions... intervening or moving into an existing organisation and helping it, in effect 'stop the music', examine the present ways of work, norms and values and look at alternative ways of working, or relating, or rewarding" (Beckhard, 1969., p.13).

According to Eden "stopping the music" frequently entails a job or task analysis to define the situation at a behavioural level of observable events and functions. It is the first step in virtually any form of organisational development and when adequately completed, will provide a model of the functioning of the organisation or group. This model stands on its own as a viable entity, but ignores the available resources such as the nature of the people who act upon the model. It can be counter productive to ignore the human variable and at best, fallacy to plan without considering it. The exercise of organisational development becomes one of understanding : (a) how the different groups and individuals who have impact on the organisation's functioning construe the situation and therefore, (b) which policies or planned events will meet with optimum approval and

acceptance among that group. The use of Repertory Test and Implications analysis was seen by Eden (1978) as an appropriate means of situation definition, or "job analysis", which can provide the raw material for planning meetings and discussions. The use of Personal Construct based methods provides more depth to the "job analysis" process, since it includes the human variable and not just the functional or operational variable.

Eden (1978) reports on the sequence of events that led to the organisational intervention and a description of the intervention itself. The initial piece of operational research involved development of a model representing the decision making of a group of local body staff. This involved fairly detailed analysis of subordinates and by necessity availability of this data to their manager. This had two ramifications : (a) the "public" scrutiny of data can be threatening to the individual and (b) both the individual and colleagues needed to be convinced of the validity of the model being developed. Interviews were therefore conducted in strict confidence and the prospect of declaration occurred only after the individual had fully agreed to disclosure. Each individual was therefore engaged in a feedback session to review the researcher's findings, test them against own experience, and challenge the researcher to defend the model. This was expected to involve negotiation between the two which was intended to lead to a sense of ownership of the model for the individual.

Eden (1978) reports that these sessions led to a high degree of agreement and staff members began to question the extent to which their job description differed from their role identified in analysis. Each individual also independently suggested a need for the organisation to change towards one that was clearer about its goals and how these goals related to specific people in the organisation. Interview with the departmental manager resulted in a clearer statement regarding the need for a group exploration of the complex values and norms associated with the organisation's function. Specifically the values and actions of some departmental staff seemed to be at variance with the department's reason for being. Eden could not avoid the responsibilities of applied and action research, and spent several weeks converting from an operations research role to an organisation development intervention role.

The intervention began therefore with an already detailed data-base about each participant. Eden reports however that his strategy was not dissimilar to the typical O.D. program except that the consultant would concentrate on how members define their situations, encourage them to consider the implications of such definitions and to generate alternatives. The data was then aggregated to encompass the important features of each individual analysis and represent a group definition of situations which would be a catalyst for exploring its implications for the department.

This approach had several significant consequences including : exposure of a fallacy that each group member shared the same goals, disaggregation of the model such that individual "ownership" of the model occurred and, consideration of the impact of job descriptions on decision making, to name a few. Eden reports that possibly the most significant outcome was that the original interactive model-building project took on new significance, and so as to understand the ramifications of values, norms, objectives, goals, and definition of situations, the need for a model became more necessary and relevant as an O.D. tool. In addition the O.D. exercise reinforced the operational research activity. It appears that a deliberate, planned O.D. intervention set within an operational research project can significantly affect levels of involvement, the extent of mutual understanding, the dysfunctional affect of differential cognitive styles and the likelihood that **HELP RATHER THAN SOLUTION**, will be recognised as the appropriate role of the consultant.

Eden (1980) describes his approach to policy analysis as other than traditional, mainly in that it attempts to help policy makers to more intelligently explore their own image of the future, from the stand point of their constructions of their world. The implications of this approach are :

- (a) policy makers are more interested in the outcome of the analysis because it relates to their own reality,
- (b) it encourages policy makers to see their own subjective understanding as legitimate and hence,
- (c) policy makers can reflect on this knowledge, learn from its implications and learn to enquire in a relevant way.

Eden (1980) puts some detail into his reasons for believing "definition of the situation" as being crucial to this approach, and why Personal Construct Psychology (Kelly, 1955) is the key. In representing organisational or occupational role settings however, Eden has chosen to see the construct system as being made up of two inter-related systems; one a system of beliefs, assertions and attitudes about actors and things, and the other a system of values describing the goal orientation of a person's constructs. Kelly (1955, p.19) is committed to a construct system being that which enables a person to make "more and more of the world predictable" and Eden (1980) sees policy decision-making schema as a construct system which represents a set of assumptions the policy maker uses to anticipate events.

Problems of content analysis and determining meaning were dealt with briefly in Eden (1980) and he described his own system of coding as similar to the content analysis approaches of the social sciences (see Krippendorff 1980, and Weber 1985 for detailed description of such methods). Eden developed his own method which he believed more adequately reflected the implications of personal construct systems. The method is one of coding cognitive maps - an explication of the content and structure of beliefs and values. Eden states that there is very little difference in coding the belief system and the value system maps except that he asserts the belief system links are causal while value system links are implications in the sense of Hinkle (1965). Eden (1980) defined the value system as a representation of a learned organisation of rules for making choices and resolving conflicts and an enduring belief that a specific mode of conduct or end state of existence is personally and socially preferable to alternative modes. The boundary between the two systems being the point where a belief represents a preferred end state which is potentially measurable.

Armstrong & Eden (1979) report a problem encountered in an intervention where a client expressed concern about inconsistencies and conflicting content of reports received from his staff who, he believed, had been addressing similar issues. Both the client and staff became interested in the extent to which the staff may have been attributing different meanings to the situations they experienced. Discussion with the client revealed the value in conducting an analysis of meanings, and also the opportunity to negotiate

intervention and the prospect of team involvement after elicitation and analysis of grid material. The paper is particularly useful for some procedural and methodological contributions to the use of Rep. Test and associated techniques in the applied setting.

A direct wish by the authors to take the opportunity to use Hinkle's (1965) Implications Grid as well as traditional Rep. Test was in part the reason for Armstrong & Eden's motivation to tackle this problem. Specific activities which were currently or had recently been engaging a respondent's attention were used as the units of analysis or elements, from which constructs were then elicited. It should be noted that this comes close to the Personal Project level of analysis used by Little (1983). The aim of this elicitation stage was to gain constructs that described officers' occupational goals and objectives. This was achieved by use of Hinkle's Laddering technique of "why" questions, to establish the purpose of the activities in question. This was carried out with a limited number of officers and the data so obtained were used as elements to elicit constructs from the remaining staff in the traditional Kellyian way.

Impgrid (Hinkle 1965) is a lengthy procedure. Armstrong and Eden (1979) report the difficulty in the applied setting of not interfering too much with the daily work program. They therefore adopted a procedure of visiting respondents on successive days for approximately ten minutes in order to explain the exercise, and to present and clarify instructions. The Impgrids were then completed by respondents using as much time as they found necessary without disturbing their work. In general it took two to three weeks for them to complete their Impgrid. Other procedural problems have lead Armstrong and Eden (1979) to adopt the method of presenting each line of the grid on a separate page of a booklet, so presenting the respondent with less detail at any one time ; a procedure also applied by Brook & Brook (1989). This seemed to substantially reduce the difficulties experienced by respondents regarding the mechanics of filling in the grid. Another modification involved the adoption of a method of splitting the Impgrid into two separate grids, each one representing the positive and negative poles of constructs. Use of this procedure is described in Jones, Eden & Sims (1979) and Eden, Jones & Sims (1979).

Another significant contribution of this paper relates to the use of Rep. Test and associated techniques in the applied setting, where Armstrong & Eden (1979) and Eden (1988) report that QUALITATIVE and GRAPHIC mapped data is apparently more meaningful to participants than quantitative data. The quantitative data was useful to the researcher or consultant, but was of little use to participants in an applied setting. Quantitative data indicated to the researchers where they should devote their intervention energies, but the participants themselves required the opportunity to exercise more qualitative judgements.

Chapter 5

THE PRESENT SERIES OF STUDIES : AN INTRODUCTION

The following chapter is intended as a link between the literature cited in the previous chapters and the series of reported studies that follow. It is appropriate therefore to commence this chapter with a brief historical/theoretical review to this point.

Hinkle (1965) restated or extended Kelly's (1955) Personal Construct Psychology. In particular Hinkle studied the notion of superordinacy and the implicative links from one level of superordinacy to another. Hinkle's developments have in turn been expanded by Eden and Associates (Eden 1977, Eden 1978, Armstrong & Eden 1979, Jones, Eden & Sims 1979, Eden, Jones & Sims 1979, Eden 1980, Eden 1988) and applied by them to practical problems. Additionally, there is an apparent relationship between Eden and associates' use of recent activities as elements and Little's (1983) use of personal projects. Ruehlman & Wolchik (1988) strengthen this link between the works of Eden and Little by reporting that Little and associates (Little, 1976, 1983; Palys & Little, 1983) have proposed models in which personal goal systems play a role in psychological functions.

Eden (1977) construed the hierarchical structure of construct systems (cognitive maps) as representing short-term, long-term and ultimate goals. The action research and studies reported below have pursued similar lines of inquiry and have used a theoretical and methodological orientation based on Kelly, Hinkle, Eden and Little to try to overcome that age old problem in psychology of making the linkages from the intangible to the tangible, from the abstract to the concrete, from the psychological to the environmental and behavioural, or if you like from the "black box" to the overt.

Three of Kelly's original corollaries have particular relevance to the studies reported below. Firstly the Commonality corollary which states that the extent to which a person employs a construction of experience which is

similar to that employed by another, his or her psychological processes are similar to those of the other person, (Kelly 1970, Adams-Webber 1979, Bannister & Fransella 1986). Secondly, the Sociality corollary which states that the extent to which a person construes the construction processes of another, he or she may play a role in a social process involving the other person. While the Individuality corollary and much of Personal Construct psychology emphasise the unique constructions of each individual, these two corollaries account for our similarities and in a sense acknowledge that we exist in cultures and communities of shared values, symbols and behaviours. The third corollary of importance is the Organisation corollary, which states that people characteristically evolve, for their convenience in anticipating events, a construction system embracing ordinal relationships between constructs. The importance of these three corollaries is also stressed by Eden (1988).

Consideration of these corollaries invoked a line of enquiry to discover the commonalities in a group of construct systems (that is, a collective of people), in order that the members of the group may more adequately and productively perform their role in the process of that group.

Four issues raised by Eden (1977, 1978) are central to the studies that follow : Defining situations; values clarification; role clarification; policies for action. Eden dealt in detail with the concept of defining situations. This concept has also been employed in a personal construct setting by Cochran (1978) who loosely equated defining a situation with construing a situation. Eden has been explicit in what he means by the term, and uses it to refer to a template that maps onto parts but not all of a construct system, and which reflects both values and roles. Eden contends that definition of the situation is the first step in the planning or design of virtually any development procedure. It is a diagnostic analysis, which if completed adequately will provide a model of the functioning of an individual or group.

Values according to Eden (1977) are that part of the model consisting of goals, objectives and ideals. These in turn are reflected in roles, which incorporate the interplay of perceptions, actions and the environment. Defining the situation involves the identification of context specific values along with identification of roles. Hence the procedure incorporates both values and role clarification. The end product of the exercise may be the

formulation of a policy for action whether in a formal manner (as used by Armstrong & Eden , 1979, and also as implied in some of the applications listed by Boose, 1988) or in an informal manner (as in the day to day process by which persons construe and anticipate their actions towards others; see Cochran 1981).

The studies reported below are all characterised as following this model. In all cases an initial attempt is made to define the situation; to make explicit the conditions of the present to use as a foundation upon which to move towards the future. The practitioners cited above advocate the usefulness of Repertory Test, Laddering techniques and visual depictions as cognitive maps for this purpose (see also, Eden 1988). In particular it is reasoned that Value Laddering is one of the most appropriate means for carrying out values clarification and when incorporated with Act Laddering becomes a powerful method of role clarification. In each case a policy for action has been produced to represent both the final product of the exercise and a specification or plan for future acting and responding.

In many respects when this line of enquiry involves the commonality of individually defined situations, it represents a method for describing a community. The purpose for doing so would involve production of a specification for design, or policy for action that not only provides a set of guidelines for that community to follow, but also provides guidelines that meet with optimum approval within the community.

Hillery (1955) reviewed 94 existing definitions of the the term "community" and concluded that beyond the recognition that people are involved in community, there was little agreement on the use of the term. This is not the time nor place to enter into detailed discussion on the concept of community; it is a domain of study in its own right, and for instance in an introductory level text Worsely (1971) devoted three dozen pages to the notion. Literature on "community" does however tend to distinguish two broad definitions or types of community. On the one hand locality and neighbourhood are viewed as essential elements of the definition (for example. see Keesing 1976). On the other hand, Rappaport (1977) refers to "community" as a social group; a subgroup within society which is perceived or which perceives itself as distinct in some respects from the larger society. Hence for instance, readers of this dissertation may consider

themselves as part of the "psychology community"; a group of people who are perceived as or who perceive themselves as distinct from larger society by virtue of their adherence to the principles and methods of the discipline "psychology".

Rappaport (1977) also makes reference to the concept of community as being similar to the concept of organisation as studied by organisational psychologists, and sees community organisers as having a similar role to organisational development consultants. Perlman and Gurin (1972) viewed community development as similar to organisational development, where participation and integration are strengthened so as to encourage cooperation between various groups and agencies. Walters (1972) noted that "community" was replacing the traditional bases of legitimacy in organisations. Instead of legitimacy as property rights, managerial prerogatives, subordinates as a source of superiors' authority, and production for its own sake, we began to see an acknowledgement of the organisation's accountability to the community; both the community within the organisation and the larger community of which the organisation was a part. This larger community may be of a variety of types : it may be the professional or commercial community (for example, "the banking community", "the retail community", "the manufacturing community"), or the local neighbourhood community with whom the organisation has a mutual interdependence for employment, labour and clientele.

This account of "community" by Rappaport (1977) directly reflects the use of the term in the context of the present study, and is reinforced by Porter (1985) who refers to examination of an organisation's components as types of communities. "Customers are a community of groups and individuals, the company or organisation is a community of teams, teams are communities of individuals and individuals are communities of selves" (Porter, 1985, p.2). He continues that a number of related notions that he wished to explore in industrial and organisational psychology had not been possible because of lack of a method for practical application; until he was introduced to construct theory. Construct theory and practice, through ladders, pyramids, repertory and resistance to change grids offered the opportunity to explore the multi-dimensional world of people at work, and according to Porter (1985) these techniques work.

Describing the community may be considered as equivalent to defining the situation. Projects for this purpose may be of two kinds. One kind may be aimed to describe a community so as to produce a policy for action that the members of that community themselves can pursue or be guided by, as might be the case in a Team Building project where the group members themselves comprise the community of interest. The aim of the other kind may be to describe a primary community group so that some secondary group of people (designers, planners, policy-makers) have a policy for action that may guide them in the performance of their role in relationship to that primary community.

The following reported studies are practical applications in the organisational setting rather than laboratory based studies. The current studies were intended to help clients as opposed to being designed specifically as theoretical explorations. Appropriately, in view of the fundamental postulate and experience corollary, the underlying theory is, instead, put to the test of experience in real world situations. The applied nature of the following studies becomes an important discussion point; a discussion point which was addressed by Eden (1980, 1988) and which is addressed in more detail in the final chapter of this dissertation. It is pertinent at this point to introduce Lewin's (1946, 1947) concept of Action Research and the distinction made by Argyris (1976) between mechanistic and organic research.

According to Gregory and Burroughs (1989), action research is the type of research in which researchers cooperate with organisations. A problem is devised and a solution is proposed. Data are collected and changes suggested by the research are implemented in the organisation. Evaluation of the effects of the changes made then suggests avenues of further research. Lewis (1979) describes action research as designed to study basic psychological processes while also taking social action. It combines theory and application.

An important way in which action research differs from traditional research, is that the researchers, practitioners and clients participate fully and collaboratively in all phases of the research. All the participants join in selecting research goals, in deciding what needs to be studied, and what

measurement procedures should be adopted. They often also share in the data collection and data interpretation.

Over time, action research proceeds in a cycle in which a series of three basic steps are repeated as desired. Step one, according to Lewis (1979) involves theoretical analysis and data collection. A tentative, but careful, diagnosis is made of the existing situation or problem. Objectives are examined and relevant baseline data is collected to support or disconfirm the initial diagnosis.

Step two sees initial action is taken, which may involve the introduction of training or development in order that participants are able to take the necessary proposed action or collect data effectively. Step three involves the proposed action itself.

Following this, the first step is repeated. The action process itself is observed and data collected to determine its effectiveness. The new data provide the basis for further planning for the next proposed action. These cycles of planning, action and data collection are repeated as often as necessary, and in each cycle the theoretical analysis and objectives may be modified.

With action research the investigator loses an element of control, but this is deemed acceptable, according to Lewis (1979) because it does not destroy the research. It takes account of the inherent modifications and fine tuning that is made mid-stream in on-going programs. In action research the requirements of sound research design become part of the objectives of all participants in the study.

In addressing a very similar concept, Argyris (1976) distinguished between mechanistic and organic research in intervention research programs. He advocated the organic approach as more congruent to interventionist research.

Mechanistic research is characterised by the interventionist taking a prominent role in defining program goals, maintaining the power of expertise and therefore maintaining psychological distance from clients and participants. Here, the interventionist controls the level of client

participation, and depends on the client's need for assistance or cooperation to be the basis for their involvement. The client is expected to be an information giver and client participation is described by Argyris as a shallow process designed to keep participants happy. The interventionist defines the costs and benefits of the change program, and feedback to subjects is designed to inform them of how much the researcher learned and how professionally competent he or she was.

Organic research, on the other hand, is characterised, according to Argyris (1979), by subjects participating in defining goals, confirming and disconfirming, and modifying these goals. The interventionist's position as expert is neutralised by acknowledgement that he or she is a stranger to the system, and by the provision of an invitation for participants to question and discuss the program. The client plays as large a role in determining client participation as the researcher and should feel just as responsible for the project as the researcher.

One of the original, embryonic notions at the outset of this research was to find a way of adequately describing that community known as "building users" so as to derive an architect's specification, or brief, of design relevant information. While the potential for this line of enquiry was high, it was never pursued. In terms of the Choice corollary, the current investigator moved towards that which was more meaningful to him, (held more implications for him), and hence issues related to organisational and personnel psychology took over the momentum of the study. For instance in personnel counselling the intention would be to help an individual describe (and in the process perhaps discover) him or her self in order to derive a policy for action for the next few years of life. In such a case we seek to describe a community of one and to produce a policy for action that amounts to an individual plan of action for the next few years of life. In an organisational intervention the method might aim to describe that community representing a dysfunctional company or department in order to derive a clearer understanding of each person's role and contribution, and also to derive a policy for action to encourage behaviours that would meet with optimum acceptability. The method may also be useful as a

managerial tool so as to describe the community comprising of all employees, or a specific group of managerial colleagues, or a specific department, in order to establish policies for action, or the departmental and individual accountabilities and objectives to pursue.

As stated above, in addition to the commonality and sociality corollaries, the pursuit of this line of enquiry also pertains very strongly to the Organisation corollary. Defining the situation to identify values and roles is inextricably bound up in describing the relationships of superordinate and subordinate constructs. The resultant depiction of the group or community is a cognitive map representing the hierarchical structure of superordinacy in constructs for the group as a whole. The policy for action amounts to a verbalisation of that depiction in the form of a statement of role that aligns with goals, objectives and ideals (see Eden 1977, 1978).

Finally, it has been acknowledged that the concept of role is but one unit of analysis appropriate as a source of elements for construct elicitation. There has been a recent trend to use situations and actions as a source of elements rather than roles. Armstrong & Eden (1979) used as elements, specific activities that their participants had recently been engaged in. Benesch & Page (1989) required subjects to use situations and contexts that consisted of three components : 1. a general activity, (for example, "Dancing....") ; 2. a social component reflecting the presence of others (for example, "....with friends....") ; 3. a location component (for example, "....at a bar"). Hence a typical situation may read as "Dancing with friends at a bar". Both of these units of analysis closely correspond to Little's (Little, 1983; Palys & Little, 1983) notions of personal projects as interrelated sequences of actions intended to achieve some personal goal. Indeed it is likely that "recent activities" (Armstrong & Eden, 1979) and "situations and contexts" (Benesch & Page, 1989) would frequently also be personal projects. The works reported below are also characterised for their use of Personal projects or their appropriate equivalent (for example, personal work related projects) as the source of element elicitation.

In summary, the following studies are practical applications of Personal Construct Psychology and its related methodology in the organisational setting ; indeed they are examples of organic, action research. In each case an attempt is made, in accordance with the commonality and organisation

corollaries, to describe the community in question by identifying the common values, objectives, goals, actions, environments and symbols of that community and depicting them in hierarchical relationship on a cognitive map. The aim from there, in accordance with the sociality corollary, is to use that information to produce a policy for action that designers, planners, policy makers and decision makers can use to guide them in their role on behalf of that community.

Chapter 6.

AN APPLICATION IN VOCATIONAL/REDUNDANCY COUNSELLING

6.1. Introduction

Vocational psychologists tend variously to advocate methods associated with their own particular theoretical orientation. In other words they tend to advocate practices that reflect their own construal of the subject matter. Holland (1973a, 1975) for instance construed the subject matter in terms of the relationship between interests and environmental preferences and advocated these as the components of vocational enquiry. Holland's theory is associated with at least three psychometric instruments : The Vocational Preference Inventory (Holland 1975), The Self Directed Search (Holland 1973b) and The Strong Campbell Interest Inventory (Campbell 1977). Super (1953) took a vocational maturity approach which focussed upon stages of developing one's self concept. This orientation has been assessed by The Career Maturity Inventory (Crites 1973), Super's Career Development Questionnaire (Super, Bohn, Forrest, Jordan, Lindeman & Thompson 1971), Westbrook's Cognitive Vocational Maturity Test (Westbrook & Parry-Hill 1973) and The Readiness For Vocational Planning Scales (Gibbons & Lohnes 1968). Krumboltz (1978) advocated a Social Learning approach to vocational counselling. Stern (1970) construed vocational issues in term of environmental pressures and individual needs (based on Murray's, 1938, Need-Press Culture model), and assessed this via at least four indices : The College Characteristics Index, The High School Characteristics Index, The Evening College Characteristics Index and The Organisational Climate Index. Osipow's (1973) Trait-Factor approach has been associated with a string of self-report tests including personality, aptitude, interests and values measures. Inquiry into Roe's (1957) personality theory of vocational choice based upon past life history

has been carried out with The Ramak (Meir & Barak, 1974) and The California Preference System Inventory (Knapp & Knapp, 1976).

It is natural that the Personal Construct psychologist should seek a Personal Construct explanation for vocational behaviour and advocate use of Repertory Test and associated techniques in assessment of that explanation. Each of the theoretical orientations mentioned above when considered alone are far from exhaustive in their explanation of vocational behaviour, and each concentrates on a rather limited number of variables to the exclusion of others. A Personal Construct approach appears to offer a far more comprehensive line of enquiry. Act Laddering provides for identification of environmental preference (Holland 1975) albeit on a uniquely individual basis rather than on a finite number of categorised environments supplied by the investigator or counsellor. The Individuality corollary allows for investigation of individual characteristics, interests and values (Osipow, 1973), with Values Laddering exemplifying the investigation of values. The study of self-concept (Super 1953) goes part and parcel with Repertory Test enquiry where Actual and Ideal self are included as units of analysis. The Experience corollary allows for Roe's (1957) notions of development based upon past history and along with the Commonality corollary and the Sociality corollary, accommodate Krumboltz's (1978) Social Learning concept. The very language of vocational psychology with reference to career choice and preferences is embodied in the Choice corollary.

Bannister & Mair (1968) state that people no doubt differ greatly in their superordinate structure for dealing with their own construct subsystems, and the process of education, counselling and psychotherapy are often concerned to make explicit and develop people's ideas about themselves and their strategies for organising their life. Statements such as this one carry implications for vocational career counselling.

6.1.1. PERSONAL CONSTRUCT APPLICATIONS IN VOCATIONAL PSYCHOLOGY.

Smith, Hartley & Stewart (1978), Smith (1980) and Easterby-Smith (1980) describe the same case study application of Repertory test method to vocational counselling. Easterby-Smith (1980) indicates that the repertory test has a number of advantages in personal counselling. Firstly, it is claimed that since such an application comes close to the original clinical role for which the method was developed, problems of time constraints and scepticism about psychological testing are reduced. Secondly, such an application deals with the unique problems of individuals, rather than generalised questions about groups or large numbers of people.

Smith (1980) describes application of the method in vocational guidance as classic to repertory test technology whereby the aim is to obtain a cognitive map of one individual. The method adopted by Smith et al. (1978) involved firstly, elicitation of various occupations as elements within the client's mental map. The client was assisted by a variety of prompts such as : "Jobs you have thought of doing", "Jobs done by members of your family", "Jobs you would hate". In addition to the subsequently elicited elements, two important reference elements were added : ACTUAL SELF ("Myself as I am now") and IDEAL SELF("Myself as I would ideally like to be").

According to Smith (1980) these self elements are important for their tendency to elicit core constructs, and he also suggests that ideal self is one of the best indicators of future behaviour. This notion is supported by Benesch & Page (1989) who state that constructs used to describe self are usually represented in broad global terms, in other words as abstractions that economically subsume and organise a complex array of specific actions or action referents. These action referents are thought to be implied by the self construct label. For example when a person is asked why an acquaintance is perceived as "dishonest", they may cite as evidence instances of dishonest actions that have been observed.

Construct elicitation took a card-sort type of procedure. All elements were written onto index cards (file cards) which were then presented to the client randomly and three at a time. The client was asked to state which of the three occupations was the odd-man-out and to state why he/she had nominated that occupation as the odd-man-out. The reason given was considered to be a construct. This triad method of elicitation, (that is, using triads of elements), was repeated until no new constructs were forthcoming. The ensuing grid was scored by the client who rated each element on a seven-point scale for the extent to which it was characterised by each construct. The grid data was then subject to principal components analysis. Smith (1980) claims that additional insights into construal of occupational choice was obtainable by constructing a mental map, whereby the elements were plotted within construct space (that space created by the orthogonal relationship of the principal components).

Smith, Hartley and Stewart's (1978) client produced two principal components which were given the labels "big-shot vs. small-shot" and "indoor vs. outdoor". The resultant construct space provided for the plotting of elements within four sectors : "Indoor small-shot jobs" (for example, Barman or Clerk), "Indoor big-shot jobs" (for example, Jet Set Executive), "Outdoor small-shot jobs" (for example, Climbing Instructor), and, "Outdoor big-shot jobs" (for example, Naval Officer). The relative positioning of IDEAL SELF and ACTUAL SELF was given specific attention and indicated that the client, in this case, ideally wished to be an "outdoor big-shot" whereas he saw himself actually as an "indoor small-shot". In other words the discrepancy between the positions of actual self and ideal self was examined. Vocational counselling involved the client in discovering for himself, strategies by which he might reduce the discrepancy on the first principal component, and latterly how he might reduce the discrepancy on the second and any subsequent components.

Easterby-Smith (1980) indicates that this approach not only applies to individuals seeking vocational counselling but has also been translated into managerial career planning. The procedure is claimed to be of most use when its purpose is to assist individuals to develop their own understanding of their interests and potentials, rather than submitting them

to batteries of 'objective tests' which tell themselves and others what their aptitudes and potentials are on a predetermined, preimposed set of dimensions.

Stewart & Stewart (1981) devote an entire chapter to the application of repertory test method to vocational counselling. Their description of the procedure closely follows that adopted by Smith et al. (1978) with the exception that Stewart & Stewart (1981) advocate the use of Laddering technique, since they claim that there is probably no quicker way to reach fundamental constructs. They advocate further that Personal Construct Counsellors "should not think of eliciting constructs without also laddering" (Stewart & Stewart, 1981, p. 160).

In an experimental, as opposed to applied, study, Cochran (1977) examined the context of vocational decision making, and in particular addressed the well documented finding that elicited constructs differ from supplied ones. At a practical level, Cochran asserted that his results indicate that a person required to use extraneous constructs, that is, speak the language of the counsellor through supplied constructs, is apt to construe alternatives in a relatively fragmented fashion and is apt to have greater difficulty in establishing a coherent basis for preferences. The results indicated that when a client must translate across construct systems (namely from counsellor supplied to personal), conflict and implicational impoverishment would be expected to be accentuated, and counsellees would probably experience difficulty in extending their personal constructs to encompass the objective constructions supplied in careers information brochures. Such translation, according to Cochran (1977) is apt to be fallible.

It is probably noteworthy that the present author's first introduction to and realisation of the potential of Laddering procedure occurred in the study of Vocational Psychology. The potential lay in the view that if a Value laddering approach was used, then presumably the latter problem, expressed by Cochran (1977), of relating a client's personal constructs to careers information could be achieved through Act Laddering. In other

words, having established why particular career types are preferred, the counsellor charges the client with the task of then discovering the careers information needed to answer the question, "How do I go about moving towards those preferences", "What careers reflect those preferences?", "What do I need to do to enter those career alternatives?" At a level more closely akin to that expressed by Cochran (1977), Act Laddering could be used by those who produce careers information brochures to discover just what information is relevant and valued by the targetted consumer group.

6.1.2 THE PRESENT PROJECT : VOCATIONAL/REDUNDANCY COUNSELLING OF A PROFESSIONAL ENGINEER.

The project described below was conducted by the investigator while employed as a Personnel Officer with an organisation servicing about 500 personnel. This organisation had experienced a period of rapid growth and buoyancy based on a massive undertaking in engineering projects. When the projects were completed, there began the unpalatable task of disbanding the project engineering group and making a number of people redundant. Those for whom severance by redundancy applied, were offered a comprehensive package of vocational advice and referral options. The project reported here, represents a single subject case study of one professional Mechanical Engineer who, as part of that package, opted to receive personal vocational counselling from the investigator. This counselling was treated as a values clarification and vocational awareness program, within which a number of issues related to a personal construct approach were utilised. To supplement some of the issues related to this case study, a second counselling exercise is also occasionally referred to, which occurred simultaneously with another client.

The procedure adopted by Smith et al. (1978) closely approximated traditional Role Repertory test since jobs used as elements amount in short to occupational roles. Occupational roles include occupational titles, such as Engineer, Manager, School Teacher and so on. It is noted that elements can be of many types depending on their appropriateness to the problem at hand. Little (1983) has advocated the use of Personal Projects as elements. Since vocational counselling amounts to a form of personal counselling, one of the purposes of the current project was to trial the use of Personal Projects as elements in a counselling situation. In this case, rather than occupational titles, the objects of construal would be projects that the individual has done, is doing, and/or is thinking about doing. Personal

projects may include activities such as "find a new job", "tidy my desk", "write my monthly report to management".

It is reasoned here, that vocational behaviour or choice is principally influenced by the most superordinate constructs or values. Therefore vocational behaviour (including alternative behaviours) will be a direct, though step-wise, reflection of the implicative links leading from the most superordinate constructs or values to the more subordinate behavioural constructs. It is reasoned further that Value Laddering is an appropriate method for identifying these key superordinate constructs and Act laddering is an appropriate means for identifying and extending the individual's repertoire of alternative vocational behaviours.

For example, should a client produce the construct "dirty vs. clean" in relation to a triad of vocational roles, and then choose "clean" as the preferred pole, Value laddering involving repeated "Why?" questions might reveal that the client prefers "clean" because it is "hygienic". "Hygiene" may be deemed important because it "enhances health" which in turn may reveal that "my health is of fundamental importance to me" (in other words is a key superordinate construct). Act Laddering from that point reveals that the client can maintain good health, by working in a hygienic environment which can in turn be achieved by working in a clean job. The "How?" questioning of Act Laddering can then be extended in a subordinate direction from the originally elicited construct ("clean vs. dirty") in a manner so as to identify HOW the client may go about seeking an occupation that is clean or HOW he/she might go about avoiding a dirty job. Firstly, which occupations are characterised by cleanliness, and HOW does one gain entry into those occupations.

Answers to "How?" questions may reveal for instance that the client may need to seek careers information pamphlets on particular occupations in order to determine whether they are characterised by the important construct. To do that one may need to approach some institution that represents that occupation, but HOW does one identify that group. The

client may need to go to the local library and seek the assistance of a librarian. One can get more specific simply by answering the question "How could you do that?". As such Act Laddering provides the client with a plan for action that is directly, though step-wise, linked to the more superordinate constructs or values.

It was an intention of this project to therefore explore the usefulness of Value Laddering and Act Laddering in vocational counselling.

6.2. Method

6.2.1. THE CLIENT.

The client was a 45 year old professional Mechanical Engineer being made redundant. This client reported that he had previously received professional external Vocational Guidance Counselling from the local office of a Government Vocational Guidance agency. Prior to counselling, the client's supervisor and a number of colleagues had expressed concern about the client's health. He presented for counselling as a tired, stressed, bent over figure ; a person who indeed appeared to be unwell. He was somewhat bitter about his situation and lost as to the direction of his future.

As part of the exploration of Personal Projects as viable elements, a parallel counselling exercise was simultaneously carried out with another same age Engineering Manager with a similar, industry specific background in Professional Mechanical Engineering. The opportunity for the parallel exercise was coincidental, since it arose from a personal approach to the investigator, by the Engineering Manager. Unlike the principal client, this second client was at ease with himself and content in a stable job. He was wondering, however, if the time was ripe to explore other career alternatives. This client is referred to as "client 2" while the other is referred to simply as "the client".

6.2.2. MATERIALS AND INSTRUMENTS.

The materials used in this project included forms and stationery which facilitated the Repertory Test and Laddering procedures. These included 125 x 75mm Index Cards (also known as File Cards).

6.2.3. PROCEDURE.

The counselling with the client covered 5 sessions of between 1 to 2 hours each, spread over a 22 day span immediately prior to the client's scheduled employment termination date. The client completed two 10 x 10 Repertory Tests. On the first, the method of Smith et al. (1978) was modelled whereby Jobs or Occupational Roles that the client had been considering, were used as elements. These roles differed from those of Smith et al. in that lifestyle and leisure roles were permitted in addition to occupational titles. Also, following the Smith et al. lead, two elements were provided : "Actual Self" and "Ideal Self". In order to maintain some uniformity with role (ie. not mix roles and people) these were expressed as "My actual self now, in my present job with my present lifestyle" and "my ideal self, perhaps in the job and lifestyle I'd like to have in ten years time". In addition to these the client was asked to produce another 8 occupational roles that he had been considering as career options.

On the second Rep. Test Personal Projects were used as elements after the fashion of Little (1983). The principal client was told that "Personal projects are those things that we think about, plan for, carry out and sometimes (though not always) complete." Seven examples of Personal Projects were then listed followed by the instruction, "On the ten cards provided, place a name or label to represent a project that you (a) are engaged in, (b) have been engaged in or (c) may be engaged in, in the future. Note that your projects can be work related or quite personal." A list of project types that may assist was provided such as "an enjoyable project", "a difficult project". Instructions to the client were the same as those listed in Appendix II.1.4.

Traditional triad elicitation was used on both grids. Elements were then rated on 7-point construct scales, where a score of 1 referred to the left-hand pole of the construct and a score of 7 referred to the right-hand pole. A Principal Components analysis was used to identify any duplicated construct usage and on the basis of this process the original set of 20 constructs was reduced to a smaller number of independent constructs which were Value and Act Laddered. Value laddering was used to discover the client's most superordinate constructs or fundamental values, and Act laddering was used to identify behaviours, jobs, attributes, personal characteristics, environments and situations that reflected these values.

Value laddering proceeded as follows : The first construct was considered by the client. He was asked to imagine that he had been simultaneously offered two positions. He was also asked to consider not only the jobs themselves but also the lifestyles and pursuits associated with them. The two positions were deemed to be virtually identical in every respect except that one job was characterised by the left hand pole of the construct while the other job was characterised by the right hand pole. Confronted with the need to make a choice, the client was asked which of the two positions he would accept ; that is, which one did he prefer. His response was written mid-way between the top and bottom of a sheet of paper. He was then asked "Why" he had made that choice, and his response was written directly above the previous response. He was asked further "Why ?" questions (such as "Why did you say that ?" or "Why is that important ?") until a highly superordinate construct had been elicited which the client agreed represented a fundamental value that reflected something of his "philosophy on life".

At this stage the procedure that he had been subjected to was explained to him in more depth and it was demonstrated to him that it was possible to come down the ladder by asking the question "How ?". Following this demonstration, Act Laddering was carried out downwards from the client's initial choice response. In Act Laddering the client was asked questions such as "How could a person achieve this", "What kind of person would you need to be to achieve this ?", and "List a job that might reflect this". When the first ladder had been completed, the procedure was repeated for the remaining thirteen constructs.

A sample of the laddering process follows : In relation to the construct "My health vs. National health" the client was asked, if he was, that very day, offered two jobs that were identical in every way, except that one job was characterised as contributing to his own health, and the other job was characterised by contributing to national health, then which job would he prefer to accept. He responded that he would prefer that which "contributes to group or national health". He was then asked "Why ? Why did you make that choice?" He responded that he "would fight for the health and wellbeing of others even if it meant stress placed on on me". When asked "why" he had responded that way he stated that "People are of value". He

then declared this to be a fundamental value on which he based his life and that on this occasion we had reached the top of the ladder.

Precisely the same procedure as that reported above, was used with client-2, except that the order of presentation of the Occupational roles Rep. Test and the Personal Projects Rep. Test was reversed.

Following the laddering session all responses were transcribed onto Index cards. At the next session these cards were laid out on the floor in their relative positions and the client was invited to negotiate this "cognitive map". The term "negotiate" has been deliberately chosen, since two senses of the word applied : "negotiation" as in the way one negotiates a map by following lines that run from place to place and, "negotiation" with the investigator, as in questioning interpretations, seeking justifications and arguing for alternative interpretations. This procedure enabled the client to move construct cards according to their relative position within the hierarchy, to erase or add implicative links as he felt necessary, as well as providing the opportunity to add new construct cards that clarified implicative links and to remove cards that seemed to duplicate other implicative pathways.

As is quite normal in the Vocational Counselling situation, when the counselling sessions were terminated, the client was given an ongoing "homework" exercise. He was challenged by the Investigator to try to add to the subordinate levels of the system in order to more fully identify the repertoire of actions, situations and characteristics available to him, in order that in turn, he might meet goals, objectives and ideals. In other words, at the completion of the counselling contract, the principal client was encouraged to continue Act Laddering ; to continue asking himself HOW he could act and work in a manner compatible with his values or most superordinate constructs.

6.3 Results

Table 6.1 (on page 103) lists the raw data, elements and constructs elicited on the client's Occupational Roles Repertory Grid. Table 6.2 lists the client's raw data, elements and constructs on the Personal Projects Repertory Grid. Grid data was analysed by Principal Components analysis. Gaines and Shaw (1981) stated that this type of factor analysis was useful in personal construct analysis, to identify equivalence in responding on various construct dimensions, the assumption being that perfect equivalence points to equivalence in meaning and use of those constructs. The analysis was used primarily to assess this equivalence or independence of constructs; in other words to assess whether or not the client had been using two or more constructs in the same way, and thereby in some way treating them as the same construct.

In the process of construct elicitation the client had appeared to develop a mind set whereby, for instance, he repeatedly produced constructs relating to "interestingness". The analysis was used specifically to test whether he had been using these dimensions in a similar or different fashion.

Genstat 5 package which was used for the analysis, simultaneously produced output that both depicted elements and constructs in construct space enabling investigation of principal components, and depicted cluster analysis construct and element families. The analysis indicated that some of the client's construct dimensions were used in an equivalent fashion, and this enabled a reduction of the original 20 elicited constructs to 13 which were used for laddering. The cluster analysis output is displayed both as a series of dendrograms (Figures 6.5, 6.6, 6.7 and 6.8) and as construct or element clusters circled in construct space (see Figures 6.1, 6.2, 6.3 and 6.4). This has been done so that the reader does not confuse apparent clusters with statistically identified clusters. For example, on Figure 6.3, the reader may have considered construct 7 to have belonged to the same cluster as constructs 4, 9 and 6, by virtue of its closeness to those constructs. However the cluster analysis data as indicated on Figure 6.7 shows that construct 7 did not belong to the same cluster as 4, 9 and 6. Genstat 5 did not display principal components factor loadings in tabulated form, and instead directly plotted elements and constructs diagrammatically within construct space. The output does, however, provide the Latent roots

or eigenvalues for Principal components and these are presented in Table 6.3.

The data are described, below, in four ways : (1) Occupational Roles CONSTRUCT data, (2) Occupational Roles ELEMENT data, (3) Personal Projects CONSTRUCT data and (4) Personal Projects ELEMENT data.

The Occupational Roles CONSTRUCT data, shown in Figure 6.1, revealed two distinct clusters arranged on two principal dimensions. An attempt was made to label the principal components, although this was done in a rather subjective manner. The labelling occurred at the time of the counselling, and hence it is possible that these labels reflect other cues that the Investigator observed in the client, as well as reflecting the raw construct data. The first dimension for this grid seemed to be an approach-avoidance dimension while the second dimension distinguished abstract internal qualities (for example, knowledge and certainty) from external characteristics of the world (for example, "full time job vs. part time job"). The two distinct clusters of constructs (see also Figure 6.5) appeared on the one hand to depict a cluster of characteristics of occupations which the client could approach and which he valued (for example, aspiration, knowledge, experience and interest) and on the other hand characteristics of occupations that he should avoid (for example, stress and physical exertion).

Smith (1980) described the placement of occupational roles in the four sectors of construct space created by the intersection of the two principal components. Following Smith's lead, this meant for the client that level of "interest versus dullness" in occupations was located in a sector that denoted external qualities of the world that he may approach. Aspiration, knowledge and certainty were constructs representing abstract internal qualities to be approached. An internal quality to avoid was stress, while physical exertion (the client had a chronic back injury) and "old vs. new direction of life" characterised external qualities to avoid.

Positioning in construct space of the Occupational Roles ELEMENT data indicated that the client's Actual self and Ideal self were close together (see Figure 6.2). These elements were depicted on two dimensions, both of which were loaded with similar meaning. It was apparent that the occupations were arranged in terms of whether or not they were realistic career possibilities for the client to consider and whether or not they were "me", something I aspire to versus "not me". A realistic "me" possibility included only the client's current position as piping engineer, (that is, if he had a choice in whether or not he remained in employment or was made redundant). Unlikely possibilities that were "not me" but which were deemed worthy of his consideration included teaching, social work, consultancy and being an environmental coordinator with the Dept. of Conservation. Unlikely propositions that were "not me" and not worth further consideration were Office Manager and Farmer. In the sector depicting things that the client would not consider as careers, but which were nevertheless described as "me", were located jogging and ideal and actual selves. See figure 6.6 for Cluster analysis dendrogram of this data.

Analysis of the client's Personal Projects CONSTRUCT data, depicted in Figures 6.3 and 6.7, revealed 5 main construct clusters : capacity for the activity to be rewarding, the extent to which the project was "a duty vs. a pleasure", whether the project was for the client's own benefit or somebody else's, a cluster concerned with the nature of the project ("single vs. group" activity, "intellectual vs. physical" activity) and a "people vs. things" cluster. Assignment of labels to the principal components of this analysis was difficult.

Analysis of the ELEMENTS on Personal Projects Grid revealed a "Me vs. Others" dimension. This was not so much a me against others dimension, but an acknowledgement that the client undertook some activities for his own health and welfare whereas other activities were done to benefit others, for common "national" health and welfare. The second principal dimension expressed the extent to which the project was pleasurable and rewarding as opposed to being a dull duty. Figure 6.4 shows that personal projects such as designing an emergency vehicle, fell within the pleasurable work done for others sector. Dull work done for others included

producing Lifeline statistics. Doing his tax return and reading "Origin of the Species" were dull tasks done for his own benefit. Jogging, dieting and climbing a mountain were pleasurable activities done for the client's own benefit. Cluster analysis is depicted in Figure 6.8.

In addition to the 13 constructs used in laddering, at the request of the client one further construct was added for laddering (making 14 ladders in all). This additional construct pertained to the extent to which the principal client was prepared to ask others to take risks that he would not take himself.

The cognitive map derived from Laddering is depicted in Figure 6.9. It was largely confirmatory for the client, but also served to define some previously ambiguous or unclear areas. In particular it served to define the client's religious beliefs for him. When first encountered in Value Laddering, the client asked that "a big fat question mark" be placed beside the construct "religious beliefs". It had at that stage been placed at a level superordinate to constructs that pertained to his outlook on humanity and the importance of contributing meaningfully to society so as to benefit others. In fact this construct was placed at the apex of his entire system. When invited at a later session to negotiate the cognitive map, his first response was to enthusiastically reverse the positioning of the cards relating to his outlook on humanity and his religious beliefs.

This action was a powerful demonstration of the constructivist claim that a construct is defined by both that which is subordinate and superordinate to it. By making "Religious Beliefs" an intermediary construct between others more superordinate and more subordinate to it, the client was able to clarify something that had previously provided some ambiguity for him. In other words he came to realise that his religious beliefs were not bound up in the bible, but rather it was the principles of valuing other people, principles that were inherent in the teachings of his particular religious denomination, that guided his life. As shown in the Figure 6.9 cognitive map, value laddering indicated that of utmost importance, the client valued people. This valuing of people was reflected in his views about religion, self-development, self-esteem, health, enjoyment, and serving to benefit others. Act laddering

indicated lifestyle alternatives to the client such as studying at university, polytechnic or teachers college, pursuing work as an environmental engineer, joining a Quaker community, and renewing a past interest in gliding.

The results for client-2 are not reported in detail here, although a copy of his elicited elements, constructs and a sample of his raw laddering data are included in Appendix I. Laddering was an activity of self-confirmation for client-2, who then deemed it as unnecessary to pursue counselling any further, to complete the grid or to formally draw up a cognitive map. The very processes of construct elicitation and laddering served the purpose for which this client had sought counselling. Needless to say, the client had produced usable elements, constructs and ladderred responses.

TABLE 6.1

Repertory Grid, Elements, constructs and raw data for Vocational Counselling client's Occupational Roles Grid : 45 year old Mechanical Engineer.

Elements/Occupational Roles

	1: Actual self, in present job, present lifestyle	2: Ideal self; job & lifestyle in 10 years time	3: Environment. Coordinator. Dept. of Cons.	4: Piping Engineer	5: Office Manager	6: Social Worker	7: Jogger	8: Teacher	9: Farmer	10: Consultant Engineer	
<u>LH construct pole</u>											<u>RH construct pole</u>
(A) "Is me"; something I aspire to	2	1	3	2	7	3	2	3	6	3	"Isn't me" Can't see me doing this. Don't aspire.
(B) Interests me	1	2	3	2	7	3	3	3	6	2	Doesn't interest me
(C) Low stress *	3	1	4	5	7	5	1	5	4	5	High stress *
(D) I've done this alot *	1	2	7	1	7	5	2	6	7	1	New *
(E) Physical exertion *	5	4	6	6	6	5	1	4	1	6	Less physical *
(F) Real world	1	3	3	3	5	4	2	4	5	2	Not real world
(G) Old direction in life *	4	4	6	2	4	4	1	5	4	4	New direction in life *
(H) Full-time *	1	2	2	2	2	1	7	3	1	2	Part-time
(I) Interesting	1	1	2	2	7	2	3	4	6	2	Uninteresting
(J) I know these fit in * (Certainty)	1	1	6	2	7	3	2	6	7	3	Uncertainty

Note : * indicates those constructs used for laddering.

TABLE 6.2

Repertory Grid. Elements, constructs and raw data for Vocational
Counselling client's Personal Projects Grid : 45 year old Mechanical
Engineer.

<u>Elements/Personal Projects</u>										
1: Design & construct emergency vehicle										
2 : Input Lifeline statistics on computer										
3 : Suburban pipeline engineering project										
4 : Work within peace group										
5 : Dealing with my teenagers										
6 : Doing my tax return										
7 : Read "Origin of the Species"										
8 : Take a business meeting										
9 : Jogging & dieting										
10 : Climb mountain										
<u>LH construct pole</u>										<u>RH construct pole</u>
(A) Intellectual	3	2	3	4	3	2	1	2	6	7 Physical
(B) Rewarding*	1	2	6	3	2	7	3	2	1	1 Unrewarding
(C) Interesting study	1	2	6	3	2	7	3	3	4	3 "Just a grind"
(D) Benefits others*	4	3	4	3	4	2	7	4	6	6 Benefits me alone
(E) Single pers. activity*	2	2	4	6	7	2	1	7	1	7 Group activity
(F) Immed'y rewarding*	3	3	3	3	5	2	3	4	3	1 Long term rewarding
(G) People*	6	5	4	3	1	7	7	1	5	2 Things
(H) Duty*	6	5	2	5	5	1	3	4	4	6 Pleasure
(I) My health*	4	3	4	5	5	7	1	4	1	1 National health
(J) Dull	6	3	2	5	6	1	3	5	4	7 Interesting

Note : * indicates those constructs used for laddering.

TABLE 6.3

Latent Roots/eigenvalues for the first two principal components of Occupational Roles Grid and Personal Projects Grid, for both Constructs and elements analyses.

	OCCUPATIONAL ROLES GRID		PERSONAL PROJECTS GRID	
	Component 1	Component 2	Component 1	Component 2
<u>CONSTRUCTS</u>	1.63	1.13	1.45	1.36
<u>ELEMENTS</u>	1.34	1.19	1.37	1.18

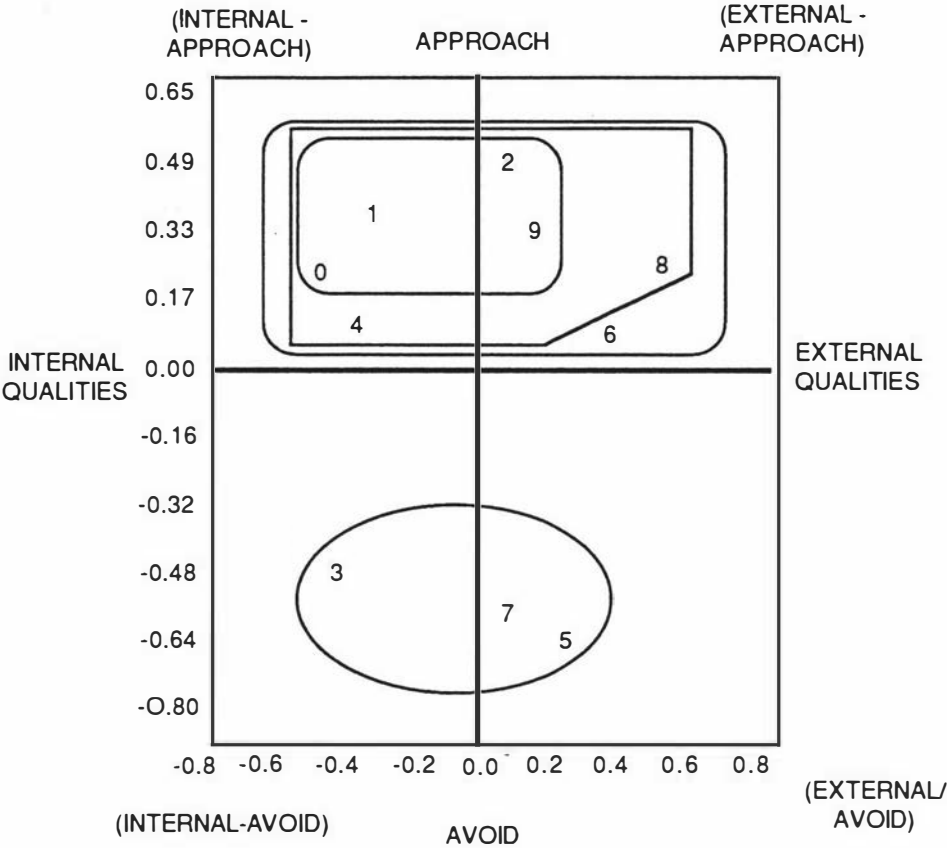
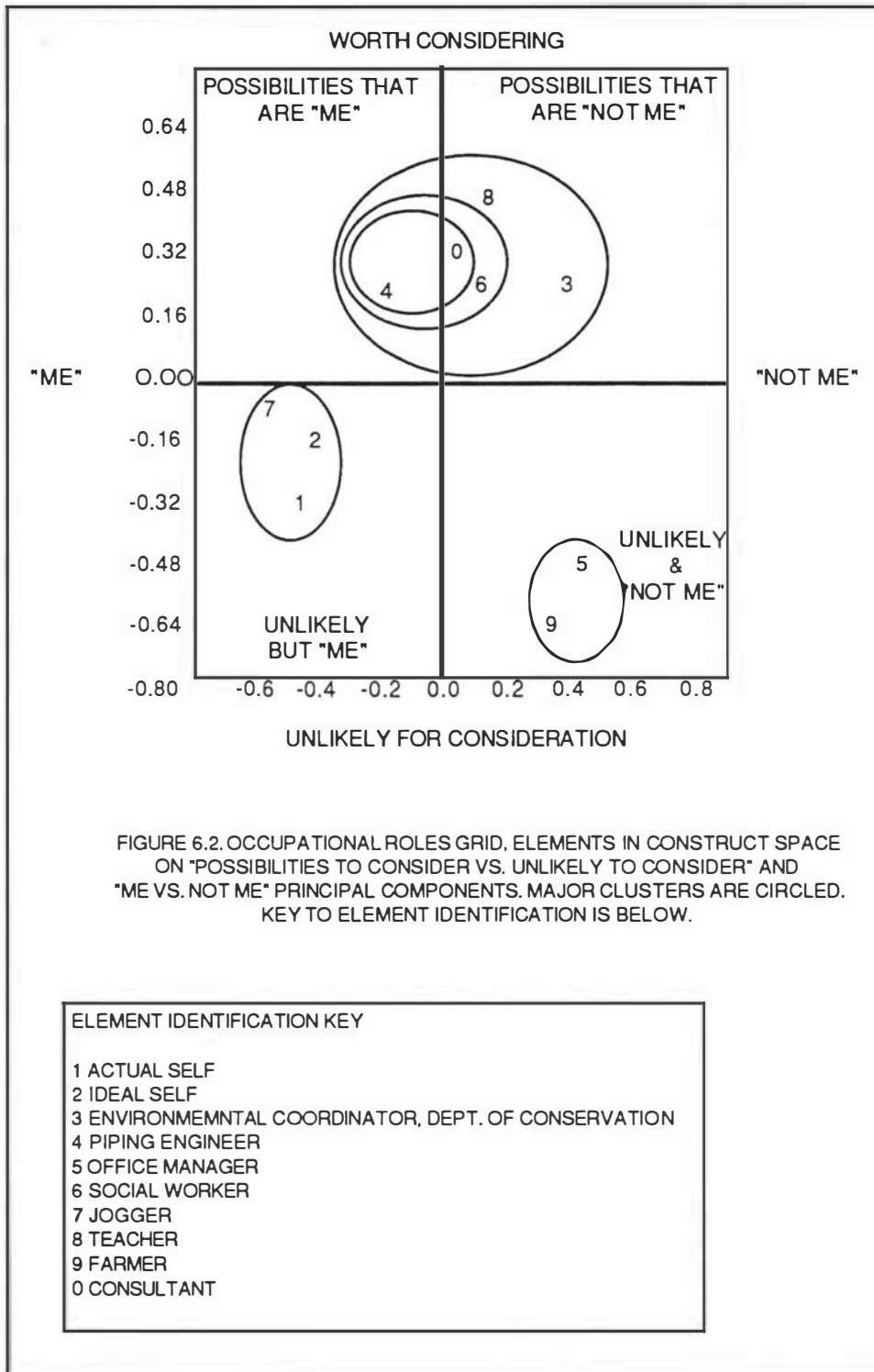


FIGURE 6.1 : OCCUPATIONAL ROLES GRID, CONSTRUCTS IN CONSTRUCT SPACE, ON "APPROACH - AVOID" AND "INTERNAL - EXTERNAL" PRINCIPAL COMPONENTS. MAJOR CLUSTERS CIRCLED. KEY TO CONSTRUCT IDENTIFICATION IS BELOW.

CONSTRUCT IDENTIFICATION KEY	
1	ASPIRATION (THIS IS "ME")
2	INTERESTING
3	STRESS
4	EXPERIENCE
5	PHYSICAL EXERTION
6	REAL WORLD
7	DIRECTION OF LIFE (OLD VS. NEW)
8	FULL-TIME VS. PART-TIME
9	INTERESTING
0	CERTAINTY & KNOWLEDGE



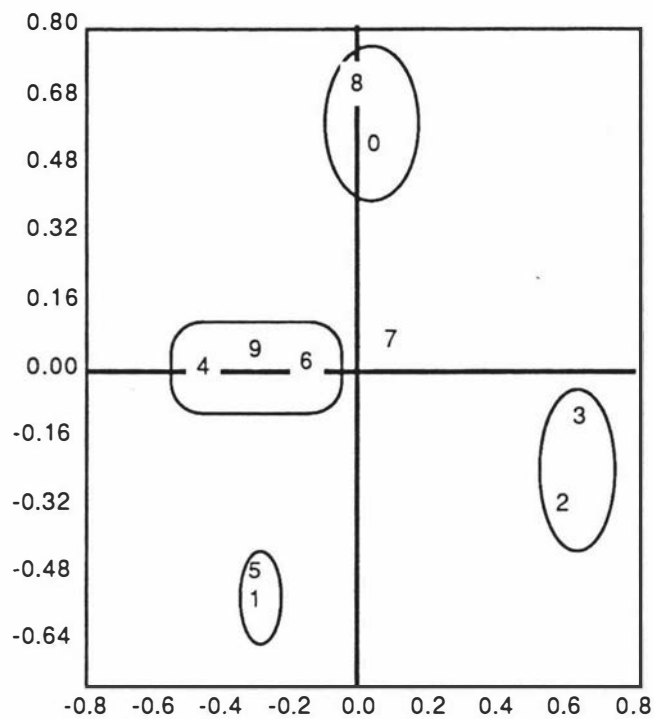
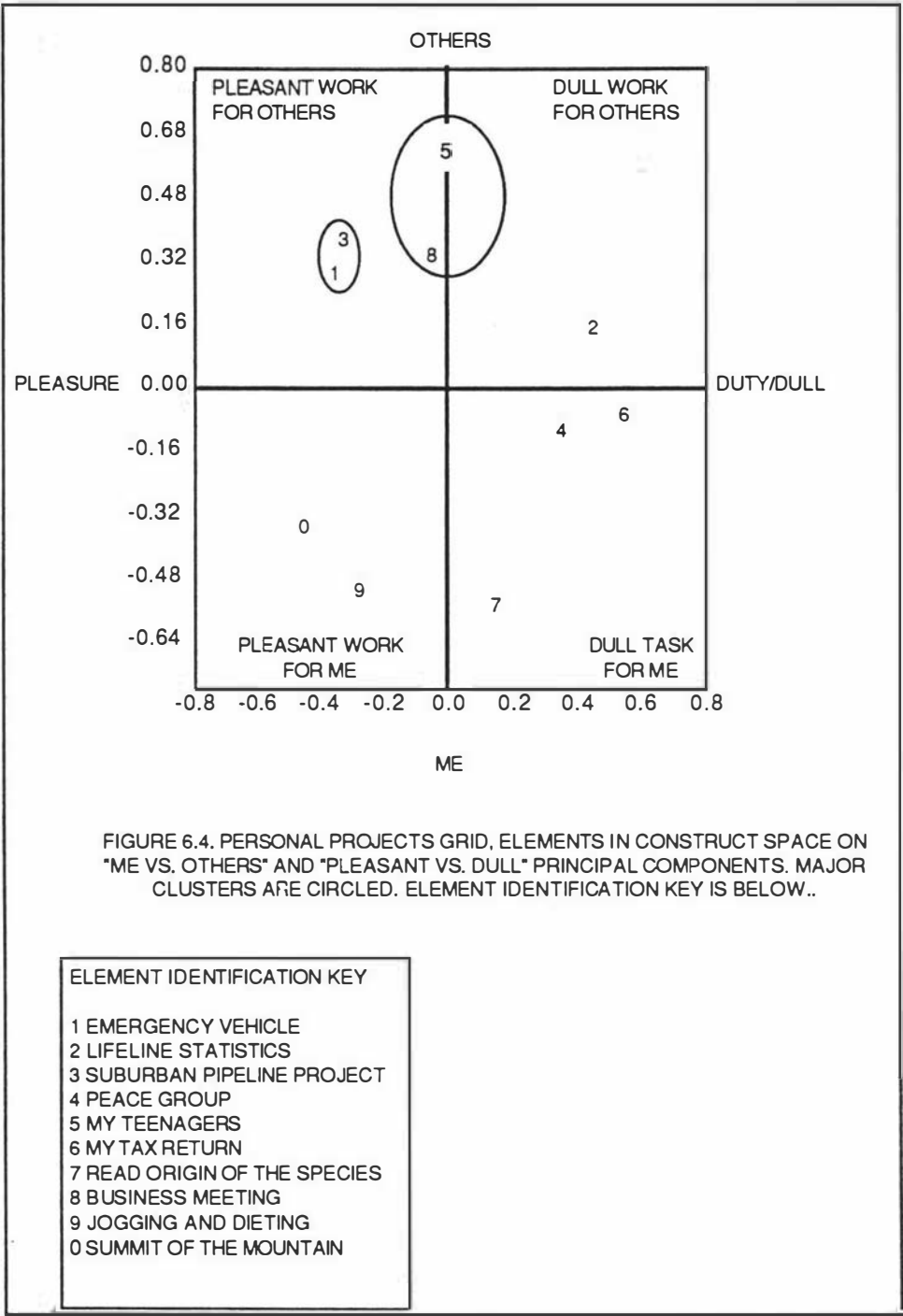
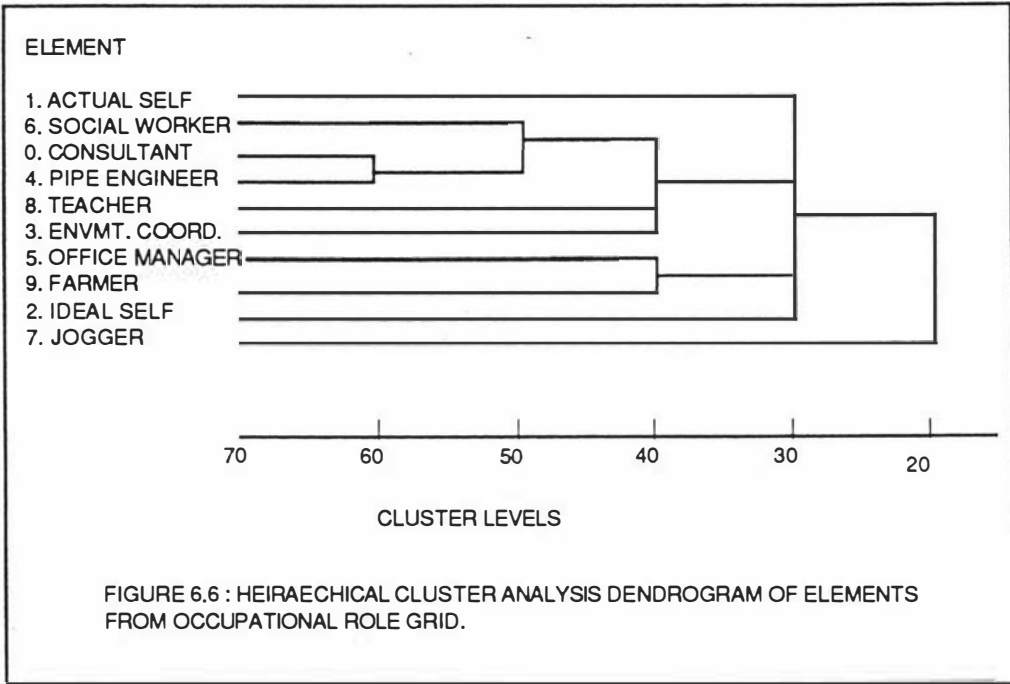
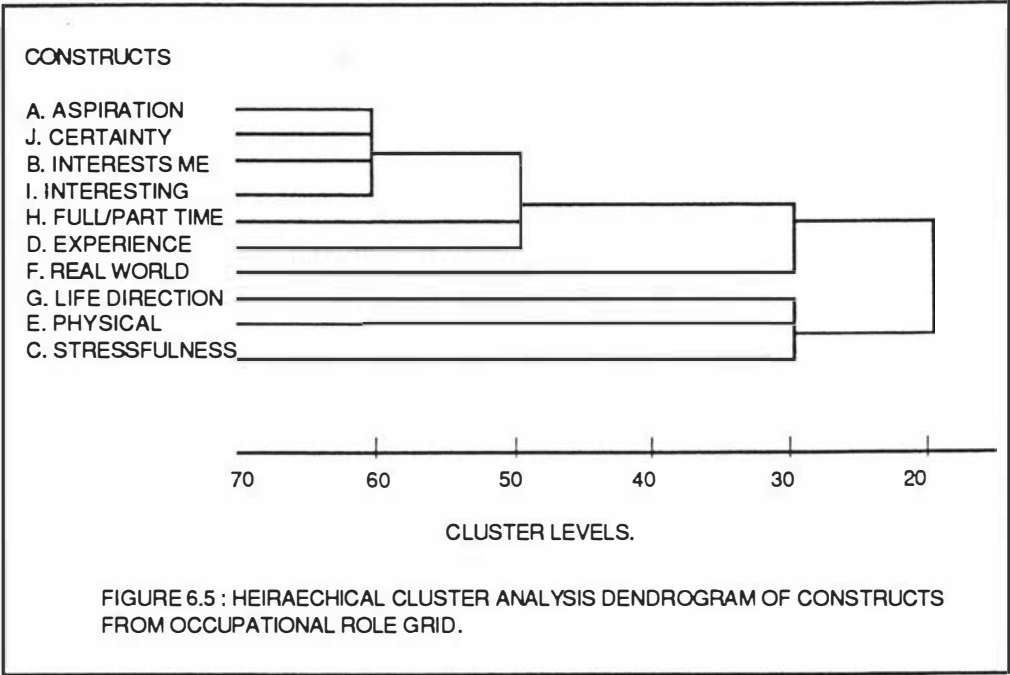


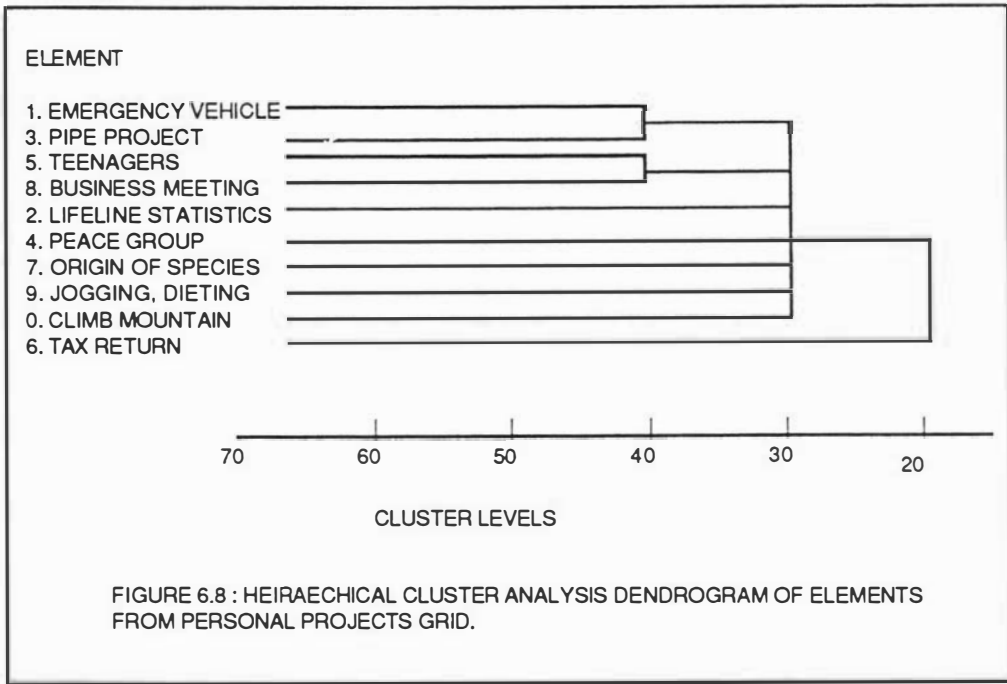
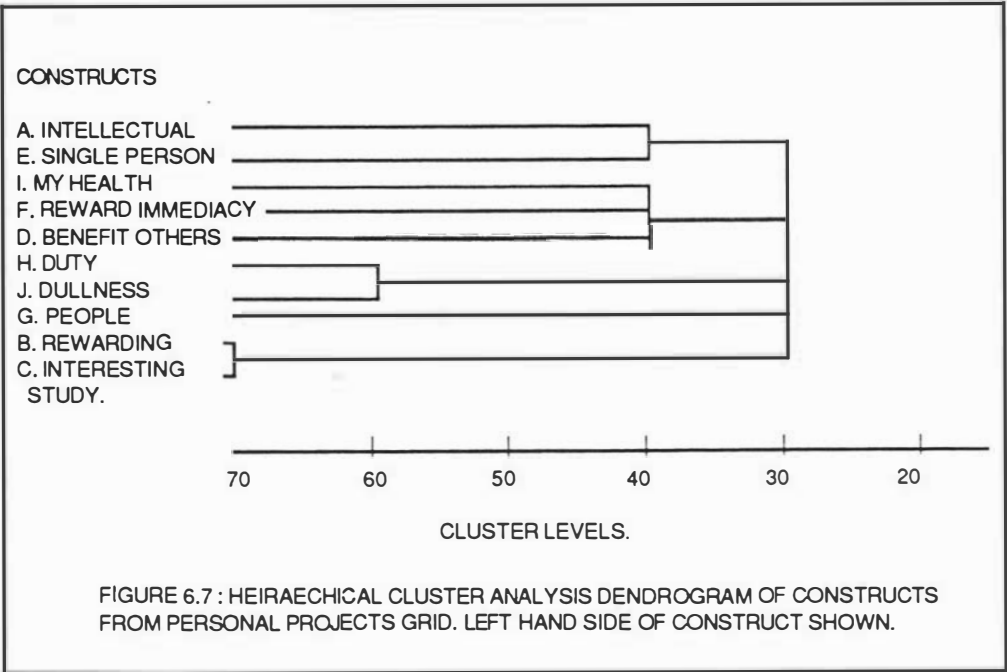
FIGURE 6.3. PERSONAL PROJECTS GRID. CONSTRUCTS IN CONSTRUCT SPACE WITH CLUSTERS CIRCLED. CONSTRUCT IDENTIFICATION KEY IS BELOW. PRINCIPAL COMPONENTS COULD NOT BE LABELED.

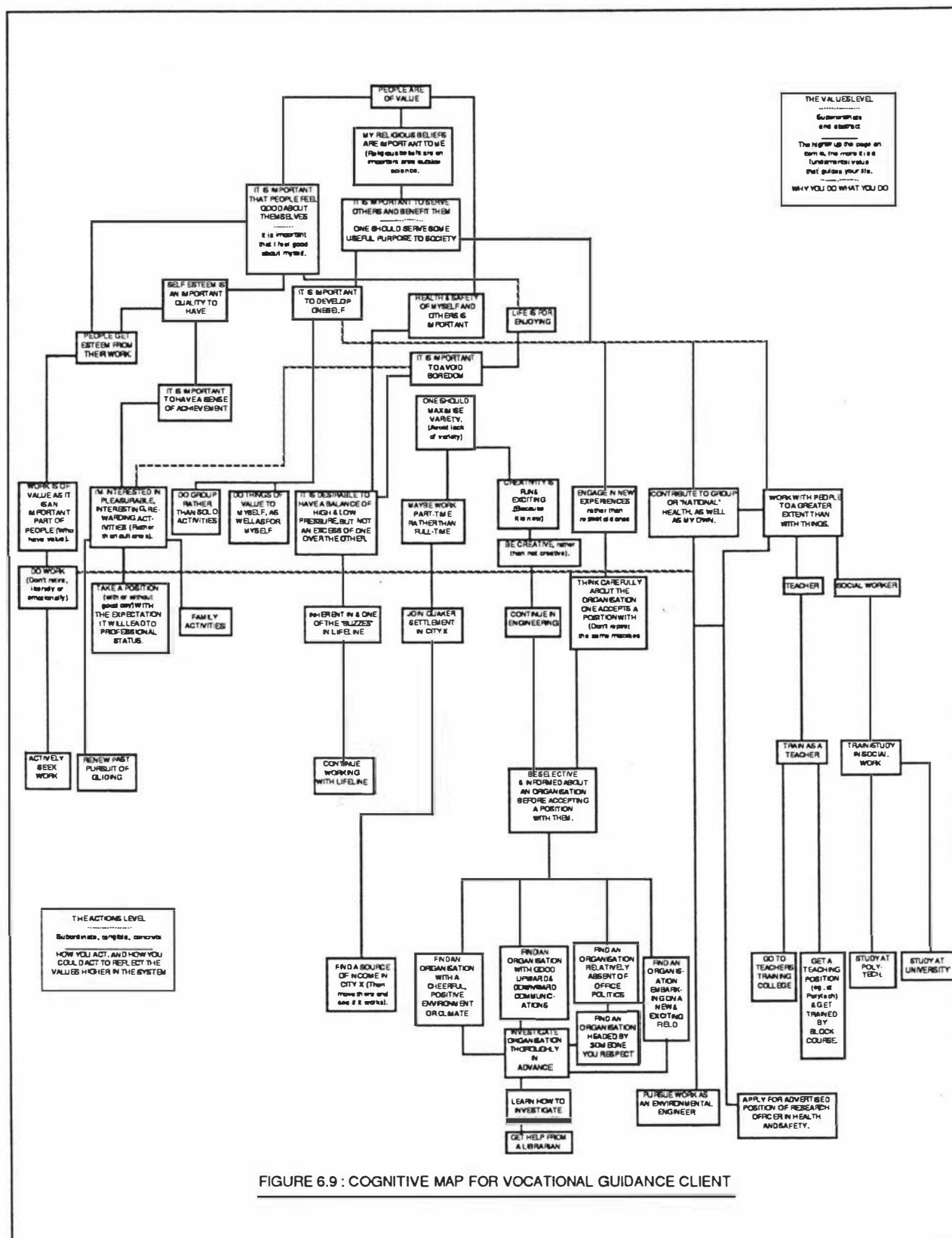
CONSTRUCT IDENTIFICATION KEY

- 1 INTELLECTUAL VS. PHYSICAL
- 2 REWARDINGNESS
- 3 INTERESTING STUDY VS. JUST A GRIND
- 4 VALUE TO OTHERS VS. SELF
- 5 INDIVIDUAL VS. GROUP
- 6 IMMEDIACY OF REWARD
- 7 PEOPLE VS. THINGS
- 8 DUTY VS. PLEASURE
- 9 MY VS. NATIONAL HEALTH
- 0 INTERESTING VS DULL









6.4. Discussion

The client reported that the external Vocational Guidance provided by a Government Agency had indicated the kinds of occupations for which he was suited. He did not, however, specify what those occupations were. It is conceivable however that some of these were included on his list of occupational titles used as elements (see Table 6.1). The client claimed however that the procedure used by the current investigator had been of superior value to him since it had indicated to him why he should pursue those occupations, or at least how they "fitted in". It is worthy to repeat at this point, that client-2 claimed to have received benefit from the processes of triad and ladder elicitation alone.

Production of a cognitive map, gave the principal client something to take out into the world with him, a "policy for action", and this was instrumental in this individual leaving the organisation feeling good about himself, and feeling that the organisation had at least endeavoured in some way to make his severance in the most compassionate, helpful and painless manner possible. As mentioned above, prior to these sessions he had been bitter and confused. He had presented for counselling as a tired, stressed and unwell person. It is notable that on his last few days of work, following his counselling, his colleagues and his supervisor remarked on how relaxed and at ease he appeared to be.

The practice of carrying out statistical analysis seemed to be more of a hindrance than a help in the counselling. It served to confuse the client rather than clarify. The thought of having been reduced to a mere array of numbers, initially made the client very defensive. Also identification of Principle Components and clusters did little to help the client to understand what his values were and what future directions he should consider. As suggested by Landfield & Epting (1987), in practical situations such as these there is often little to be gained from full Repertory Grid procedure, and an abbreviated method is more suitable since the appropriate counselling techniques require only construct elicitation.

This is not to say however that the statistical analysis did not provide data of interest to the counsellor, that could be used to make assumptions about the client's behaviour. The juxtaposition of the client's current job, his actual self and ideal self made interesting observation and probably reflected the extent to which the client did not wish to leave his current position, and the extent to which he was having difficulty coming to terms with anticipating a future in another career with another employer. This was probably also reflected in the way the client construed old and new directions of his life as external characteristics of the world to avoid. The client was being forced into a future that he did not wish to face and which he had not anticipated. Also his "old direction" (his current employment) and anticipated future had gone sour and he wished not to return to it. Therefore the source of the considerable inner turmoil experienced by the client, and his need for counselling assistance became quite understandable.

Furthermore, this process has revealed, for this client at least, some of the reasons for shock, bitterness and depression experienced by people made redundant. Namely, lack of control over one's own destiny, and the compulsion to re-anticipate (re-construe) one's future. Construct analysis of employees facing severance because of redundancy could be a very valuable future topic of study that would contribute to our understanding of what severance through redundancy means to employees. It does not simply mean loss of income and loss of status. It possibly also means loss of self determination and unpalatable upheaval of the personal construct system.

An inductive conclusion arising from this study (and those reported below) and which relates to both the choice and dichotomy corollaries of construct theory, involves the investigator's perception of some sort of approach-avoidance dichotomy inherent in construct systems (see Lewin 1931, 1935; Miller 1944; Epstein & Fenz 1965). This notion is discussed again, briefly, in Chapter 9, but in relation to the current case study, it is interesting to note that the principal client appeared to be experiencing some form of double avoidance (avoidance-avoidance) conflict. He did not wish to choose a new direction in life, nor did he wish to remain in pursuit of his old direction.

This exercise also revealed to the investigator that use of Personal Projects as elements was viable. It should be noted that the latent roots of the first two principal components associated with analysis of each grid (Roles compared to projects) were very similar. If nothing else, this indicated that cognitive complexity/simplicity was not lost in the switch from one element set to the other. The client was able to apply triad method to personal projects as elements so as to elicit useful constructs. In the simultaneous vocational counselling exercise with another middle-aged professional engineer, the order of presenting occupational roles and personal projects as elements was reversed compared to the case study reported in detail here. This revealed that personal projects could be used as elements without prior practice of the triad method with role type elements. In this context personal projects appeared to be neither a better nor worse alternative than use of occupational titles, although, to some extent the process of switching from one element set to another seemed to break a psychological "mind set" that the client had entered in construing occupational roles as either interesting or dull. The reduction of 20 constructs to 14 was as much a result of this apparent mind set and duplication of constructs within the one grid, than duplication of constructs across grids.

Although not pursued in this series of studies, the investigation of breaking mind set by use of two or more context related element sets (for example. roles and projects) could be a useful source of future study. Such a notion may also have implications for the study of cognitive complexity.

In summary, this project revealed the usefulness of using personal projects as elements and the enrichment of information gained by including Laddering in the procedure. It also produced one of the clearest demonstrations that the investigator has experienced of the proposition that a construct is defined by that which is both subordinate and superordinate to it. This occurred when assisting the client to define what his religious beliefs meant to him.

Chapter 7.

DEVELOPMENT INTERVENTION : AN APPLICATION WITH A WORK GROUP ENCOUNTERING DYSFUNCTION

7.1. Introduction

7.1.1. ORGANISATIONAL DEVELOPMENT (O.D.)

This chapter reports a development intervention with a small department of workers. While not an Organisational Development project at the molar level of the entire corporation or company, this was an Organisational Development (O.D.) at a molecular and specific level. This introduction begins by examining some of the traditional views of O.D. then moves to consider some recent views of the subject.

Bennis (1969, p.2) defined Organisational Development (O.D.) as "a complex educational strategy intended to change the beliefs, attitudes, values and structures of organisations so that they may adapt to new technologies, markets and challenges, and the dizzying rate of change itself". Beckhart (1969) defined it as a planned change effort involving the total system managed from the top, to increase organisational effectiveness through planned interventions using behavioural science knowledge. Beckhart (1969, p.13) stated that "Organisational Development achieves its goals through planned interventions....intervening or moving into an existing organisation and helping it, in effect 'stop the music', examine the present ways of work, norms and values, and look at alternative ways of working, or relating, or rewarding".

Smith & Wakely (1972) describe this orientation as one that strives to improve an organisation by changing its system to better fit the individuals

who work in it, in contrast to training and development which strives to fit the individual to the organisation. Friedlander (1980) suggests that the essence of O.D. is its aim of helping organisations to explore and implement their need for change by increasing their awareness of how and why organisational members behave the way they do. According to Flippo (1980) O.D. is a planned, calculated attempt to move the organisation as a unit to the climate of the behavioural, open, organic model.

O.D. is a top management supported, long range effort, according to French & Bell (1984), aimed to improve an organisation's problem solving and renewal processes, particularly through a more effective and collaborative diagnosis and management of organisational culture. With the assistance of a consultant-facilitator and the use of theory and technology of the behavioural sciences, O.D. places special emphasis on formal work teams, temporary teams and intergroup culture.

Beer & Walton (1987) indicate that through the application of theory from psychology and the study of organisational behaviour, O.D. comprises a set of actions undertaken to improve organisational effectiveness and employee wellbeing. These actions or "interventions" are typically designed and executed by an O.D. consultant having diagnosed the organisation's needs and shortcomings.

In an unpublished paper, Allison (1990) described O.D. as strategically confronting and initiating needed changes within organisations. It is a complex "tool-box" of models and strategies, designed with a view to making it possible for an organisation to become or remain viable. Allison stated that through continuous cycles of research, planning, education and re-evaluation, O.D. enables changes in the beliefs, attitudes, values and structures of organisations. O.D. techniques are applied, according to Allison, in response to the constant need to adapt to new conditions, to solve problems, and to find effective alignments between technical, political and cultural resources.

Producing awareness is central to O.D., according to Landy (1985). O.D. consultants do not so much answer questions provided by the organisation as ask questions themselves of the organisation. The process is one of concentrating on strategies for making internal issues obvious to those

affected by them. O.D. according to Landy, is therefore a multi-disciplinary approach which borrows from group dynamics, group theory, social psychology, sociology, diagnosis and counselling methods, attitude and motivational theory. In many ways O.D. comes closest to clinical psychology. Landy describes it as an attempt to help an organisation develop, adjust and to meet its own expectations. Clinical and counselling psychology has similar goals but at the level of the individual, couple or family. Also, just as the clinician gathers information and prepares a plan for treatment based on that information so too does the O.D. consultant. According to Landy an understanding for O.D. comes from consideration of three things :

- organisational diagnosis and determination of organisational climate,
- dysfunctions created by attempts to organise individual effort through the specification of work roles and,
- the common interventions initiated by O.D. consultants, (Landy, 1985).

The term "organisation climate" refers to the subjective perception that organisation members have of the objective characteristics of the organisation. It is that which distinguishes it from other organisations. In some ways it is their view of the "personality" of the organisation, and it is this that is thought to prevent or precipitate many organisational changes or dysfunctions (Landy, 1985, pp. 505-506).

Litwin and Stringer (1966) proposed that organisation climate consisted of 6 factors : (1) Structure, (2) Individual Responsibility, (3) Rewards, (4) Risks and Risk taking, (5) Warmth and support and (6) Tolerance and conflict. Campbell, Dunnette, Lawler and Weick (1970) have suggested that these factors describe the ways in which the organisation treats its members and environment. Just as some people act aggressively in dealing with other people, so to some organisations deal aggressively with their members. Landy (1985) reports that in general research supports the existence of the concept "organisational climate" (For example, Sims & LaFollette 1975, and Muchinsky 1976).

Specialisation, that is, different people in different jobs, creates the potential for confusion and suboptimal expenditure of effort, according to Landy (1985). This dysfunction, or negative organisational by-product, is often discussed in terms of "role conflict" and "role ambiguity". "Role conflict" is viewed as a process of competing demands, and Miles & Perreault (1976) described four different types of role conflict :

- (1) PERSON-ROLE CONFLICT, where the individual wishes to act in a manner that is different to that suggested by either the job description or management.
- (2) INTRASENDER CONFLICT, where the individual is assigned a task or project with insufficient resources to complete it successfully, (or perhaps to complete it to his or her own satisfaction or standards).
- (3) INTERSENDER CONFLICT, where the individual is required to act in a manner that will please only a subset of colleagues but which is likely to displease the majority.
- (4) ROLE OVERLOAD, where the individual is assigned more work than can be effectively handled.

"Role ambiguity" refers to the extent to which an individual actually understands (or misunderstands) what is required on the job. Both role conflict and role ambiguity are believed to place individuals under stress, which in turn produces dissatisfaction and performance decrement.

A number of common intervention techniques used by O.D. consultants are listed by Landy (1985). These include Survey Feedback (gathering data from a variety of sources so as to identify discrepancies which can be used to fuel discussion), Laboratory Training (structured and unstructured group process or group-dynamic methods such as "sensitivity training" workshops), Process Consultation or Intervention (focussing on behaviour rather than attitude and encouragement of alternative ways of accomplishing goals) and Team Building (used with groups brought together for a specific purpose so as to develop an appreciation of goals, roles, individual strengths and to develop group cohesiveness).

In summary then, O.D. is generally considered as a planned intervention into an organisation. An intervention designed to help that organisation to explore itself, become aware of or define its present situation, and identify

its values so that the organisation itself can then develop strategy to change, grow or move in appropriately effective directions. The outcomes or strategies emerge naturally from the O.D. process and that process ought not be precluded by prior hypotheses concerning the likely products or outcomes. However, it is legitimate, indeed necessary, to have goals inherent in the O.D. It is not a panacea that will correct all an organisation's ills, but is the first step from which the organisation's self awareness should emerge, from which some form of diagnosis (definition of the situation) can be made and "action plans" or treatment derived.

The role of the O.D. practitioner is to explore rather than to answer questions and as asserted by Eden (1978), to help rather than provide solutions. O.D. represents future orientation for the organisation, and again Eden (1977) indicates that we must predict or identify our values before we can meaningfully predict and plan for our futures.

The practitioner sometimes encounters resistance among managers to consider the benefits of an O.D., even in the face of dysfunctional working relationships, procedures and climate. Many organisations will claim that they in fact have training and development programs in place and therefore O.D. represents a further unwanted expedience over and above the existing program. According to Flipppo (1980) however, evaluation research shows that individually oriented training and development does contribute to the individual's learning, but often has negligible if any impact on the organisation's functioning. After training in what is essentially a unique and sheltered training environment, the individual must re-enter the organisational culture. Flipppo (1980) indicates that this organisational environment has more impact on shaping and controlling behaviour than does the training.

Wohlking (1971) indicates that most conventional, individual-oriented training and development procedures, attempt to educate individuals in order to change their attitudes. This is based on the assumption that attitude change will lead to behavioural change. A large body of research evidence (starting with the classic study by LaPiere 1934) suggests that people do not necessarily act in accordance with their attitudes, and furthermore an equally large body of research evidence from sociology,

social psychology, and experimental psychology suggests that behaviour is frequently a function of structure. In other words, behaviour is often a function of environment, whether that be physical, social or internal physiological environment. In addition Wohlking (1971) suggests that structural or environmental change can lead to behavioural change and finally to attitude change; the complete reverse to the assumption inherent in the individually oriented training and development program. The individual training approach is claimed therefore to be ineffective for making major changes in the organisation and appears not to provide products that are enduring. Smith and Wakely (1972) state that the organisational approach is more complex and less well understood than the individual orientation, but its potential for IMPROVING the organisation is greater.

Beer & Walton (1987) have noted the changing face of O.D., away from traditional consultant intervention methods and towards an approach more suited to today's climate. According to Beer & Walton (1987) and Limerick (1986) the modern O.D. orientation has many of its roots in the search for characteristics that suggest corporate excellence (Peters & Waterman, 1982) and the concept of organisational culture (see : Frost, Moore, Louis, Lundberg & Martin, 1985). O.D. has long recognised the importance of "culture", which according to Beer & Walton (1987) is a concept emerging extensively in management literature. They claim however that O.D. practitioners have been slow to develop the concept despite culture literature asserting that there exists a positive correlation between type of organisational culture and organisational effectiveness. The more recent generation of managerial and organisational development has been discussed in detail by Limerick (1986), and this is reviewed below.

Limerick (1986) differentiates between four generations of models of management education and organisational development. He refers to these trends as generations of "blueprints". Later generations of blueprint do not mutually exclude earlier ones ; instead the process is evolutionary whereby later models have developed in response to the environment of the time and have subsumed and built upon earlier models.

The first, the TRADITIONAL CLASSICAL MODEL was a response to the maturation of the industrial revolution and involved development in terms of

managers being taught planning, scheduling, organising, motivating, controlling, counselling, disciplining, span of control, authority, responsibility and the like.

The second blueprint or HUMAN RELATIONS MODEL was a response to the increasing sophistication of the population and the social aspect of organisations. Managers received additional education on group process, informal organisation, social motivation, leadership styles and ascribed authority. It was a time of some experimentation and providing managers with new experiences (such as T-group sensitivity training).

Third came the SYSTEMS MODEL in response to the increasing size and complex interdependency of organisations. Systems were analysed and modelled, managers were educated about systems and there occurred movement away from management development towards system or Organisational Development (O.D.).

The fourth blueprint emerging at present is a modification of the systems approach. While the systems approach was founded upon interdependence, openness, holism, rationality, objectivity and the importance of teamwork and cohesive groups, the fourth blueprint, according to Limerick (1986), is characterised by "loosly coupled systems", "collaborative individualism", and "metastrategic vision".

"Loosly Coupled Systems" : The fourth blueprint builds on and is not in opposition to the systems approach. While systems theory supposes one can better understand the parts by understanding the whole, the fourth blueprint assumes one can better understand the whole by understanding the parts, and therefore organisations are viewed not as a complex, reciprocally interdependent system, but as a group of loosely coupled systems with pooled interdependencies. It is noted by Limerick that this does not refer to loosely coupled groups of people but to loosely coupled systems of action. The individual is construed as an actor who moves between different sets of actions. A person may, at one moment, be involved in a Team Building exercise searching for harmony then in the next context be involved in Industrial Relations with its ritualised conflict.

The concept of loosely coupled systems with pooled interdependencies is acceptable to the Eden (1977, 1978, reviewed in Chapter 3) model of O.D. and policy development, if not inherent in it - where firstly the parts, even the smallest parts of the organisation are examined in some detail in order to understand the value structure inherent throughout the organisation. Each person is an actor, and presumably plays a role or set of roles. According to Eden as individuals move between different sets of actions, they move between different roles that reflect, by implication, values. Limerick continues that the "whole" is constantly in danger of disintegrating and hence the fourth blueprint also focuses on the process by which systems are coupled. The major integrative system is one of shared overall VALUES, sentiments and symbols.

The fourth blueprint has developed in response to the extreme rate of change in our times. Loosly coupled systems more effectively handle change and turbulence, according to Limerick (1986), compared to tight couplings which cannot change and adapt quickly enough.

"Collaborative Individualism": A dominant problem, according to Limerick (1986), is individualism ; not in terms of the buccaneer clawing towards the top, but instead the mature, proactive, transforming individual who acts collaboratively on behalf of the organisation and in the service of its values (provided of course individuals know and understand their organisation's values).

Team work was prior-assumed for effectiveness, for no organisation could survive without it. Collaborative individualism is a particular type of team work. The team is not however viewed as an imprisoned group, but as a set of individuals who can act upon the group and transform it when interests and needs dictate. Limerick (1986) cites one of his subjects who defined the ideal as not a team of football players, but a team of cricketers...Individuals who will confront the hundred mile an hour ball on their own, yet adjust their style when the team is in trouble. The appropriate individual was perhaps an entrepreneur, but not the buccaneering type clawing to the top at other colleague's expense. Limerick referred to this acceptable team member as perhaps an "intrapreneur" (Limerick, 1986, p. 7).

Argyris (1976, p. 168) addressed a similar concept when he referred to the "optimal suppression of individual differences". By this, Argyris referred to an individual choice process of narrowing individual differences into meaningful patterns that encouraged life competency. He sought the optimal relationship between the individual and the organisation, such that in the best interests of the organisation, the individual gave up aspects of self in the organisational context that did not result in harm to the self but which facilitated growth in other aspects. The choice, according to Argyris, would be made out of responsibility for both oneself and the organisation. Argyris warns of the dilemma between optimum and dysfunctional suppression of individuality. The type of person who transcends this dilemma may be the person described by Limerick (1986) as the "intrapreneur" : the person who makes prudent use of his or her individuality and flair in the interests of the organisation's wellbeing, but who can suppress natural tendencies and personal agendas so as to adjust when the team needs it.

The "intrapreneur" is probably an ideal or a guide-line, since collaborative individualism is unlikely to be widely distributed throughout the population. Limerick claims that collaborative individualism is difficult to generate in practice and places strain on the individual who must simultaneously belong to the team and yet transcend and transform it. He or she must move from one system of activity to another without losing a sense of identity. He or she must also have the capacity to tolerate conflict and paradoxical stresses between systems, and in turn transcend these and see the broader picture in which synthesis may be achieved. It requires a definition of self which transcends the values of any one system in action. Limerick claims that in order to handle the demands and stresses the individual requires attributes of cognitive complexity, tolerance for ambiguity, proactivity, field independence and maturity. These are of prime importance in the fourth blueprint and define the direction of management development.

"Metastrategic vision" : Fourth blueprint managers are concerned with neither strategy, structure nor culture, according to Limerick (1986) but with the integration of all three. They seek a "vision" that includes a map of how strategy, structure and culture are related to each other. It is the contention

of the current investigator that this is in fact the outcome when individual cognitive maps are integrated to become a group model and Policy for action.

Limerick asserts that this presents a severe challenge for management and organisational development, for development of the vision tends to be left with the most senior manager alone. The vision is too frequently poorly understood by that manager's subordinates who then attempt to guess the reasons for desired strategies, structures and cultures. In other words they are unclear about, and hence make guesses about, the corporate values. The most senior managers, in turn, frequently express frustration at their inability to communicate their visions to others. This is often because, according to Limerick, the notions defy linear logic of language and require right-brain manipulation of symbolism. The management of "vision" and corporate culture implies the management of symbolism. Yet, Limerick asserts that this form of thinking is not dealt with in management/organisational development programs and Business Studies Schools. (They are covered instead in the study of anthropology and at Art School). Current conventional development, according to Limerick, denigrates right-brain thinking.

In conclusion, development within the framework of the fourth blueprint is still in its infancy. As both Toffler (1971) and Eden (1977) suggest, the key to predicting the future is to understand our values now. While the model stresses loose system coupling and individualism it is nevertheless a very social model : management is a social process and organisations are social entities. Limerick (1986) concludes that fourth generation organisations are characterised by management of myth, symbols and labels, and because of this management's appropriate role may be as wizard rather than accountant.

7.1.2. PERSONAL CONSTRUCT APPROACHES TO ORGANISATIONAL DEVELOPMENT AND TEAM BUILDING.

Smith & Stewart (1977) have advocated the potential of Personal construct applications to organisational or team development. The focus of these applications range from micro issues such as helping communications to macro issues such as corporate mergers. For instance Smith & Stewart (1977) cite the potential of a construct approach for the identification and remedy of areas of misunderstanding among senior managers.

Use of a Repertory Test technique known as "exchange grid" is described by Easterby-Smith (1980) as being useful in team development exercises. Easterby-Smith asked participants to use the orators at a management course, as elements for triad elicitation of constructs and completion of the full grid by rating elements on 5-point construct scales. When they had completed their own grids, they prepared a blank grid comprised of the same elements and constructs. Participants then coupled into pairs who knew each other relatively well. Participants exchanged their blank grids and each completed the blank by attempting to predict how their partner had scored it. The results were compared and discussed for their similarities and differences. For example, in one partnership in the Easterby-Smith study, there was variance in the way one individual actually responded and his partner's expectations concerning his response on the scale "encourages participation - maintains control". There were also differences in the way these two individuals regarded the classroom situation and the role of "participation" in that situation. It was apparent, too, that one partner focussed on the organisation and presentation of the orators themselves, while the other focussed on the nature of interactions within the classroom environment.

Easterby-Smith (1980) indicates that this procedure was therefore useful in that it highlighted areas where partners had difficulty understanding one another, where they showed substantive differences in the ways they regarded the situation and where they focussed on different aspects within the situation. Easterby-Smith acknowledges the way in which such an exercise demonstrates the commonality and sociality corollaries since it

demonstrates similarities in participant's construct systems and also the extent to which participants were able to construe the construct systems of others. "People do not have to be alike to work together effectively, but they do have to understand others' viewpoints. There are clear implications for team development here" (Easterby-Smith, 1980, p. 9). To the extent that people are able to predict accurately how others perceive various facets of their work environment, according to Easterby-Smith, their potential to work together as a team will increase.

Stewart & Stewart (1981) describe a simple application of Repertory test method to gain insight into organisational climate or culture, from which organisational development intervention can proceed if required. The application involved interviewing managers at all levels within a small company using construct elicitation techniques based on either manager's work activities or colleagues as elements. Constructs were then content analysed according to McLelland's (1955) categories of motivational needs. Differences in need predominances were noted within the various levels of the organisation. For instance top management may have expressed a predominant need for power whereas middle management may have expressed affiliation needs and junior management expressed achievement needs. The findings were used to stimulate discussion among the managers, the strength of the information being that it originated from the managers themselves and was therefore unaided and uncontaminated by external influences such as a consultant-facilitator. Hence if an organisational development intervention was required or requested then it could emerge naturally out of managers' own data rather than data imposed by some outside criterion. Stewart & Stewart (1981) claim that although this use of Repertory test application was pioneered in small companies, it has obvious application in larger organisations, in team-building projects and in work to facilitate corporate mergers.

Stewart & Stewart (1981) also describe a team building exercise among a group involved in the quality control of manufactured garments. It was revealed, for instance that quality control operators as a group, their supervisors as a group and sales staff as a group, construed faulty products in different ways. The quality controllers construed in terms of appearance, their supervisors construed in terms of blame for fault and ease of repair while the sales people construed in terms of "saleability"

(Stewart & Stewart, 1981, p.87). The exercise also revealed differences in language and terminology among the quality controllers to refer to different types of fault. "The end product of the exercise was therefore a clear identification of the areas of agreement and disagreement between the quality controllers and their managers, and an equally clear insight into the different languages they used. Remedy was fairly simple - getting them to talk to each other, sharing constructs and perceptions and labels, so that there developed both a common language and an understanding of one another's points of view" (Stewart & Stewart, 1981, p. 88).

A construct approach to organisational and management development is advocated by Porter (1985). Porter took a step back and examined the recent tradition of Management by Objectives, stating that such an approach paid scant regard to the needs of people, unless these needs were written as objectives, in which case they were likely to disregard individual differences. When introduced to Personal Construct Psychology, Porter hypothesised that organisations may be viewed as "individuals" each with well defined (though perhaps not explicitly stated) construct hierarchies, and that groups of workers and customers could also be construed as "individuals" with construct systems. Porter (1985) stated that we know by observation that groups exist in varying degrees of harmony, and that the state of concordance between components is in a constant state of dynamic equilibrium. Recognition of this interaction between components and the constant state of change renders the model amenable to construct psychology, along with its ability to subsume other management theories and therefore provide a framework for general application. In reference to managerial role, moment to moment roles, and modelling the organisation as a community, Porter (1985) indicated that in the absence of an O.D. vehicle such as construct technology, a host of organisational issues have remained idle and unexplained. Personal Construct theory and method offer opportunities to explore these issues and the world of people at work. Porter asserts that a recent need has been recognised for management to subsume the construct systems of their employees, and furthermore he claims that the techniques for doing so are actually successful, as demonstrated for example by Armstrong & Eden (1979), Easterby-Smith (1980) and Stewart & Stewart (1981).

Eden and associates' (1977, 1978, Armstrong & Eden 1979) construct approach to an organisational development or team- building style of intervention has already been well documented in Chapter 3 of this dissertation. However it is worth repeating in the context of this project. Eden cites Beckhart's (1969) description of Organisational Development as a means to 'stop the music', to examine the present ways of doing things, and to look at alternative ways of doing them. Eden qualifies that the term to "stop the music" can be construed as "defining the situation as it exists now." The most common method of doing this is by job or task analysis. That enables us to stop the music and examine the ways of work. More is required, however, if the intervention is to bring maximum benefit, since, Eden claims, traditional job analysis alone fails to take that step in examining norms, values and alternatives.

In a more recent article, Eden (1988) states that three of Kelly's corollaries are key factors in helping the practitioner to think about working with individuals and teams in organisations. The individuality corollary indicates that people differ from one another in their construction of events because each person perceives different things in a situation compared to other people. The sociality corollary means that effective interaction between members of a problem solving team depends upon the extent to which they can each understand how the others interpret the situation. The commonality corollary, according to Eden (1988), argues that, in attempting to create consensus and commitment to action in a team, members of the team will need to develop a common way of construing future events. Eden (1988) has based his Operational Research approach to organisational interventions on Personal construct methodology, and argues that the methodology gains value for its capacity to produce cognitive maps.

Eden states that cognitive mapping builds on three key assertions of Personal Construct theory. Firstly, humans make sense of their world through contrast and similarity. Secondly, humans attempt to explain their world - why it is, and what made it so. Thirdly, humans seek to understand the significance of their world by organising concepts hierarchically so that some constructs are superordinate to others. Within a problem solving context this last assertion argues that humans value some outcomes over others, see some outcomes as contributing to or influencing others, and hold beliefs about the situation they face as means to an end. The linkages

between constructs, within the hierarchical structure, according to Eden (1988) represent the meaning of the construct in terms of explanations and consequences, although the linkages should not be taken to be causal in a precise way.

Recently personal construct based interventions have moved away from working with individuals towards working with small groups of 6 to 10 people, according to Eden (1988). The consultancy approach has been more specifically designed to help teams to negotiate a consensus and commitment to a portfolio of actions. Within this approach (which Eden calls SODA : Strategic Options Development and Analysis) individuality is exploited by deliberately seeking to collect the particular view of the situation that is the consequence of each team member having a different experience, a different role in the organisation and different expertise. By spending time building a model with each member, they are each given considerably more "air time" (Eden 1988, p.7) for contributing to the problem construction stage than can ever be the case in a team meeting or workshop.

Eden (1988) reports that with teams of busy managers, cognitive mapping is a useful tool for building interest from all team members. He claims that team members often believe issues are obvious and are not prepared to consider consensus and commitment as important outcomes of working on the problem. Eden has found cognitive maps to be a powerful vehicle for gradually taking team members through the early stages so that interest in the wisdom of others is increased.

The shift from working with individual senior managers, to working with teams, led Eden (1988) to develop a way of working that was aimed at facilitating negotiation between several individuals so that creative strategies for solution could be built within the context of a model amenable to analysis. Eden claims that it has been to the detriment of other consultative practices that practitioners have not drawn upon the operational research view that a model is useful because it is amenable to formal analysis, can become a routine part of the organisational memory and so provides a framework for monitoring and control. The attempt to bring O.D. and operational research together, led Eden (1988) to develop a process that saw individually owned cognitive maps as the grounded data

for the construction of an aggregated map which could act as a model amenable to analysis, and which more importantly, was a device for facilitating negotiation. An aggregated model constructed by combining each of the individual cognitive maps produces a "team map" which is a facilitative device where individual team members will recognise concepts that belong to them. The explanatory linkages and the concepts depicted in the map, will also belong to others in the group, as well as to the individual him or her self. By seeing others' concepts in the context of their own concepts, Eden (1988) claims the meaning of those concepts may change and lead to insights or team elaboration.

Eden (1988) describes the procedure as a cycle of problem construction, making sense, defining the problem and declaring a portfolio of solutions. Thus working with cognitive maps of each individual is aimed at helping each team member reflectively "construct" and "make sense" of the situation they believe the team is in. The team map is initially a device to facilitate negotiation towards a "reconstruction" of the situation and subsequently for making joint sense of the situation. Defining the situation or problem precedes exploration of the subordinate concepts of the map in order to declare a portfolio of solutions. Thus each issue is given an action focus by considering those concepts that are most subordinate to the key concepts under consideration. These most subordinate concepts represent the most detailed actions that have impact upon the superordinate concepts that define the issue.

7.2 Aims and Purpose of Present Project

The reported intervention was carried out at the request of a departmental senior manager (referred to hereafter as the "client"). Dysfunctional relationships had developed within one particular section of the client's department. He was continually receiving complaints from staff about those relationships and claims of an excessive workload with which they were unable to cope (claimed role overload). The client reported a general low morale among the department. The request to intervene was seen by the investigator as an opportunity to follow Eden's (1977, 1978, 1988, Armstrong & Eden, 1979) lead in an applied setting. However in contrast to Eden laddering was used to identify superordinate relationships rather than use of Implications Grid.

The client called this project a "Work Study Analysis". He not only sought an improvement of relationships within the department, but first and foremost he requested the investigator to determine precisely what each person actually did. In effect this was a request to formally "stop the music" and to define the situation (Eden, 1977).

The present project shares Eden's (1977) and Limerick's (1986) assertion that VALUES are a prime variable in exploring the work place situation, and that shared values are the central integrative mechanism within the work group. The term "values" in this respect follows Eden's (1977) definition and reflects abstract, conceptual superordinate constructs.

The use of Value Laddering in a Vocational Counselling situation, reported earlier in Chapter 6, had demonstrated the potential of laddering techniques for the elicitation of superordinate constructs and values. It had also demonstrated the usefulness of the elicited construct system for negotiation of cognitive maps and Act laddering elaboration towards alternative actions and environments. One aim of the present project was to once again explore the use of Laddering procedures to elicit individual's cognitive maps concerning their work.

The major methodological aim was, however, to explore the usefulness of these procedures in eliciting the commonality of constructs within a group, and to produce some sort of group cognitive map as described by Eden (1988). Porter (1985) referred to personification of organisations, whereby they may be viewed as "individuals" with well defined construct systems. It is on this premise that the present investigator argues that through identification of commonalities, individual cognitive maps should be able to be aggregated to produce a group model, or depiction of community or culture. The present investigator has often heard colleagues, both in industry and in psychology, refer to "developing an organisational culture". This may be viable in situations relating to corporate mergers and takeovers, but it is the contention of the present Investigator that for the most part, an organisation's culture exists, although it may be subconscious and unrecognised. The trick is not to "develop a culture" but to capture the existing culture and make it explicit for all to see. Repertory Test and Laddering technique are viewed both theoretically and practically as the appropriate means for doing so.

A central purpose of the project was to attempt to break down the dysfunctional relationships within the group and to encourage a sense of ownership for shared values. A framework was sought for development of cooperative teamwork, or perhaps collaborative individualism (Limerick, 1986). Limerick (1986) asserts that a definition of self is a requirement for collaborative individualism. The procedure of Repertory Test followed by generation of an individual cognitive map through laddering is asserted to be a direct method for definition of self.

Stewart & Stewart (1981) emphasised that part of the trick in capturing the culture and making it explicit, is to express the culture in language which is shared by all participants. A principal intention within this project was to preclude employee's need to make guesses about the collective values, to enable management to avoid frustration and be able to communicate their input to corporate values more effectively (Limerick 1986). Also, the products of this procedure should become a vehicle for management to subsume the group's construct system (Porter, 1985), to understand it, and to manage it.

The likely product of the procedure is some form of Policy for Action or what Eden (1988) has termed a portfolio of solutions. This product should serve as a guide-line to performance within the collective values or vision. It identifies actions that are most likely to meet with optimum acceptability within the group. Since the data upon which the policy is based, emerged directly from the participants, it is uncontaminated (Stewart & Stewart, 1981) and hence should be expected to facilitate collaborative individualism or teamwork. It is not intended that individuals become prisoners of the policy. However, as collaborative individuals it is hoped that when faced with uncertainty about a decision or choice of response to a customer, the policy for action or collective cognitive map should serve to indicate which sort of response will meet with optimum acceptability within the group, and to recognise which responses may harm the work environment. In discussion of the Sociality corollary, Easterby-Smith (1980) contended that the outcome should enhance the ability of group members to predict others' acceptability of their actions.

The department in question consisted of two distinct sub groups : one a group of office based clerical/managerial staff and the other a group of field engineering staff. It was known before engaging in the intervention that a major source of dysfunction was friction and distrust among these two groups. A feature of the project was therefore to examine any differences in construal of the two groups and if necessary to remedy any misunderstandings. It was anticipated that this process may reflect features of role conflict and role ambiguity.

In summary, the earlier works of Eden (1977, 1978, 1988) and Limerick (1986) stimulated a concept of work-group team functioning which seemed likely to be well served by both personal construct theory and method. At a methodological level, the principal aim of the project was to trial the process of aggregating individual cognitive maps into a collective depiction, and then to assess the usefulness of this information in facilitating the main practical aim of the project; to enhance mutual understanding and tolerance, and to develop a coherent policy for action.

7.3. Method

7.3.1. PARTICIPANTS

The project commenced in October 1987 and reached the conclusion reported here in May 1988. The conclusion of the project in effect represented the termination of the contract between client and practitioner. At the outset thirteen people were involved, details for whom are shown in Table 7.1. These 13 people consisted of 1 office based junior manager who reported directly to the Client; 6 office based clerical and engineering staff and 6 engineering based field staff who lived and worked at a location geographically remote from the office. One specialised field worker was included in the Office group, since he had daily contact with the office and spent much of his working day interfacing with the office staff. All but three of these staff reported directly to the junior manager. Those three were remote field staff who reported to a field supervisor.

Of the six office staff, two performed general clerical duties, two were virtually dedicated to the process of billing customers, one was a semi-professional engineer and the sixth member was an appliance installation inspector. Of the six field staff, one was a field supervisor, one was an appliance installation inspector, and the remaining four were general field workers.

Mean age of participants was 32.3 years, ranging from an 18 year old through to a 60 year old. Only 3 of the participants were females with a mean age of 22.7 years. The mean age of the 10 males was 35.2 years. All of the females were office workers. The males comprised 6 field workers and 4 office workers. Mean age of office workers was 30.7 years and mean age of field workers was 34.2 years.

TABLE 7.1

Age, sex and category (Field worker vs. Office worker)
of Intervention Participants

Participant	Age	Sex	Category
1	29	M	Office
2	29	M	Field
3	39	M	Field
4	42	M	Field
5	27	M	Field
6	29	F	Office
7	21	F	Office
8	60	M	Office
9	33	M	Office
10	33	M	Field
11	25	F	Office
12	18	F	Office
13	35	M	Field

Because of the changing and organic nature of organisations the structure of the group changed throughout the duration of the project. Turnover of personnel was experienced with the result that by the May 1988 conclusion some staff had left the group while replacement and additional staff had joined the group. Two of the original participants resigned from the company during the course of the project. Replacement of these plus the creation of two additional positions in the section meant that 4 newcomers joined the group late in the project's duration. One resignee, a member of the field staff, completed only an organisational climate questionnaire and a series of timelogs, prior to termination of employment. The other resignee, an office based clerical worker, left the organisation having completed all but a final group workshop.

The group in question was the product distribution section of a major New Zealand industry and were involved in the supply and retail of a primary product (that is, not manufactured), in provincial centres throughout the Western North Island of New Zealand.

7.3.2. MEASURING INSTRUMENTS.

Where appropriate, examples of the instruments used are included in Appendix II of this dissertation. Instruments included an Organisational Climate Questionnaire, Timelogs, Repertory Test, Laddering Technique and a Post-project evaluation questionnaire.

The Organisation Climate Questionnaire required participants to respond on fifteen 7-point scales. They were to indicate their assessment of the organisation's current position on each dimension (ACTUAL responding) and also their choice of where they believed the organisation should be on each dimension (IDEAL responding).

The first six items on this questionnaire related to the six factors of Organisation Climate taken from Litwin & Stringer (1968). In this instance, these factors were given the labels "Conformity", "Responsibility", "Standards", "Rewards", "Organisational Clarity", and "Warmth and Support". The remaining nine items comprised functional variables of Organisation Climate taken from Likert (1967). These items included : Leadership (confidence in subordinates and consultation with subordinates), Motivation (Cooperative teamwork), Communication (acceptance of downward communication, and supervisors' knowledge of subordinates' problems), Decision Making (decision making level and subordinate participation), and Goals (establishment of goals and resistance to their pursuit).

The Organisation Climate questionnaire was piloted by Shouksmith & Ratnam (1986) and reported by them in an unpublished article. They administered the questionnaire to fourteen permanent academic staff members of a university Department of Psychology, and found that the

questionnaire gave discriminating results and distinguished actual and ideal climates of the organisation.

The Timelogs required participants to record their activities every fifteen minutes, under categories derived by themselves. These were used to identify activities carried out through a four week period. The format for the Timelog was taken from MacKenzie (1972). It required participants to forecast their time allocation for each week under their self derived categories, to then record their time usage, to summarise this and finally to compare this with their forecast.

Repertory Test and Laddering techniques were used and the procedure applied has been described in detail below. The Repertory Test was 12 by 12 in configuration, with 12 personal work-related projects used as elements from which to elicit 12 constructs.

At the completion of a workshop which marked the termination of the practitioner's involvement with the group, a project evaluation questionnaire was distributed to participants (see Appendix II). This questionnaire sought participants' perceptions concerning the success of the project, the extent of clarification for them, the usefulness of products such as cognitive maps, and some indication of their prognosis for improvement within the group.

7.3.3. PROCEDURE

Participants firstly completed the Organisational Climate Questionnaire which was, in the fashion of Eden (1978) and Beckhart (1969), part of the attempt to "stop the music" and establish the current status of the group's perceptions about the organisation as a whole.

Participants then completed Timelogs (described above) to discover exactly what the group did and what proportion of their effort was expended in various categories of work. This also was considered part of the process of "stopping the music". Job analysis interviews were then conducted with all participants. They were asked to list daily, weekly, monthly, quarterly, annual and unpredictable tasks. They were also asked to indicate the

formal and informal qualities and qualifications required of an incumbent to perform the job satisfactorily.

The job analysis interview included Repertory Test and Laddering in order to discover not only subordinate level activities and tasks of each participant, but also implicative links from these through to their superordinate perception of the purpose of their work, the meaning of the group's operation, its direction and its goals. From this information individual cognitive maps were derived by the investigator. These were in turn examined collectively to identify commonalities within the group so as to create a combined team map which outlined the group's activities and the "culture" reflected in this. This was done by a card sort content analysis procedure (modelled on Stewart & Stewart, 1981, pp. 48-51).

The project as reported here, concluded with a workshop to feed back results, issue up-to-date Position Descriptions, to negotiate a model of the groups' operation, to negotiate a model of the group's objectives, "culture" and/or code of practice (in a sense a policy for action), to address specific issues exposed in the course of the project and to formulate some form of plan for future actions. Following the workshop participants were requested to complete an evaluation questionnaire. The process summarised in the previous few paragraphs is expanded below.

Repertory Test and Laddering Procedure.

(a) From each individual, 12 work-related personal projects were elicited. In the fashion of Little (1983), these were projects which they either had been recently engaged in or in which they were to become involved in the near future. A full set of instructions relating to Personal Projects are included as Appendix II.1. Participants had in front of them, a copy of these instructions which they read while the interviewer simultaneously read them aloud.

(b) Traditional triad method was used to elicit 12 constructs using the 12 projects as elements. Provision was made to use a dyad method should the need arise. All those interviewed, preferred to use the triad method. Those who faltered and reverted to dyad method, in all cases, soon asked for the third element to be re-introduced and then succeeded in eliciting constructs. Some participants had difficulty in producing polar constructs and instead

tended to produce descriptive explanations of each pole without reference to a common dimension.

(c) The 12 elicited constructs were then subjected directly to Laddering technique. Each construct was taken in turn and participants were required to imagine work situations where an opportunity arose to carry out two tasks which were almost identical in nature. The two tasks differed only in that one task was characterised by the left-hand pole of the construct while the other task was characterised by the right-hand pole. Subjects were asked, in view of the function of their department which task would be the appropriate one to engage in first; which task would be or should be the priority : the one characterised by the left-hand pole, or the one characterised by the right-hand pole ?

This represents a slight departure from Hinkle's (1967) procedure where polar choice was based on preference rather than on priority or appropriateness. This modification was made to account for instances where tasks that ought to be prioritised by workers, may not necessarily be preferred by them. Paperwork may be a priority function for a filed worker, but may be a task that he would prefer to avoid.

Participants were asked why they had opted for the particular priority and, in the fashion of Hinkle (1967) and Little (1983), continual "why" questions were asked until a superordinate construct had been elicited which in the subject's opinion expressed a fundamental value associated with the department's operation.

This procedure produced cognitive maps of each subject's construal of the operation (an example of one cognitive map is included in the Results section as Figure 7.3 and all others are included in Appendix II). To familiarise the reader, a typical system may have "company survival" and/or "income of revenue" as values very high in superordinacy, with middle order constructs suggesting the importance of "public relations" and a "cooperative intra-departmental work environment". The lower order, subordinate constructs represent the tasks and projects in which participants involve themselves to achieve these higher order objectives, and to some extent reflect their personalised codes of practice.

(d) Each individual's cognitive map was thoroughly reviewed and from these a common model was produced representing a common impression of the group's goals and objectives and ways to achieve these. It was envisaged that group negotiation of this common model at a workshop, would reinforce each individual's contribution to it and enhance their sense of ownership for it, as well as exposing some of the differences that existed.

Procedure used with sub-group of remote field staff.

An unfortunate aspect of the procedure was the extent to which the investigator lacked control of the project. This occurred because the investigator was an employee of the same organisation as the client, but reported through a different line of management. Despite the role of the investigator's section being to serve the client's human resource needs there was an unwillingness by more senior management, to formally recognise the intervention as anything other than a cursory project to rewrite individual position descriptions. As such severe time and resource constraints were placed on the investigator. The project proceeded and the constraints were tolerated because the client's group were experiencing very real dysfunctional relationships that were jeopardising the commercial reputation of that group and the company as a whole. The investigator and the client both felt there was sufficient benefit to be gained that the intervention should proceed on the basis of personal commitment even if absent of formal managerial commitment. (The reader may note that this paragraph suggests that the investigator may have experienced all four Role Conflict types outlined by Miles & Perreault, 1976).

Four of the field staff involved were geographically remote from the rest of the group and were resident approximately 350 km (200 miles) from the office location. Because of time and resource constraints a "trial" approach was devised in order to gain meaningful and equitable data from the four remote staff. On the basis that some people tend to personify groups (see for example Porter, 1986), this group of four people was approached as if they were a single collective mind. Instead of a Repertory Test interview with an individual mind this session amounted to Repertory Test workshop with a collective mind.

The procedure in this workshop session involved the participants collectively generating twelve work related projects that they as a group were involved in. These projects were presented as elements for traditional triad elicitation of constructs. Each individual produced constructs independently. Each construct was discussed by the group. The discussion involved the four individuals in rephrasing the responses and coming to a majority-cum-consensus decision as to the final form of the bi-polar construct. Laddering then occurred with the group arriving at a consensus decision for each response, before that response was formally accepted. A note was kept of the degree of consensus. A collective cognitive map was produced for this group.

7.4 Results

Data collection was completed for all original thirteen participants with the exception of one. The missing data included the timelog and organisational climate data for the section's junior manager.

7.4.1. ORGANISATIONAL CLIMATE.

Extreme scores and differences between ACTUAL and IDEAL responding are reported. The following arbitrary method was used to determine extreme score responses on each questionnaire item. Item responses were analysed by students t-test for a single sample. In the interests of objectivity and to overcome the traps inherent in purely subjective data observation, a fairly stringent criterion was adopted for deeming a score to be an extreme one. An extreme score was considered to be one that achieved a significance level of less than $p = 0.01$ when compared to a hypothetical score equivalent to the rating scale mid-point ; in other words a mean significantly different from a rating of 4. This data is shown in Table 7.2 and Figure 7.1.

To determine differences between the ACTUAL and IDEAL responses, the data was subjected to a students t-test for related samples. A summary of this comparative t-test analysis from Organisational Climate data is expressed in Table 7.3.

Extreme scores on ACTUAL responding indicated that this group believed : there were many externally imposed constraints in the organisation whereby members were required to conform with rules, procedures and policies ; members were ignored or criticised ; the organisation was disorderly and chaotic ; decisions were made mostly at the top ; subordinates were not included in decisions related to their work, and organisational goals were issued as orders from the top. In relation to IDEAL data, seven of the fifteen scales achieved a difference from the scale mid-point at the $p < 0.01$ level. Of the remaining eight scales, five were not considered significantly different from the mid-point, since they did not achieve the $p < 0.05$ level (see Table 7.2).

An F test comparing the pre-test and post-test standard deviations was carried out to test for homogeneity of variance. No significant results were obtained.

The most dramatic difference between the ACTUAL and the IDEAL indicated that the group felt that the organisation was far too disorderly, confused and chaotic whereas it should be well organised with clearly defined goals. They also felt that high, challenging standards should be set by the organisation whereas standards were actually of medium challenge. Members of the organisation tended to be ignored, punished or criticised whereas the group felt they ought to be recognised and rewarded positively. They believed that establishment of organisational goals should be shifted from the top in order to be established by group action (except in crises), and that downward communication was not accepted with sufficient open mindedness. There should be a shift from decision making mostly at the top to at least some scope for more decision making to be done throughout the organisation. The organisation was not characterised by sufficient warmth, trust and support among its members and subordinates were not sufficiently involved in decisions that related to their work. Cooperative team work existed to some extent but required significant improvement. There also needed to be a significant shift in resistance to the formal goals that were established.

TABLE 7.2

SUMMARY OF ORGANISATION CLIMATE DATA AND ANALYSIS OF EXTREME SCORES.

"ACTUAL" DATA

S.	GROUP	ITEM NUMBER								
		1	2	3	4	5	6	7	8	
1	OFFICE	DATA MISSING FOR THIS PARTICIPANT								
2	FIELD	4	3	3	1	1	5	6	6	
3	FIELD	7	5	2	1	2	3	2	7	
4	FIELD	7	2	2	1	2	4	6	7	
5	FIELD	6	6	4	4	4	4	5	5	
6	OFFICE	5	5	3	3	2	4	5	4	
7	OFFICE	3	3	3	3	3	5	3	2	
8	OFFICE	4	5	5	1	5	7	6	6	
9	OFFICE	4	3	3	2	4	3	5	6	
10	FIELD	6	5	2	3	2	1	2	6	
11	OFFICE	6	2	3	5	1	4	2	3	
12	OFFICE	6	2	5	2	3	3	4	4	
13	FIELD	5	5	5	3	2	4	2	2	
MEAN		=	5.25	3.83	3.33	2.42	2.58	3.92	4.00	4.83
STD.DEV.		=	1.23	1.4	1.11	1.26	1.19	1.32	1.63	1.72
t *		=	3.36	0.40	2.01	4.18	3.97	0.19	0.00	1.60
SIGNIF.		=	p<.01	NS	NS	p.<.01	p.<.01	NS	NS	NS

TABLE 7.2. (Continued)

SUMMARY OF ORGANISATION CLIMATE DATA AND ANALYSIS OF EXTREME SCORES"IDEAL" DATA

S.	GROUP	ITEM NUMBER							
		1	2	3	4	5	6	7	8
1	OFFICE	DATA MISSING FOR THIS PARTICIPANT							
2	FIELD	3	4	5	5	6	5	3	3
3	FIELD	5	6	6	6	6	6	6	2
4	FIELD	5	4	6	5	7	5	3	2
5	FIELD	4	5	6	7	7	7	7	6
6	OFFICE	4	3	5	5	6	6	3	3
7	OFFICE	2	5	6	6	6	6	2	3
8	OFFICE	7	5	7	6	7	7	7	7
9	OFFICE	4	6	6	6	6	6	2	3
10	FIELD	3	4	6	6	6	6	2	3
11	OFFICE	5	6	5	6	6	5	1	2
12	OFFICE	6	3	7	7	7	7	1	2
13	FIELD	5	6	7	7	7	7	2	2
MEAN	=	4.42	4.75	6.0	6.0	6.42	6.08	3.25	3.17
STD.DEV.	=	1.32	1.09	0.71	0.71	0.49	0.76	2.09	1.57
t *	=	1.06	2.28	9.38	9.38	16.29	9.09	1.19	1.75
SIGNIF.	=	NS	p.<.05	p.<.01	p.<.01	p.<.01	p.<.01	NS	NS

"IDEAL" DATA (Continued)

S.	GROUP	ITEM NUMBER						
		9	10	11	12	13	14	15
1	OFFICE	DATA MISSING FOR THIS PARTICIPANT						
2	FIELD	3	5	3	5	3	3	5
3	FIELD	1	5	3	6	2	2	6
4	FIELD	2	6	2	5	2	2	5
5	FIELD	7	6	1	6	6	5	3
6	OFFICE	3	6	3	4	3	3	5
7	OFFICE	3	6	2	2	3	2	5
8	OFFICE	7	7	6	6	6	4	5
9	OFFICE	2	6	2	2	3	6	6
10	FIELD	2	5	2	5	2	3	5
11	OFFICE	1	6	1	5	1	3	4
12	OFFICE	1	7	1	6	2	1	7
13	FIELD	1	7	1	6	1	2	7
MEAN	=	2.75	6.0	2.25	4.8	2.83	3.0	5.25
STD.DEV.	=	2.05	0.71	1.36	1.4	1.57	1.35	1.09
t *	=	2.03	9.38	4.26	1.89	2.47	2.45	3.8
SIGNIF.	=	NS	p.<.01	p.<.01	NS	p.<.05	p.<.05	p.<.01

* Students t-test for Single Sample : STATWORKS[®] : Rafferty, Norling, Tamaru, McMath & Morganstein (1985).

Comparison of Column mean to scale mid-point.

TABLE 7.3

STUDENT'S T-TEST OF ACTUAL COMPARED TO IDEAL DATA

		ITEM NUMBER							
		1	2	3	4	5	6	7	8
t *	=	1.89	1.84	10.41	10.01	11.91	4.73	1.15	2.64
SIGNIF.	=	NS	NS	P<.001	P<.001	P<.001	P=.001	NS	P<.05

t-TEST (Continued)

		ITEM NUMBER						
		9	10	11	12	13	14	15
t *	=	3.63	6.38	5.48	4.88	3.75	7.33	2.39
SIGNIF.	=	P<.01	P<.001	P<.001	P=.001	P=.001	P<.001	P<.05

* Students t-test for Paired Sample : STATWORKS : Rafferty, Norling, Tamaru, McMath & Morganstein (1985).

FIGURE 7.1

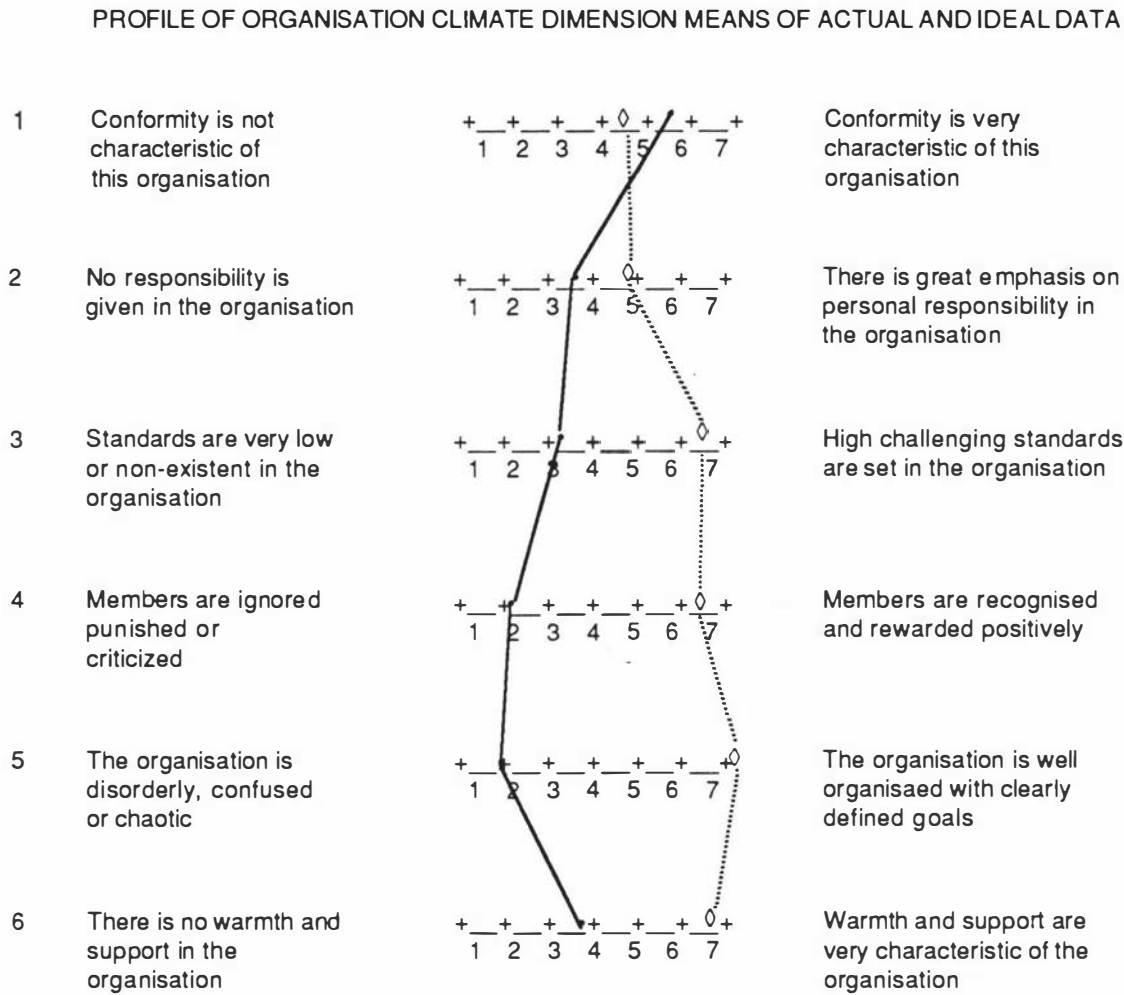


FIGURE 7.1.

PROFILE OF ORGANISATION CLIMATE DIMENSION MEANS OF ACTUAL AND IDEAL DATA

KEY :
ACTUAL •—————•
IDEAL ◊……………◊

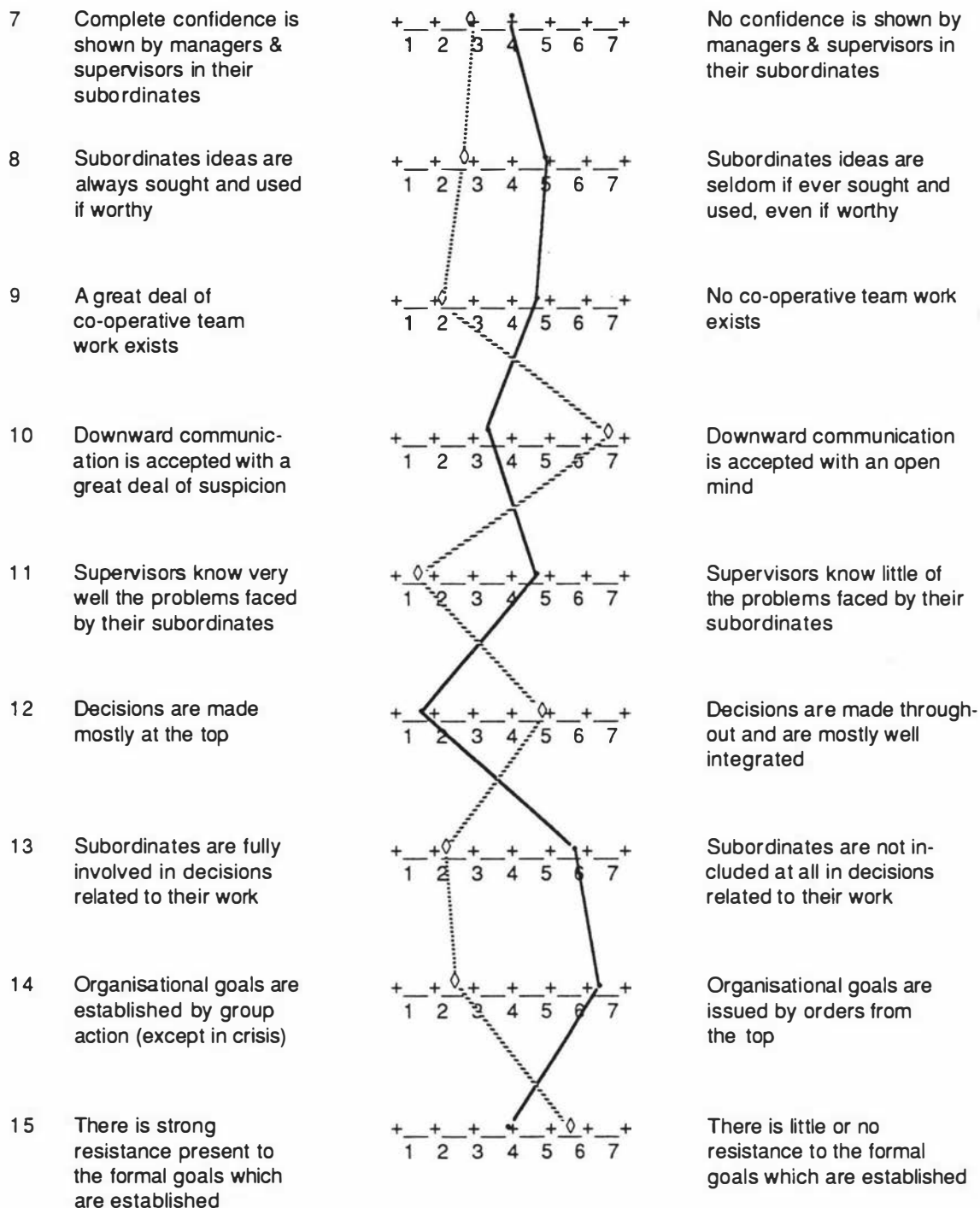


FIGURE 7.1.

 PROFILE OF ORGANISATION CLIMATE DIMENSION MEANS OF ACTUAL AND IDEAL DATA

KEY :

ACTUAL • ————— •

7.4.2. TIMELOGS

Over 116,000 minutes of work were analysed and from these, twenty-two major categories of activity were identified, incorporating subcategories of activity (see Table 7.4 for these categories). These were expressed in terms of the percentage of the group's time that each category represented. For each individual a chart was produced which indicated the categories to which the individual contributed and the percentage of his/her time this took. Examples of one individual's timelog data and the collective timelog data are included as Tables 7.5 and 7.6 respectively. Table 7.5 shows, for example, that Participant #6 contributed to 10 of the 22 categories of activity. She was mostly involved in handling general enquiries, carrying out marketing and public relations activities (such as representing the section at Trade Shows), and the execution of general office work. She recorded 10.3% of her time as wasted time.

Activities as listed in Tables 7.4, 7.5 and 7.6 are rank ordered from top to bottom in terms of the proportion of total group time they represented. Table 7.6 indicates that over 60% of the group's time was spent on billing customers for product usage, construction of product supply systems, travelling in and maintaining vehicles, general office work and report writing, and appliance installation inspections. 10% of the group's time was recorded as wasted time and leave.

The major outcomes of the Timelog exercise were:

- For five of the group members the process of doing timelogs exposed major misperceptions of their work commitments and as a consequence these five people voluntarily began to change their approach to their work while the project was in progress.
- The time which could be considered "down time" (wasted time, travel in vehicles, sick and annual leave and attending conferences, seminars) constituted about a quarter of the group's total time.

- Some of the categories had previously been subjectively reported by participants as excessive workload demands. Following the objectivity of the timelog exercise, these turned out to in fact represent negligible proportions of time (for example, loading data onto the department's Personal Computer).

7.4.3. JOB DESCRIPTIONS

Three to four months following the commencement of the project the investigator was required by the client to produce rewritten Position Descriptions for each member of the group plus four others in a similar office under his jurisdiction (the second office was not involved in the intervention but staff there occupied similar positions to four of the department under analysis). By this time staff turnover and recruitment activities had swelled the numbers in the original group and it was necessary to write a total of eighteen Position Descriptions. The use of timelog material and Rep Test procedures to supplement a Job Description interview, enabled quick production of clear and succinct descriptions.

There was another important outcome from this. The investigator was able to draw up a flow diagram or model that represented the operation of the group. This model is included as Figure 7.2. It commences with sales and marketing activities aimed at gaining approval to establish a product supply system. It then proceeds through creation of the system, further marketing and promoting of the product, actual supply of product to customers, billing of customers for product use, receipt of their payments before entering data into the the internal corporate accounting and administration systems.

TABLE 7.4

Categories of work identified from Time Logs and Activities incorporated in each category

RANK	CATEGORY	ACTIVITIES
1	Billing	Internal Billing enquiries Product Transmission Billing Filing and product use calculations Billing changes and corrections (ie Customer details) General Billing and invoices Receive, receipt & bank incoming payments Debtor monitoring and supply disconnection notices Process readings of product use, input data and check Readings of product use New customer processing & load onto Billing system Metering reports and meter test letters
2	Establishment of product supply systems	Contractor supervision Planning and programming Construction paperwork & recording
3	Vehicles	Travelling time Vehicle maintenance
4	General office work and reports	Liaise with & assist colleagues (includes staff meetings) Filing (excluding Billing filing) Accounts & Fleetcard Correspondence & mail processing "Paperwork" & reports Miscellaneous (eg. tidying, telephone account, time costing to other departments, telephone calls, and other general office work).
5	Appliance installation & inspection	Process work permits Installation inspections Installation enquiries and planning Investigation of installation faults & complaints
6	Wasted Time	Wasted time including unnecessarily wasteful vehicle maintenance
7	Leave	Annual Leave Sick Leave Bereavement Leave
8	Sales, Marketing, Promotions & Public Relations.	Sales, marketing, P.R. and attending Trade Shows etc. Special Savings schemes(Discount/coupons)

TABLE 7.4 (CONTINUED)

RANK	CATEGORY	ACTIVITIES
9	Estimates	Prepare estimates Process estimates and acceptances
10	General Enquiries (excluding Billing enquiries)	External enquiries of a general kind from the public Internal enquiries (Eg. to and fro field and office staff) Debtor queries Creditor queries
11	Third Parties	Info. re. product supply network General liaison Work permits and Site instructions
12	Stores & Materials	Collect materials from stores Issue materials to contractors Purchase, specify, schedule and maintain stock
13	Measure-ups for supply	Measure up for supply and recording of supply system
14	System Performance Evaluation	System performance evaluation System maintenance tests and checks Technical investigations
15	Training	Training & Attendance at seminars
16	Contracts	Prepare contract documents Progress and retention claims Contractor liaison
17	Station work	Station maintenance and modification Station maintenance programmes & procedures Station checks
18	New & prospective customers(General)	Enquiries & liaison Process applications
19	Local Authorities	Local Authority notifications & liaison
20	P.C. Work	Input of database onto P.C.
21	Customer supply	Establish, dis-establish & re-establish of supply
22	Incidents	Callouts to incidents, emergencies.

TABLE 7.5

Individual Time Log Analysis : Example Office WorkerNAME : Example: Office worker : Participant #6.

Your individual time log analysis represents a total of 10900 minutes (5 weeks), broken down as follows :

	CATEGORY	MINUTES	% OF TIME
1	Billing	135	1.2
2	Establishment of product supply systems	0	0
3	Vehicles	0	0
4	General office work and reports	1900	17.4
5	Appliance installation & inspection	0	0
6	Wasted Time	1125	10.3
7	Leave	900	8.3
8	Sales, Marketing, Promotions & Public Relations	1980	18.2
9	Estimates	720	6.6
10	General Enquiries (excluding Billing enquiries)	2280	20.9
11	Third Parties	0	0
12	Stores & Materials	0	0
13	Assessments for supply	0	0
14	System Performance Evaluation	0	0
15	Training	0	0
16	Contracts	795	7.3
17	Station work	0	0
18	New & prospective customers (General)	555	5.1
19	Local Authorities	0	0
20	P.C. Work	510	4.7
21	Customer supply	0	0
22	Incidents	0	0
TOTAL MINUTES		10,900	

TABLE 7.6

Categories of work . Time spent on each category & Principle group invoved in each.

RANK	CATEGORY	MINUTES	% OF TIME	PRINCIPLE GROUP
1	Billing	17980	15	Billing & office staff
2	Establishment of product supply systems	16540	14	Engineering, Field staff
3	Vehicles	14175	12	Engineering, Field staff
4	General office work and reports	14030	12	All staff
5	Appliance installation & inspection	9900	8	Installation Inspectors
6	Wasted Time	6000	5	All staff
7	Leave	5580	4	Miscellaneous
8	Sale, Marketing, Promotion & Public Relations.	4560	3	Installation Inspectors Office staff
9	Estimates	4035	3	Office staff
10	General Enquiries (exclude Billing enquiries)	3370	2	All staff, specially Office staff
11	Third Parties	3175	2	Engineering, Field staff
12	Stores & Materials	2685	2	Engineering, Field staff
13	Assessments for supply	2670	2	Engineering, Field staff
14	System Performance Evaluation	2520	2	Engineering staff
15	Training	2085	1	Miscellaneous
16	Contracts	2070	1	Miscellaneous
17	Station work	1995	1	Engineering, Field staff
18	New & prospective customers(General)	1335	1	Office staff & Field Supervisor

TABLE 7.6 (Continued).

19	Local Authorities	585	0.5	Field & Office staff
20	P.C. Work	510	0.4	Office staff
21	Customer supply	210	0.1	Field staff
22	Incidents	105	0.09	Field staff
TOTAL MINUTES		116.115		

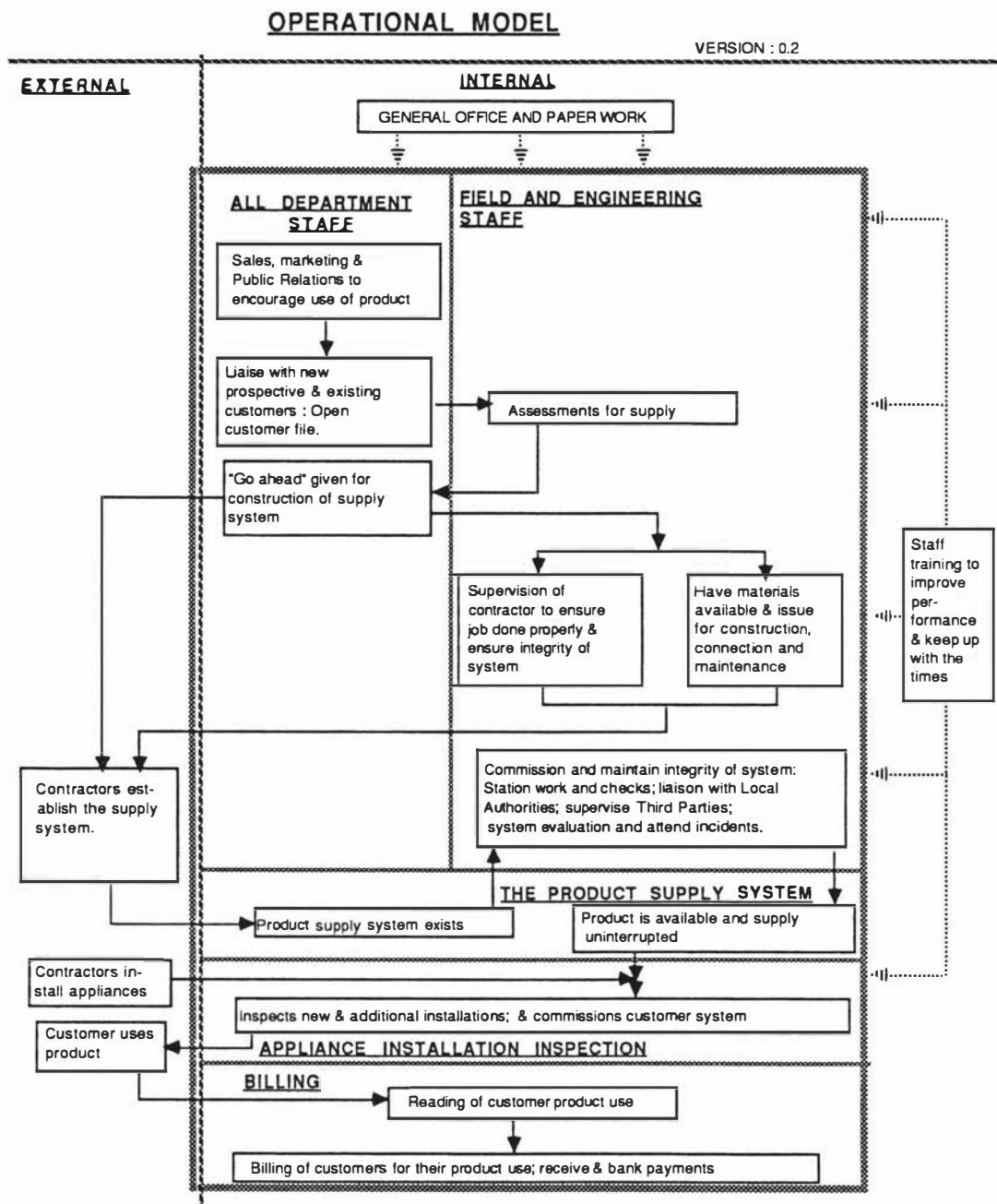


FIGURE 7.2 : MODEL OF WORK GROUPS OPERATION.

7.4.4. COGNITIVE MAPS

The full set of elements and constructs elicited through Repertory test, have been included as Appendix II.2. Some projects and constructs have been altered slightly to maintain the anonymity of the organisation involved.

Cognitive maps were produced for all participants who had engaged in the Rep. test and laddering exercises and these cognitive maps are included as Appendix II.3. The cognitive map for Participant #6 has been included in the Results section as an example (see Figure 7.3). Some maps were quite simple in structure, while others were very complex and convoluted with many and intersecting linkages. The more simple cognitive maps appeared to belong to those participants who had a better understanding of the department's function and who as a consequence were able to make relatively objective work relevant responses. The more complicated cognitive maps seemed to belong to less mature and less experienced participants whose responses were indicative of personal issues rather than department issues.

Content analysis of these cognitive maps to produce a common model was initially attempted following the procedure reported by Stewart and Stewart (1981, p. 50) but became an overwhelming task. The number of varied responses from the group made this a cumbersome and time consuming procedure. It led, however, to the identification of approximately twenty categories of responding, or factors important to construal of the operation. These factors ranged from such things as the perceived importance of the company's survival, and it's need to gain revenue, through to expressions of personal values and psychological wellbeing (for example, job satisfaction and self-esteem).

Despite this categorisation process their remained too much information to successfully content analyse and formulate it into a valid common model. In other words, it was easily possible to do a frequency count of similar responses but the implicative links between these were so diversified from individual to individual that they became incomprehensible. A complex, difficult to follow model was not likely to be acceptable to either the client or

his staff. Yet, subjectively, the investigator was aware of a common thread that ran through the individual cognitive maps.

At this point the investigator reverted back to Hinkle's (1965) emphasis that a construct is defined by both that which is superordinate to it, and that which is subordinate to it. Each individual ladder that threaded through individual cognitive maps was therefore collapsed to become a three-part or three-rung ladder. The upper third expressed the superordinate levels, the middle third expressed the middle order constructs and the lower third was an expression of the subordinate behavioural level of the system. The middle order constructs often represented core constructs into which a number of subordinate implications led, before continuing upwards to one or more superordinate implications. From this it was also possible to reduce each ladder to a single summary sentence which took the form "The superordinate level is influenced/achieved by the middle order level and this is characterised or achieved by the subordinate constructs". An example of this: "Income of company revenue is dependent upon good public relations which is characterised by attending to customers promptly and attending to people issues ahead of engineering or system issues." Table 7.7 is an expression of Participant #6's cognitive map presented verbally in this fashion.

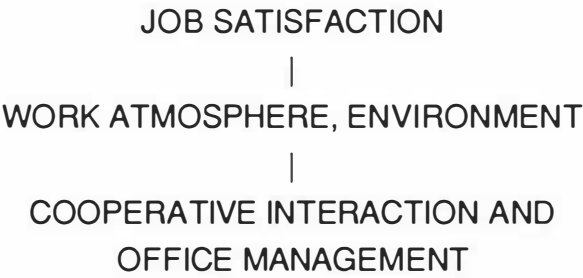
Frequency counts of each level of the three-part ladders made formulation of a common "cognitive map" or model a simple and quick task. It was then possible to go through each individual's cognitive map and highlight the implicative links that had contributed to the common view (see for example Figure 7.4). It was reasoned following Eden (1978) that this should go some way to facilitating in each individual a sense of ownership of the common model, a sense which hopefully could be reinforced at a group workshop. The team cognitive map is included as Figure 7.5. When reading this map, it should be noted that the thickness of the lines representing both content boxes and linkages, represents the degree to which the content and/or linkage were shared within the group. The thicker the line, the greater the number of team members who contributed to it. The actual print used to form the lines (whether solid lines, dotted lines or hatched lines) means nothing in and of itself. Different print was used to enable the reader to accurately follow lines where they intersected with other lines.

TABLE 7.7

EXAMPLE OF REDUCTION OF INDIVIDUAL COGNITIVE MAP LADDERS
TO THREE RUNGS, AND SAMPLE STATEMENTS GENERATED FROM
THAT REDUCTION.

NAME : EXAMPLE (OFFICE WORKER)

1.

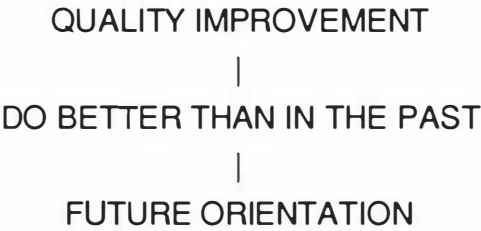


"Job satisfaction is achieved through a positive work environment/atmosphere, which is characterised by intra-department cooperative interaction and good office management".

OR :

" Positive work atmosphere is one where job satisfaction is achieved by intra-department cooperative interaction and good office management".

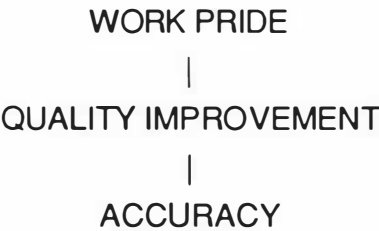
2.



"Quality improvement is achieved via a future orientation whereby you try to improve on past performance"/

Table 7.7 (Continued)

3.

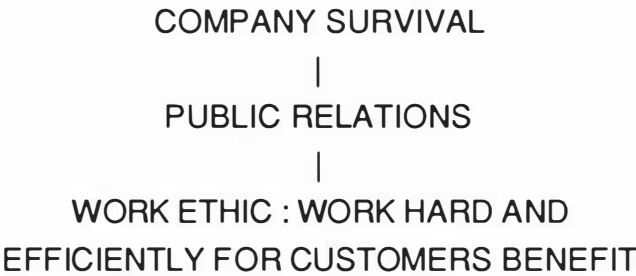


" Work pride is influenced by quality improvement which involves improved accuracy in office procedures".

OR :

"Quality improvement means enhancing work pride through accuracy in office procedures".

4.



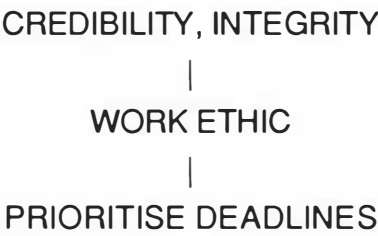
"Company survival is achievable through public relations. These are characterised or affected by individuals working hard to benefit customers".

OR :

"Public relations is defined as achieving company survival by working hard for the benefit of customers".

Table 7.7 (Continued)

5.



"Credibility is achieved through the "work hard" ethic, which is characterised by prioritising deadlined work and indeed, meeting deadlines".

OR :

"The "hard work" ethic involves enhancing your credibility by prioritising deadlines and by meeting those deadlines".

7.4.5. DIFFERENCES BETWEEN FIELD STAFF AND OFFICE STAFF.

There were no differences between field staff and office staff in responding to the Organisational Climate Questionnaire. Students t-test did reveal one item that approached significance (Field mean = 5.17, Office mean = 3.83, $t=2.17$, $df=5$, signific. : $p=0.081$). This item related to supervisors' knowledge of their subordinates' problems. The field staff felt that supervisors' knew relatively little about their problems whereas office staff felt that supervisors had a fair knowledge of their problems.

Eighteen content areas were identified from the collective cognitive map. These were analysed for frequency of field staff versus office staff for having contributed to each category. These categories and Chi-square analysis of results are shown in Table 7.8 and as can be seen, some differences between field staff and office staff were evident. Eighty percent of the field staff responded on a construct whereby they placed a loading of importance on work emanating from the office, whereas no office staff responded in this fashion. Eighty percent of field staff also referred to the importance of self-esteem, while none of the office staff made this reference. All of the office staff's cognitive maps contained a response relating to the work social environment or atmosphere. None of the field staff produced a construct of this type. All but one office worker referred to the importance of the Company's survival, while only one field worker did so. Seventy-one percent of the office staff made some reference to quality in performance, compared to no similar references from field staff. Fifty-seven percent of office staff spoke of productivity and the ethic of hard work and effort. Again, no field staff responded in this fashion. All but one field worker referred to obeying authority, compared to only one office worker .

It is interesting to note that one common construct, "Specific one-off projects vs. routine programmed work", had reversed priority loading for office and field staff. One set of office based respondents stated as a priority "Do programmed routine work ahead of one-off projects" while in direct contrast engineering field staff stated as a priority "Do the specific one-off project ahead of the general 'same for everyone' job".

TABLE 7.8

COMPARISON OF FIELD STAFF AND OFFICE STAFF COGNITIVE MAP CONTENTS

CONTENT CATEGORY	TOTAL GROUP N=12		FIELD STAFF N=5		OFFICE STAFF N=7		CHI-SQUARE	
	Freq.	%	Freq.	%	Freq.	%	X ²	SIGNIF.
1. INCOME, REVENUE	10	83	4	80	6	86	0.07	NS
2. PUBLIC RELATIONS/IMAGE	10	83	5	100	5	71	1.71	NS
3. CUSTOMERS, BUSINESS	10	83	4	80	6	86	0.07	NS
4. RESOURCE USE : TIME	9	75	4	80	5	81	0.11	NS
5. WELLBEING FACTORS	9	75	4	80	5	71	0.11	NS
- JOB SATISFACTION	5	42	2	40	3	43	0.01	NS
- SELF ESTEEM	4	33	4	80	0	0	8.40	P<.01
- PERSONAL PROBLEM	1	8	0	0	1	14	0.78	NS
6. COMPANY SURVIVAL	7	58	1	20	6	80	5.18	P<.05
7. WORK SOCIAL ENVIRONMT	7	58	0	0	7	100	12.00	P<.001
8. NATURE OF WORK OR PROJECT	7	58	4	80	3	43	1.66	NS
9. OBEYANCE TO AUTHORITY	5	42	4	80	1	14	5.18	P<.05
10. RESOURCE USE & AVAILABILITY:	5	42	3	60	2	29	1.19	NS
11. QUALITY, STANDARDS	5	42	0	0	5	71	6.12	P<.05
12. THE HARD WORK ETHIC	4	33	0	0	4	57	4.29	P<.05
13. PRODUCTIVITY	4	33	0	0	4	57	4.29	P<.05
14. IMPORTANCE OF WORK ORIGINATING FROM OFFICE	4	33	4	80	0	0	4.29	P<.01
15. PRODUCT SUPPLY AND AVAILABILITY	3	25	1	20	2	29	0.11	NS
16. WORKLOAD	3	25	1	20	2	29	0.11	NS
17. BUSINESS/OFFICE PRACTICES	3	25	0	0	3	43	2.86	NS
18. PERSONAL DEVELOPMENT	3	25	2	40	1	14	1.02	NS

Table 7.8 (continued)

Notes: Source of Chi-square analysis, multi-sample : STATWORKS™ (Rafferty, Norling, Tamaru, McMath, & Morganstein, 1985).

Degrees of freedom = 1.

Source of degrees of freedom formula and Chi-square critical values : Friedman (1972).

While not a difference between field workers and office workers, a construct shared by a number of participants took a "People vs. Things" form. Things included materials, equipment, engineering work and systems. It is interesting to note that in response to this construct some participants placed people issues as a priority ahead of dealing with things, while other respondents produced the reverse ; stating that dealing with things was a priority ahead of dealing with people.

7.4.6. PROJECT EVALUATION QUESTIONNAIRE.

Only 9 of the 15 workshop attendees returned the project evaluation questionnaire. Of these only 6 had been involved in the exercise from beginning until completion of the workshop. The data from the evaluation was subject to Chi-square analysis to compare actual frequency counts with expected counts (see Appendix II.1 for an indication of frequency counts and responses). All but one of those who responded felt that the purpose of their operation had been clarified ($\chi^2= 5.44$, $df=1$, significant $p.<0.05$). The one negative respondent claimed that he had already been fully aware of the purpose before the project commenced. When considered in the context of all participants, 53% of them felt the purpose of their operation had been clarified, but this result did not achieve significance. Seven respondents (representing 47% of the total number of participants) reported that as a function of the exercise, they looked forward to better relationships, within a department that functioned better and which provided a better service ($X^2=8.66$, $df=2$, $p.<0.05$). Seven respondents reported that their personal "cognitive map" had been useful as either a good depiction of their thoughts or as a means of clarification for them ($X^2=8.66$, $df=2$, $p.<0.05$). For two respondents this item was not applicable, since they were newcomers who

had not completed this part of the procedure. Hence all respondents for whom this item was applicable reported that it was useful.

In conclusion therefore, for those applicable, the cognitive map models were useful. Of those who responded : there was a significant positive expectation about the future of the group, and the exercise had clarified the purpose of their department's operation.

7.4.7. OBSERVATIONS.

In addition to data collected objectively, the participant-observation type role of the investigator enabled identification of other noteworthy material.

It was possible to identify seven members of the group who appeared to play a central role in the problem. The remaining members of the group became inextricably drawn into the difficulties of these seven key players. It was the work environment of the non-central players that was affected however, and it was the non-central players who appeared to experience the generalised low morale. It was interesting therefore to analyse the actions of the seven key players. The following represents a brief case study, prepared by the investigator on the basis of clinical rather than formally objective analysis.

Participant 1 failed to participate in parts of the project. For instance his Timelog and Organisational Climate data was missing. Reports from his staff and other observers indicated that in the workplace he was also a non-participant. He was an outsider to the rest of the group.

His cognitive map indicated that his intentions at work were admirable. It illustrated a clear understanding of the section's functioning and their commercial needs. He was however a young and inexperienced manager, thrust into the role by virtue of his engineering qualifications, rather than on the basis of managerial or supervisory ability. He was coping with neither the expectations of his staff, nor his own self-imposed expectations as expressed in his cognitive map. In the face of this role conflict and role overload, he tended to react to his staff rather than respond professionally.

According to the client, however, Participant 1 was apparently performing quite satisfactorily from a commercial perspective. It is the opinion of the investigator that Participant 1 was aware of his inadequacies, even if subconsciously, and that some of his problem behaviours were, in effect, cries for help. He was out of his depth, experiencing role overload, experiencing severe stress and waiting for his senior managers to come to his rescue. Unfortunately, the senior managers were not receiving his signals. The investigator recommended to the client that Participant 1's responsibilities should be reduced. This was done and almost a year after the project had concluded, at a chance meeting, Participant 1 informed the investigator that the downsizing had been beneficial. It had given him time and space in which to reflect on his inadequacies, and had provided him with the psychological capacity to actually admit to those inadequacies and that he had been out of his depth.

Participant 6 wanted to manage her manager and seemed to have an inflated perception of her ability and her status. She tended to undermine Participant 1's authority in passing orders to field staff. The field staff in turn, reported to the investigator that her instructions were frequently contrary to those of Participant 1. Her cognitive map appears to hold admirable, well reasoned lines of thought. However the production of this cognitive map rather surprised the investigator since, in the workplace, Participant 6 tended to behave in a manner which was almost the direct converse of the sentiments expressed in the cognitive map. This was a good demonstration of the notion that people do not necessarily act in accordance with their stated intentions or attitudes.

The four remote field staff produced an "obey authority" construct. At the elicitation workshop it became clear to the investigator that these four staff had a fairly clear understanding of the commercial needs of the small communities that they served. They were frustrated with a lack of senior management direction and authority to proceed with new work (another example of role conflict). They viewed their direct junior manager as a member of that senior management team and vented their frustrations on him. Their frustrations stemmed from a lack of trust and a general lack of respect for authority. In response, they tended to engage in one-up-man-ship game-playing with their manager. They would set him up, and when he faltered, would take great delight in letting other people know.

In summary, the central problem seemed to involve a triangular conflict between Participant 1, Participant 6, and the group of 4 remote field staff. The field staff were frustrated with and had developed a mistrust of the office. This mainly consisted of a poor relationship with both Participant 1 and Participant 6. Participant 1 was not coping and in the midst of this, the field staff and Participant 6 were making his life a misery.

Participant 12, who produced a cognitive map notable for its complexity and lack of maturity, was the catalyst for flair-ups. Rather than sinking into despair, and getting on with the job, as did other staff, Participant 12 tended to expose the problems. She contributed to the problem in that she took sides with Participant 6, and in some instances became Participant 6's pawn for making grievances heard.

In view of these observations, and in hindsight, it is a pity that full grids were not completed. With such data more definitive statements may have been possible regarding these seven central figures.

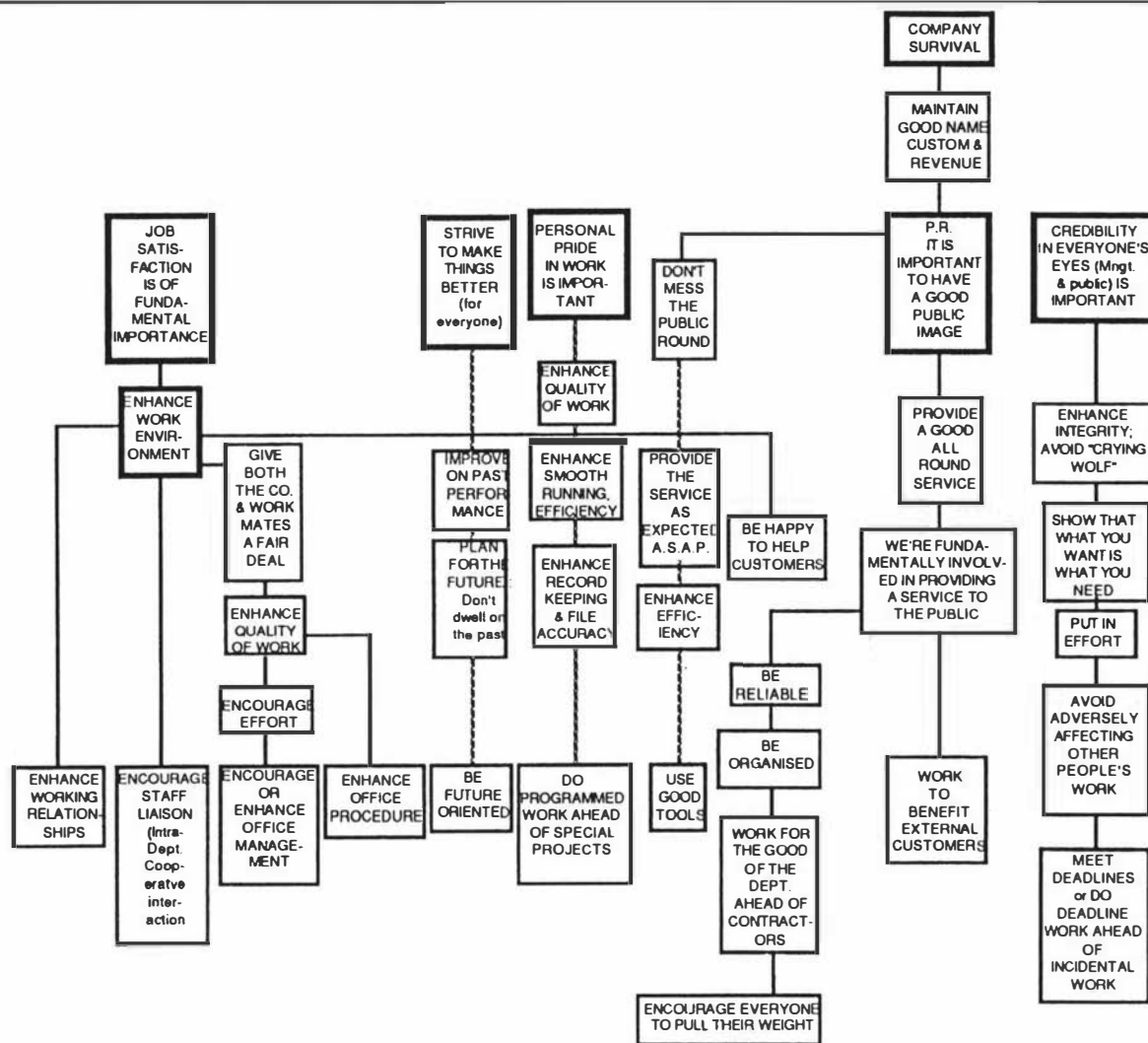
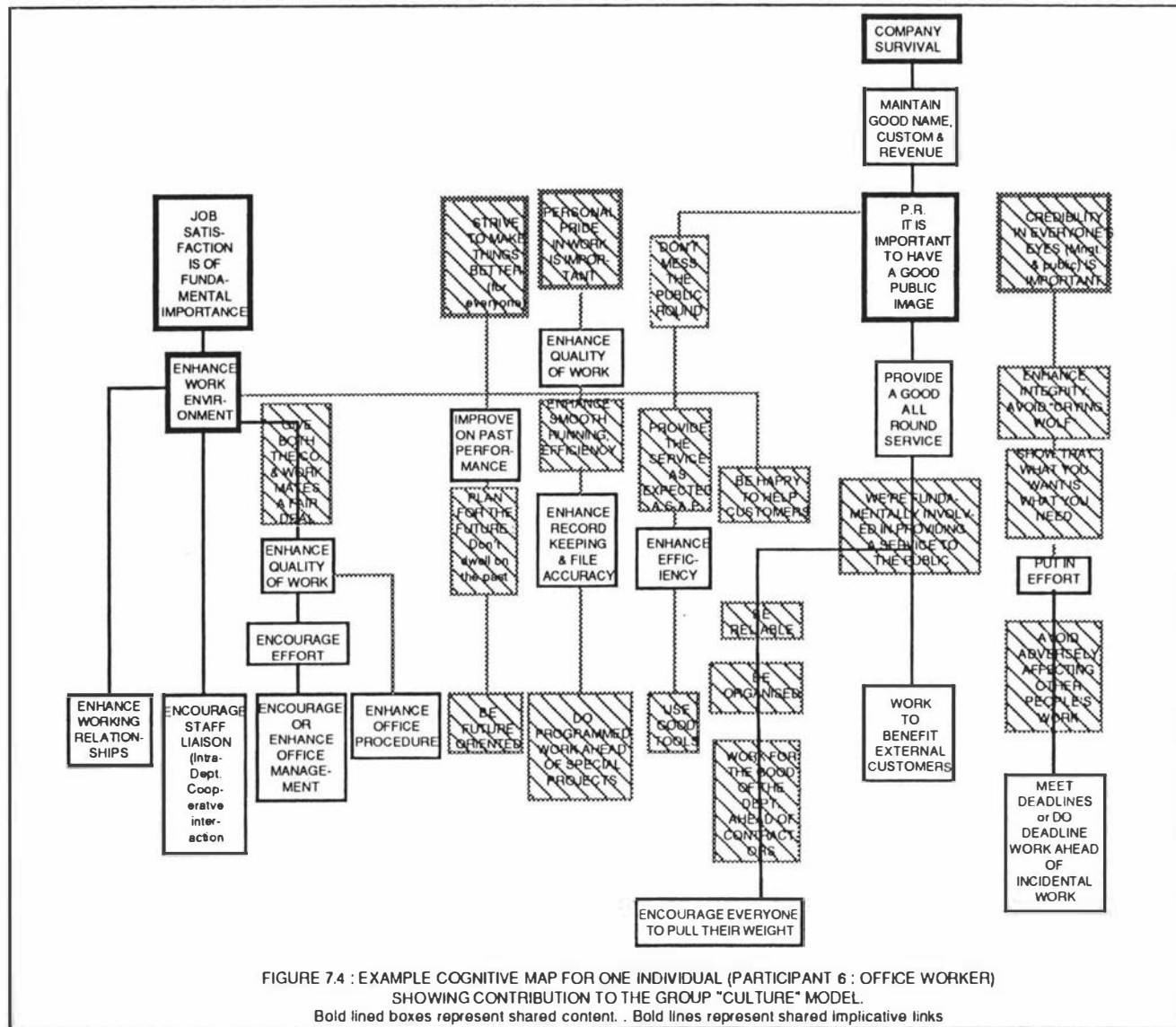
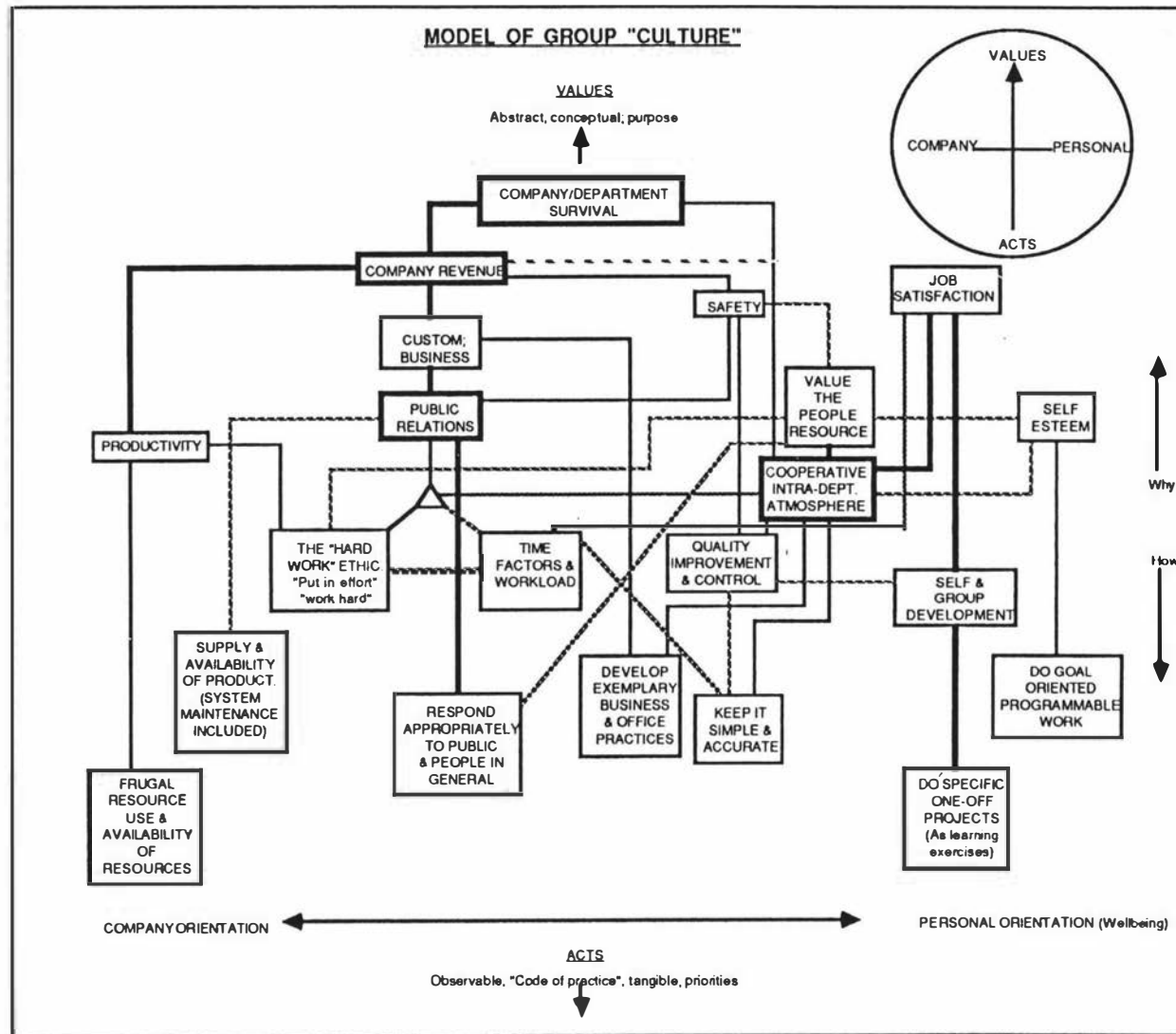


FIGURE 7.3 : EXAMPLE COGNITIVE MAP FOR ONE INDIVIDUAL (PARTICIPANT 6 : OFFICE WORKER)





7.5 Discussion

A stated aim of the present project was to explore the use of Laddering procedures to elicit individuals' cognitive maps concerning their perceptions of their work role and work place and to extend this to explore the usefulness of these procedures in eliciting the commonality of constructs within a group. The intent was to capture the existing culture and make it explicit for all to see. As indicated in the Results section, the enormity of the content analysis problem appeared to be the major drawback with the method especially when the practitioner was required to act quickly and efficiently in the face of time and resource constraints. Applying the notion that a construct is defined by that which is both subordinate and superordinate to it, went some way towards assisting in the resolution of this problem. It is asserted that Repertory Test and Laddering technique remain both theoretically and practically viable methods for identifying commonality, but the present project highlights the necessity for the investigator to be well prepared in terms of the way he or she intends to content analyse the data. Data reduction by collapsing many steps of laddering to just three steps seems to have potential for facilitating content analysis of a multiple number of cognitive maps. This is a procedure however that requires further application and investigation.

At the risk of setting up a circular argument, data reduction of content in this fashion indeed seemed to demonstrate the accuracy of the notion that a construct is defined by that which is subordinate and superordinate to it. For example, when a ladder comprised of a superordinate construct relating to company revenue, a middle order construct relating to public relations and a subordinate construct advocating priority attendance to customer issues ahead of system or engineering issues, it was possible to produce a statement of intent in the form : "Income of company revenue is dependent upon good public relations, which in turn is characterised by attending to customers promptly". It can be seen that this defines the notion of public relations for this individual as it effects his or her operation. For this individual "public relations" has to do with "placing customer issues first in order to enhance the income of revenue". This may or may not be similar to the definition of "public relations" as produced by a member of the company's Public Relations Department, but reflects the notion within the context of the individual's personal work-related functioning or role.

In the face of time and resource constraints, a collective Repertory Test and Laddering Workshop approach was reported for a remote group of participants. Production of projects using this approach was problem free. There was also little difficulty experienced in the elicitation of constructs, although the procedure was rather time consuming and only nine constructs were elicited as compared to twelve with the other individually interviewed participants. Also, potentially valuable or insightful individual elicitations were lost in the group result, although a full record of each individual elicitation was kept. In retrospect a better procedure may have been individual elicitation of constructs followed by group discussion of the pooled constructs.

Laddering in this collective fashion was a good medium for quickly exposing opposing values, in particular the presence of an "economic socialist" versus a "capitalist" within the group. While such discrepancies in values led to much discussion, the discussion itself limited the opportunity to move very far up the ladders. This was possibly an advantage, since not only were the ladders shorter, but also they probably expressed very well the common perception of the values and purposes of the group's operation while simultaneously weeding out less crucial rungs of the ladder. In other words, it is asserted here that these ladders were succinct and to the point, despite the fact that occasionally the reasons and rationale for common responses could not be agreed upon. For example, all four participants agreed that incoming revenue was required. However the group members did not agree on the reason for this nor on how much revenue should be accumulated. This particular situation may well have been a result of the extremity of one individual's views. In this respect, however, the procedure was valuable for the way that this extremity of viewpoint was exposed, discussed and mutually accepted without resort to political or emotional outburst. The procedure had revealed very quickly, the level to which the group were prepared to agree on the value that would enable them to pursue a common operational goal. Namely, they quickly accepted that their common goal was to enhance income, rather than make profit on one hand, or make the bare minimum to provide a service on the other hand.

In that this trial procedure was as much a workshop as a data collection exercise, the investigator, acting as a facilitator, allowed considerable discussion to take place. This meant that only five of the nine elicited constructs were ladderred and therefore potentially valuable material may not have been elicited. Indeed, at the later group workshop it became apparent that the concept of safety had not been elicited among this group. However, they considered safety to be such a fundamental aspect of their operation that they insisted that it be included when they negotiated the collective cognitive map. Another disadvantage with the procedure involved the responding of the most junior member of the group. The facilitator could not help but feel that this person was tending to acquiesce and go along with his seniors, despite continual prompting by the facilitator, and exploration to discover whether or not that was the case.

The session with this remote group was five hours in duration and resulted in the elicitation of nine constructs and just five ladders. It is believed that a structured seven to eight hour session would have seen a more satisfactory completion of the procedure. In the investigator's view however, the session stood out as demonstrating the potential for the procedure to be used as a vehicle for conducting small scale structured team-building workshops.

To conclude the project a group workshop was conducted. The format of the workshop followed the formal procedures used to gather data throughout the intervention (for example. Organisational Climate Questionnaire, Timelogs, Rep.Test and Laddering interviews). However other phenomenon were observed or realised along the way, and it was necessary that these issues be addressed at the workshop as well. For instance, this group displayed a classic array of poor communication behaviours. They failed to listen to one another, failed to listen to outsiders, failed to actually read memos sent to them, seemed unable to express their intended messages adequately, misconstrued the meanings of communications to them and also happened to be a group of people from whom completely unsubstantiated rumours emanated. These observations by the investigator were not only based on reports from other people but were also based directly on the way in which group members responded to communications from the investigator himself. This lack of communication capacity was probably as crucial to the dysfunctional aspects of the group,

as any other symptom noticed through more formal data collection procedures. Therefore it was intended that the matter be specifically dealt with in the workshop.

Another observed factor involved a subset of the group who seemed preoccupied with setting their managers up, then catching them out when they faltered. This one-up-man-ship was quite contrary to concepts of pitching in together to work towards a common goal. Also as indicated above, another symptom of the dysfunctional relationships appeared to be the extent to which the group junior manager, was a non-contributor to group activities (including the team-building intervention itself).

The concluding workshop commenced with a welcome and rite of passage followed by setting the ground rules for the day. The number of participants to be involved in the workshop included 11 of the original 13 participants plus the client manager and 3 newcomers to the department. Reports supplied to each individual, gave feedback of the organisational climate responses, Timelog analysis and development of a model of the group's operation. Each report was individualised so that it contained not only pooled data but also feedback pertinent to that individual alone. For example, each individual received the summarised Timelog analysis for the whole group plus feedback of their own individual Timelog analysis. This report was read through and then the model of the group's operation was discussed and negotiated in detail. The original model generated by the investigator was altered by the group and an improved model established. The model depicted in Figure 7.2 is the final version of the model and not the original .

Specific Issues - particularly the communication dysfunction - were discussed. This was not the time nor place to carry out a communications workshop. It was intended instead, to demonstrate how the group miscommunicated and to encourage each to take responsibility for their communications whether they be the transmitter or the receiver of the communication. Understanding the concepts of communication was made relatively simple in that this group were heavy users of radio telephones and therefore had a good concept of transmitters, receivers and interference.

The latter part of the day involved negotiation of the group representation of the Cognitive Map, to establish levels of superordinacy, and to discuss the validity of the model as generated by the investigator. The main aim of this was to achieve some sort of consensual agreement and sense of ownership for the model's final form. As with the operational model, the group "culture" model underwent change in the discussion and again the version included in Figure 7.5 is the final outcome rather than the original. There were two main changes : removal of a ladder that referred to "obeying authority", and inclusion of a construct relating to safety.

Finally the group discussed a so called "Action Plan", or "What are we going to do about all this and what are we going to do next ?". The investigator was charged with the responsibility of producing up to date models and a Policy for Action (see Table 7.9). When the final version of the group model was released to the participants it was accompanied by a post-project communication which has been included as Appendix II.4. It was decided by the group that the workshop should serve as the foundation upon which to establish a so-called "Quality Circle" which, for this group, would be a system of centralised staff meetings for acknowledging or modifying their objectives, acknowledging or modifying their policy for action, openly discussing things that seemed to block attainment of objectives or implementation of practices, and, collectively trying to find solutions to these blocks. In the month following the workshop, the group had called and conducted their first "Quality Circle" without prompting from the investigator.

Rather than the formal data collection itself, the investigator's participant-involvement role in this project revealed a number of symptoms of the dysfunctions being experienced. This was possible because the department was under close analytical scrutiny, and in addition to the formal data, other phenomenon were observable. For instance the group's poor record with communication has been reported already. Also the junior manager's failure to supply data was noted as probably symptomatic of the dysfunctions. Thirdly, one sub group who contributed to a collective construct related to "obeying authority" were notable for the extent to which they played one-up-man-ship with their superiors. At the final workshop it was revealed that this response had been a little tongue in cheek, and the

group involved requested that it be removed from the collective cognitive map. It probably can be construed however as another symptom of the dysfunction, probably reflecting a tone of disrespect and distrust for their supervisor's ability. It is notable that this same group of workers contributed heavily to the Organisational Climate item indicating that supervisor's did not adequately understand the problems of those who worked under them.

With the Experience corollary, Kelly argued that construct systems change, either rapidly or slowly, in relation to experience. This may provide some explanation for the difference in cognitive map organisation observed when comparing less mature, less experienced participants with more mature participants who had a greater awareness of the section's functioning. The less mature participants tended to have more complicated cognitive maps containing a greater number of linkages, many of which intersected, to create a convoluted array of boxes and lines.

Also the less mature participants tended to refer to personal issues rather than department issues ; in other words, they responded in terms of "what is good for me" rather than "what is good for the company". More experienced individuals appeared not only to be more capable of assuming the company position, but also to have had an opportunity to refine the organisation of their construct system. This relates to what Argyris (1976) referred to as "suppression of individual differences" : the process whereby the individual gives up aspects of oneself in the organisational context and subscribes to the company line. The current procedure may be useful for exploring this notion, and coupled with Hinkle's (1965) investigation of resistance to change, may identify those individuals who cannot readily give up their personal agendas in the interests of the organisation.

In this respect, Argyris (1976) appeared to ask : how can we temper or suppress individuality (individuality corollary) and foster actions that comply with shared values (commonality corollary)? This notion is also suggestive of the fragmentation corollary since Argyris called for the suppression of individuality within and facilitating the organisational context, without necessarily influencing individuality in other life contexts. He called for research into how this process may be effected and surmised that in such a process individuals may need to gain greater self awareness and more knowledge about the organisation. In the current study, increased

knowledge about the organisation seems to relate to suppression of individuality.

Further research by constructivist researchers on the optimum suppression of individuality in the industrial and organisational setting may be desirable. It is concluded here that Repertory Test, Laddering and the aggregation of cognitive maps are useful for exposing those aspects of the individual that are shared with and which are, therefore, part of the organisation. They also expose those aspects of individual construal that are idiosyncratic, or personal agendas ; agendas which may require suppression by the individual in the interests of cohesive, goal directed group action. The current procedure enhances both self awareness and organisational awareness such that individuals (and perhaps others, such as managers, who interact with them) have a clearer picture of those activities to pursue, and those which should be suppressed.

An unanticipated outcome of the project was the demonstrated usefulness of combining Timelog and work-related-projects based Repertory Test procedures for the production of Position Descriptions. Smith (1980) reports applications of the procedure to Task analysis and Job Description writing. The current investigator adds his advocacy to the notion that construct techniques should not be overlooked when carrying out Job Analysis or writing Position Descriptions.

The procedure of Repertory Test followed by the generation of an individual cognitive map through laddering was used as a direct method for establishing individual definitions of self : a pre-requisite for collaborative individualism according to Limerick (1986). Tentative claims for the success of the method in this respect are drawn from the project evaluation data, which indicated a better than expected report that the cognitive maps had been useful to participants as either a good depiction of their thoughts (definition of self) or as a means for clarifying things for them.

It was known before engaging in the intervention that a major source of dysfunction was friction and distrust between field workers and office workers. A feature of the project was therefore to examine any differences in construal of the two groups and if necessary to remedy any misunderstandings. In fact it was not necessary to formally address the

remedy of misconstruals and misunderstandings. Group members instead, tended to have insightful "Ah ha" experiences whereby they acknowledged and responded of their own volition to identified differences in construal of values and roles. The model of the groups functional operation (depicted in Figure 7.2) was an important facilitator for enhanced mutual understanding. A similar model had never been produced before, nor had any attempt been made to inform staff of the whole function. They had never been given the opportunity to either understand the parts by understanding the whole (third blueprint, systems approach) or to understand the whole by understanding the parts (fourth blueprint, loosely coupled systems), (Limerick, 1986). It is claimed therefore that the procedure is useful for reduction of role ambiguity, whether that relates to lack of understanding of one's own role, or colleagues' roles.

The job analysis interviews had clearly revealed that the office staff and field staff did not adequately understand what the other group did, nor how their actions contributed to or impacted upon the workload of the other group (a manifestation of role ambiguity). There appeared to be misconstrual of the major purpose and priorities of each, which had lead to impractical expectations of one another. For instance, the office staff did not realise that the field staff were constantly in the public eye, and were often approached in the street by customers or potential customers, and asked to explain pieces of information that had been received from the office staff. It had become the norm for office staff to pass on requests for field work by radio telephone; they did not realise that the field staff in turn treated any request received by radio telephone with utmost urgency since they expected less urgent requests to arrive via some other media. Discussion of these types of role conflict and role ambiguity issues were instrumental in establishing redesigned procedures for the department and probably went some way towards the acknowledgement of loosely coupled systems.

According to Limerick (1986), the fourth blueprint has developed in response to the current extreme rate of change. The department at the centre of this project were experiencing this rate of change first hand and were likely to experience more. Prior to commencement of the intervention most group members had experienced two macro-level corporate restructurings, and had experienced independent of these, two changes of ownership. Micro-level restructuring in the twelve months prior to the

intervention had seen an amalgamation and centralisation of functions into the department, such that it expanded in numbers from three staff reporting to a single supervisor, to thirteen staff reporting to the same person by this time designated as a junior manager (who one year later admitted to role overload). Furthermore, the function that this section performed was predicted to be the organisation's major growth area, and hence there was a likelihood of further expansion and micro-level restructuring. Indeed in the 8 month duration of this project, staff numbers swelled from 13 to 15, and then within one month of completion of the project increased to 17. Also in the year following completion of the project, this group experienced yet another set of amalgamations and major restructuring.

The organisation, prior to the commencement of this intervention, did not have a publicised vision. Nor did groups within the organisation have their own visions or broad picture of organisational values. There was constant complaint about the apparent directionlessness of the organisation. This tended to reflect an element of person-role conflict whereby field staff in this and associated sections, engaged in projects without senior management knowledge or authority. They experienced role conflict in the knowledge that they were pursuing their own construal of required work in their region, which they knew differed from the construal of necessary work that was held by Head Office.

When earlier restructuring had occurred there had been a tendency for groups throughout the organisation to experience psychological upheaval, as if all their superordinate and core constructs had been disconfirmed necessitating a major overhaul of the entire construct system (see Crockett & Meisel, 1974). The investigator believed that this possibly occurred because with no explicit depiction of the corporate values, there was no knowledge of the variables likely to be affected by change. Corporate restructuring and change meant uncertainty since there was potential for it to mean upheaval on all possible variables. An intention of this project was therefore to at least give this group a portrayal of their collective construct system and through development of ownership, to legitimise that portrayal. It was hoped that in the face of future change, rather than react by throwing everything in the air and expressing an inability to cope, the group would be able, in a calm, mature and business-like way, to respond by examining their cognitive map and ascertain which, if any, features required

adjustment. The group cognitive map was expected therefore to be an on-going, evolving model that facilitated adjustment and fine tuning, rather than being perceived as an immutable document in black and white that set up boundaries and constraints for change. (It should be noted that part way through this project, a change of corporate ownership had occurred. The new owners did have a well documented "Mission Statement" and corporate "Statement of Purpose". Copies of this document came to hand at about the same time as the group workshop was conducted, and hence reference was made to the document in the group's draft Policy for Action, reproduced as Table 7.9).

In summary, both personal construct theory and its associated methodology were trialed for their applicability to an organisational development intervention. At a methodological level, the principal aim of the project was to trial the process of aggregating individual cognitive maps into a collective depiction, and then to assess the usefulness of this information in facilitating the main practical aim of the project : to enhance mutual understanding and tolerance, and to develop a coherent policy for action. It is claimed here, that a personal construct approach was not only a useful approach for gathering specifically relevant data about values and roles, but was also a useful vehicle for placing a practitioner in a participant-observation type of role where both objective measures and clinical observations could be made.

TABLE 7.9

DRAFT STATEMENT OF PURPOSE/POLICY FOR ACTION BASED ON
THE MODEL OF GROUP CULTURE

The Department is committed to its own preservation as the domestic, commercial, industrial and automotive product supplier in the southern and western North Island of New Zealand.

The Department recognise the importance of Company revenue and hence will strive to attain excellence in commercial business practices, and to enhance productivity of staff.

The Department place great value on Public Relations as fundamental to contributing to commercial growth and preservation. Company staff view Public Relations as an expression of their response to the public, the supply and availability of product to consumers, and a committed work ethic and code of practice.

The Department place great emphasis on the safety of their product supply systems in the interests of public, contractor, third party and employee welfare. Hence the Department place great importance on quality control and quality improvement with regard to the product supply systems.

Because the Department staff value their human resource, they will strive to enhance a cooperative intra-department atmosphere that fosters both individual and group development.

The Department will be guided by the Corporate STATEMENT OF PURPOSE with particular regard to :

- effective and efficient utilisation of human, financial and material resources,
- Pursuit of excellence in the development of exemplary business and office practices.

Chapter 8

A DEVELOPMENT APPLICATION WITH A PRIMARY SCHOOL'S INAUGURAL BOARD OF TRUSTEES.

8.1 Introduction

At the outset of this chapter, it is pertinent to briefly remind the reader of the content of previous chapters. Chapter 5 stated the relationship of the individuality, commonality, sociality and organisation corollaries as setting the theoretical scene for a series of applied interventions. Chapter 5 also introduced the concepts of action research and organic research. Chapter 6 described the use of Personal Projects as elements, and Value and Act Laddering as providing useful tools for production of a cognitive map subsequently used to formulate a policy for vocational action. Chapter 7 demonstrated use of the same procedure in an organisation development intervention, where initial attention on individual cognitive maps was shown to be translatable into an aggregated team cognitive map.

In the spirit of action research, the present chapter reports a development intervention modelled on the procedures and refinements reported in the previous three chapters, and from a research perspective, this intervention investigated questions raised in the earlier studies. Furthermore, for the intervention reported below, a conscious attempt was made to retain greater investigator control and to more objectively validate the usefulness of the methods. To a large extent this involved the investigator in following self imposed rules of procedure and analysis, rather than merely applying professional knowledge in an informed but entirely subjective manner.

8.1.1. "TOMORROW'S SCHOOLS"

1989 was to be a landmark year in the history of education in New Zealand. It was a year in which the administrative control of each Primary and Secondary school was to be handed over to a Board of Trustees consisting of 5 elected parents, the School Principal and a Teacher Representative. Where appropriate there was also provision for Student representation. Administrative control of schools had to this time been executed by the Department of Education. In a Government program of educational reform, presented to the public under the banner of "Tomorrow's Schools", the Department of Education was to be replaced by a Ministry of Education. This would result in the administrative control of each school being placed in the hands of the community served by that school.

The "Tomorrow's Schools" program gathered momentum throughout the first few months of 1989, with election of parent and staff representatives to each Board of Trustees occurring late in April. Results of elections were made public in early May and all newly appointed Boards were required to have held their first meeting by May 25, 1989.

School Boards of Trustees have become known as BOTs, and from this point on, their self-adopted abbreviation will be used in this chapter. In their first year in office, major tasks for newly appointed Trustees were : establishment of a school Charter, establishment of a variety of guiding policies for action, adaptation to their individual and collective roles as Trustees and also adjustment to one another. BOTs were in a very real sense thrust together and charged with the responsibility for educating the community's children. These were to be the first Trustees of each school and as such their actions and decisions would be a foundation that impacted on students, teachers and Trustees of subsequent years. In their first year in office there was an enormous amount of work to be done. It was to be done expediently and it concerned a vital issue : the education of their own and their neighbours' children.

The model chosen by the Ministry of Education to assist the country's parents and educators through this transition was "The Self-managing School" ; an approach brought to the public by Caldwell & Spinks (1988). The self-managing school was defined as one where authority to make

decisions relating to the allocation of resources, had been significantly and consistently delegated to the level of the school itself. This decentralisation was administrative rather than political, with decisions at school level being constrained within national policies and requirements. The model was described as a collaborative cycle that provided for the appropriate involvement of teachers, parents and students in an on-going management process of goal setting, need identification, policy making, planning, budgeting, implementing and evaluating.

Limerick (1986) informed that much of the fourth blueprint of management development was founded on the pioneering search for excellence approach of Peters & Waterman (1982) who focussed research on seventy-five companies in the USA and Europe that were considered to be superior performers. The purpose of the Peters & Waterman research was to identify those characteristics of the organisation that appeared to produce corporate excellence. For example, one characteristic that they found, which is of specific relevance to the present study, was that Chief Executives of "excellent" companies had articulated a goal that was concise and economic in wording and which summarised what was unique and special about the company. It was something that all employees could focus upon, such that all knew what the company stood for. Caldwell & Spinks (1988) state that their model also echoes the perspective of Peters and Waterman, and in real terms Caldwell & Spinks approach represents little more than the specific application of organisational theory and knowledge to the school administration context.

Caldwell & Spinks (1988, p. 96) stressed the importance of the school developing an approach to policy making, "in effect a 'policy on policy-making' or a 'blueprint' for the policy process", and that this should be one of the first priorities of the school's policy group. They provided a model of what newly appointed Trustees ought to be involved in doing, but left it largely to the schools' administrative bodies (in this case BOTs) to determine for themselves how they should go about such activities.

Earlier chapters of this dissertation have expressed an interest in the role played by groups within a community who must perform a planning, designing or policy making role on behalf of that community. Construct

methodology and cognitive mapping have been used to describe community values or culture and to formulate these into policies for action. At the commencement of this era in New Zealand education it was clear that both Ministry of Education staff and BOT candidates were experiencing uncertainties about their roles and how to achieve the expectations that might be inherent in those roles. In providing a sample strategy to facilitate the self-managing school in getting started, Caldwell & Spinks (1988) strongly advocated that schools be provided with the psychological and technical support to encourage them to become skilled in collaborative school management. They advocated leadership with vision and commitment, and also the employment of consensus or team building approaches that were highly participative, established guide-lines for managing conflict and controversy, that acknowledged individual behaviour and which enabled high quality and widely acceptable decision making.

It was apparent that the model adopted by the Ministry of Education, the Caldwell and Spinks model, was advocating the employment of strategies that were precisely fulfilled by the approach reported in earlier chapters of this dissertation, involving organisational development interventions. The procedures as reported by Eden (1988), foster participation, ownership and commitment. The individuality corollary specifically acknowledges the impact of the individual, and the outcomes of the approach provide a powerful aid for enabling informed decisions that would meet with optimum acceptability, especially where the feelings and attitudes of others may play a role.

In summary then, the approach advocated by Caldwell & Spinks (1988) to introduce "Tomorrow's Schools" seemed clearly to be a framework which would not only be well served by the team development approach described in the previous chapters, but which would also be enriched by that approach. Indeed the stated areas of interest and procedures described in chapters 5, 6, and 7 appeared almost tailor-made to facilitate the early stages of this educational reform. It is reasoned that the procedures emergent in the earlier reported interventions should be very valuable in both the establishment of guide-line policies for action for trustees, and also in the clarification of their role. With this in mind, acting as a community member, the current investigator offered his services to a local educational community to assist them through what was anticipated to be a

very difficult transition period. The initial venture into the project reported below, was therefore one of a practitioner providing a service. In a very short time however, when the investigator began to consider specific details, the potential was seen for the project to be used as a piece of organic research.

As mentioned above, there was much uncertainty among Trustees, especially with regard the question of their roles. Constructivist theory suggests that, given time, "man-the-scientist" using a hypothesis testing approach, would overcome these uncertainties and role clarification would prevail. One of the main purposes of the present project was to attempt to reduce levels of uncertainty regarding Trustee's personal and collective roles. It was anticipated that an intervention would short-circuit the process of personal hypothesis testing both about one's own values, beliefs and roles in this pioneering context, and also about the values, beliefs, roles and anticipated behaviours of other Trustees. This would be done by formally and specifically addressing these very issues and discovering them explicitly through Personal Construct methodology.

The present project was of a kind that aimed to describe a community's planning, decision making and policy making group. It was intended for that group to, in turn, use the description to develop a policy for action that would help them to act most appropriately on behalf of the wider school community. To a degree, the Trustees were viewed as some sort of representative sample of the wider school community (although, not a very broad sample). As individuals it was intended that the intervention would be of personal use to each trustee in clarifying their role within the group.

8.1.2. CONTENT ANALYSIS

It was indicated earlier that analysis of personal construct, grid derived data tends to be of two types : structural analysis or content analysis (Landfield & Epting, 1988). Structural analysis examines the relationships between constructs and/or elements, while content analysis examines the constructs and/or elements themselves. Most commonly it is structural analysis that is reported in research. Indeed when considering the Personal Construct literature read in preparation for writing this dissertation, the current writer can recall very few articles where the principal analysis was not structural. Sypher & Zorn (1988) support this view when they state that until recently, little research has focussed on the more detailed content of construct systems.

It is only when we move from the literature of the researcher to that of the practitioner that content analysis receives attention (for example, Stewart & Stewart 1981, Landfield & Epting 1988). Sypher & Zorn (1988) cite some recent exceptions, where attempts have been made to examine larger, more general construct categories or themes. For instance, Crockett (1982) identified 3 general content themes in the construal of people : their abilities, their motivation and the tasks in which they engage. In a similar fashion, Schank & Abelson (1977) also identified three themes. According to Sypher & Zorn (1988), while these themes are helpful in discerning the general nature of interpersonal construct system content, they remain quite abstract and tell us little of the specific kinds of constructs people use in assessing particular contexts.

Sypher & Zorn (1985) content analysed workers' construals of liked and disliked co-workers which enabled them to produce descriptions of the prototypic "liked" and "disliked" co-worker. They also found that a large percentage of the elicited constructs were related to communications. In a later study, Sypher & Zorn (1988) examined the central role of communications in construal of liked and disliked co-workers. They firstly categorised all constructs into two groups : relates to communications vs. does not relate to communications. From that point they took a more open content analytic approach whereby they searched the content of the communications related constructs for categories of similar constructs. From a pool of 133 "liked" constructs, there emerged 14 categories, with

intercoder agreement at 93.3% for that sample of constructs. From 137 "disliked" constructs, again, there emerged 14 categories, with intercoder agreement at 86.9%.

Sypher & Zorn (1988) then related that content to questions of cognitive differentiation, level in the organisation, upward mobility and gender differences. They found that liked co-workers were generally described as having "integrity". Persons higher in the organisational structure and who were more upwardly mobile, tended to add "influence" to this description. Males disliked "lack of integrity" most often, while females more often disliked co-workers who were "self centred". Sypher & Zorn (1988) concluded that, as well as considering structural analysis of construct systems, their research demonstrated the importance of also exploring the content of specific content systems. It seemed to them, that this enabled an increased understanding of several interesting, practical and theoretically important relationships in a specific context : namely the context of co-workers descriptions.

The present series of studies fall more in the domain of the practitioner executing organic action research, rather than the the domain of the scientific laboratory based researcher. Earlier studies reported in this dissertation demonstrated that in the client-practitioner relationship, the client has generally been interested in the content of constructs rather than the structure or statistical relationships between constructs. In other words the client, whether an individual in counselling, the manager of a group of employees, or a collective client, has tended to be most interested in the specific kinds of constructs people use in assessing particular contexts. For these reasons, detailed comment on content analysis seems pertinent.

Content analysis becomes an issue in the face of an enormous amount of verbal information. For instance much literature on content analysis tends to report use of the approach to analyse long tracts of text such as the speeches of political campaigns (see Weber 1985) or propaganda and newspaper analysis (see Krippendorff 1980). Weber (1980) states that the central problem of content analysis is data reduction by which the many words of text are classified into far fewer content categories. The key is to choose or derive a strategy for data reduction that does not impoverish the information that remains. This kind of content analysis in the Personal

Construct arena, appears only to be at issue either when testing a specific hypothesis (for example, Sypher & Zorn, 1985, 1988) or when considering a collective of data from two or more people.

Bell (1988) referred to the enormity of data contained in a Repertory Grid and even went as far as to offer a formula for assessing that volume of information. Just as the grid provides an enormous amount of quantitative data, related construct elicitation and system elaboration techniques provide an enormous amount of qualitative information. For example, if Value Laddering and Act laddering take place following construct elicitation of a 10 x 10 grid, and if the respondent Value ladders just five places and Act ladders just three places, counting the originally elicited constructs and elements, we have 100 pieces of qualitative information which must be digested for a single individual. If examining the responses of ten individuals, then we have 1,000 pieces of information. Then, if one went as far as to ladder on both poles of each construct (as advocated by Fransella, 1972) the figure would double to 2,000 pieces of qualitative information from just ten subjects. Eden (1988) states that the richness inherent in cognitive maps comes at the cost of complexity, with most group-derived cognitive maps reaching in excess of 500 concepts and 700 linkages.

The principal difficulty in analysing this content relates to the individuality corollary and consideration of the nuances of meaning inherent in the data. This contrasts, say, to a simple frequency count of recurrent words in text, or categorisation on a set of broad pre-determined themes. On top of this, within the data reduction problem itself, arise further problems relating to consistency or reliability and validity of variables based on the content reduction.

In content analysis, according to Weber (1985), both reliability and validity problems emerge from the ambiguity or nuance of word meanings, or the ambiguity of category definitions or coding rules.

Reliability in Content Analysis.

Krippendorff (1980) distinguishes three types of reliability pertinent to content analysis :

Stability, which refers to the extent to which the results of content analysis are invariant over time. Stability can be assessed by a test-retest style of coding where the same content is coded more than once by the same coder. Stability is described by Krippendorff as the weakest form of reliability.

Reproducibility, sometimes called inter-coder reliability, refers to the extent to which the same results are achieved regarding the same text, by more than one coder.

Accuracy refers to the extent to which the classification of text corresponds to a standard or norm. It is described by Krippendorff (1980) as the strongest form of reliability ; and yet Weber (1985) reports that accuracy is a reliability assessment seldom used by content analytic researchers.

Validity in Content Analysis.

According to Krippendorff (1988) obstacles to content validation stem from uncertainty regarding a target for inferring from data and also from ambiguity regarding where one might find independent or corroborating evidence. In the face of this obstacle, content analytic interpretations have tended to be ad hoc and unable to be validated ; in other words they do not follow the hypothesis testing model and instead become "merely descriptive of a medium of communication " (Krippendorff 1980, p. 156).

Following Campbell's (1957) distinction between internal and external validity, Krippendorff (1980) asserts that it is external validity which has salience for content analysis. External validity is described as "the degree to which variations inside the process of analysis correspond to variations outside that process and whether findings represent the real phenomenon in the context of data as claimed" (Krippendorff, 1980, p. 156). Types of validity in content analysis are related to whether the validating evidence

concerns the data, the analytical results or product, or the process connecting the two.

Krippendorff's data oriented validity assesses the degree to which the representation of the raw material corresponds to an outside criterion. Data oriented validity is distinguished as being either semantic or sampling validity. Semantic validity assesses the degree to which the method used is sensitive to the symbolic meanings relevant to a given context. High semantic validity is achievable if external corroborating evidence for the meaning of the data can be obtained from either its source, its receiver or any other relevant context. Sampling validity, refers to the representativeness of the information relating to the context, and relates closely to construct representativeness discussed in an earlier chapter (see also Gaines & Shaw, 1981). Krippendorff indicates that sampling validity tends to be a function of the source of the data - a source using own and biased selection criteria which the researcher cannot control.

Product oriented validity assesses the capability of a method under a variety of circumstances. Product oriented validity is subdivided into correlational and predictive validity. A method has correlational validity to the extent that findings obtained by one method correlate with findings obtained by another method. This type of validity incorporates Campbell and Fiske's (1959) concept of convergent and discriminant validity. (A measure has convergent validity when it correlates with other measures of the same trait or hypothetical construct, while it displays discriminant validity if it is uncorrelated with measures of dissimilar traits or hypothetical constructs). A method has predictive validity, when predictions obtained agree with directly observable facts. Weber (1985) states that content analytic data are seldom shown to have predictive validity, but cites one powerful study where Ogilvie, Stone & Shneidman (1966) were able to distinguish the content of "real" suicide notes with those of a non-suicidal control group.

Process oriented validity assesses the degree to which a method models, mimics or functionally represents relations in the context of data. Krippendorff (1980) views process validity as equivalent to construct validity. This is because in content analysis, process validity is principally concerned with the nature of the hypothetical construct that is rejected or

accepted on the basis of the theory, model or knowledge base from which the data stem.

Krippendorff (1980) further distinguishes methods of validity assessment on the construct "direct vs. indirect". A direct method involves confirmation that results of content analysis describe what they purport to describe (are in fact accurate), while indirect methods rely on inference (are assumed to be accurate). Direct methods, for example, include referral back to the source of the content or some other corroborating agency, for confirmation that the analysis is accurate. If on the other hand, the content analyst uses his or her knowledge of a particular political philosophy to infer the meaning behind a particular Politician's utterance, then an indirect method has been used.

With regard to the current project, content analysis was concerned with the accurate expression of common or shared context related constructs among a collective of people. There was no intention here to predetermine content categories and to then count the frequency of their occurrence. Instead, in keeping with the spirit of constructivism and the particular strengths and sensitivities of Repertory Test methods, it was intended that the practitioner should respond to and interpret that produced from within the participants, rather than impose any external constraints. It was acknowledged therefore that the content analytic problem here, was a descriptive procedure rather than a hypothesis testing one.

In this sort of intervention the practitioner does play a role in interpreting the content, - or rephrased in accordance with the sociality corollary, the practitioner does construe the construction processes of clients and to that extent plays a particular role in a social process involving the clients. The problems of ambiguity and nuance of meaning add difficulty to the problem of the amount of data to be analysed. Hence the question of accuracy and validity of the practitioner's interpretations must be addressed.

Accuracy was described by Krippendorff (1980) as the strongest form of reliability, and in his discussion of direct and indirect validation (see above), implied that accuracy was assessed through direct methods. The content analysis procedure in the current project is descriptive, and in this respect data oriented analysis seemed most appropriate. In particular semantic

validity was of principal interest. Semantic validity can be gained by the direct method of referral back to the source of the data, in order to seek confirmation. Adherence to Personal Construct Psychology and the principle of Proactive Cognition from constructivist theory in general, suggested that it was appropriate to assess accuracy and validity of content via active participation of the individual or collective who provided the data, rather than from the distance of raters back at the office or laboratory involved in an inter-coder reliability design. Landfield & Epting (1987, p. 117) emphasised that the constructivist practitioner is inextricably involved and cannot separate himself or herself from the process, as might a researcher using Research Assistants in laboratory based independent raters designs.

The purpose of this introduction to content analysis has been to provide argument, that since the encounter with content analysis throughout this series of studies was descriptive, rather than providing a source for inference, generalisability or interpretation, then a number of the content analysis validation issues discussed in the landmark texts on the subject matter (Krippendorff 1980, Weber 1985), did not have strong applicability. Validation of the outcomes of the content data reduction process were therefore proposed to conform to external validation whereby the investigator referred back to the sources of the data (that is, the participants themselves) for feedback so as to confirm semantic accuracy and to some extent, representativeness. This was to be done following Eden's (1978) model of feedback sessions with participants, to enable negotiation and confirmation of cognitive maps. In the group context, this was to be done via workshops and feedback sessions for collective negotiation and confirmation. Some form of confirmation was also sought through a follow-up questionnaire at the conclusion of the practitioner's role in the project.

Content Analysis Method

Much of the content analytic methodology described in Krippendorf (1980) and Weber (1985) relate to analysis of large tracts of text and do not have direct applicability to content analysis of construct systems.

Weber's (1985, p. 44 ff.) discussion of "Key-Word-In-Context" (KWIC) listing technique does however have direct value to the present study. KWIC listing involves the identification of all occurrences of a key word, followed by listing of that word, along with the context prior to and following the occurrence of that word in the text. Table 8.1 shows an abridged portion of a KWIC list taken from the 1980 US Presidential election campaign, based on the key word "rights".

TABLE 8.1
Selected Key-Word-In-Context records for the word "rights", 1980 Reagan
Republican Party Platform. Abridged from Weber (1985, p. 44).

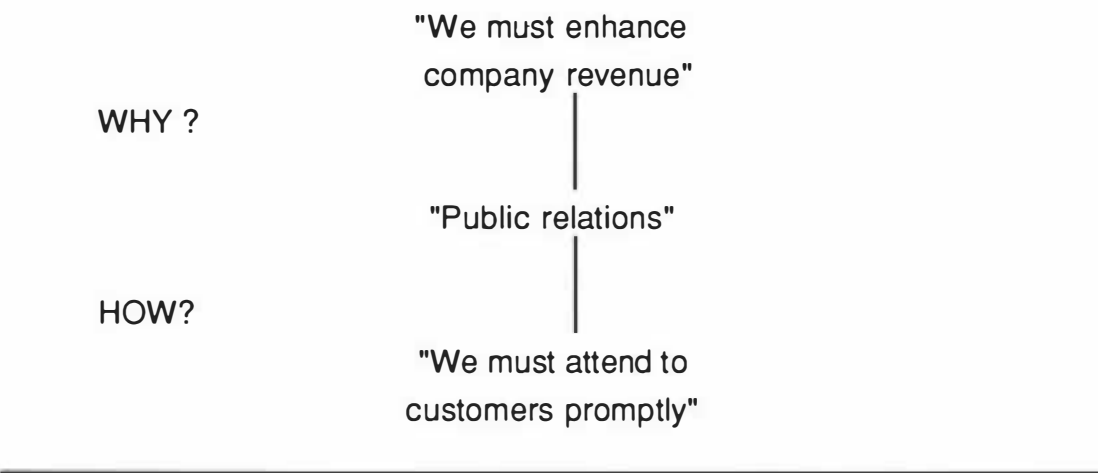
...exercise the	RIGHTS	of adults...
...protecting the	RIGHTS	of citizens...
...equality of	RIGHTS	or all citizens...
...equality of	RIGHTS	under law...
...individual	RIGHTS	and values...
...individual	RIGHTS	are possible...
...Human	RIGHTS	and the UN...
...human	RIGHTS	violations...

A KWIC list can be thought of as a concordance, and according to Weber (1985) concordances provide a rich data base for detailed studies of word usage in all kinds of text. Unfortunately, while KWIC lists provide essential information they are initially data expanding rather than data reducing techniques.

Stewart & Stewart (1981) describe a card-sort procedure for content analysis of construct material. When this procedure was used in earlier projects with the ladderred responses of collectives of participants (one of

which was the project described in Chapter 7), it did not facilitate data reduction. Indeed it highlighted the sheer enormity of the problem. There appeared to be the need for an initial data reduction procedure before indulging in this type of card-sort procedure. Weber (1985) noted that the content analysis investigator must relate theory, text and the results of the analysis procedure. This seemed ample justification to return to Personal Construct theory for a solution. The notion that a construct is defined by that which is both superordinate and subordinate to it, provided the key to the solution. Following this reasoning, the middle content step of a 3-step ladder could be defined by the step above it and by the step below it. Table 8.2 provides an example of such a 3-step ladder, taken from the project reported in Chapter 7.

TABLE 8.2
Example of 3-step ladder defining the concept "Public Relations"



Hence, for the respondent who produced the Table 8.2 ladder, we may question what is meant by the term "Public relations", by considering superordinacy and subordinacy to it. We learn that it has something to do with enhancing the company's revenue and also has something to do with the manner in which the individual attends to customers. For this respondent "Public relations" might mean "enhancing company revenue by attending to customers promptly".

Based on this premise, it was proposed that data reduction of individual ladders would take the form of reducing all parts of the ladder to just 3 steps. The chosen pole of the originally elicited construct, was to be

retained verbatim save some minor editing. The ultimately derived superordinate construct obtained from Value laddering was also retained unaltered. In addition to the original construct and the most superordinate construct of each ladder, Hinkle (1965) emphasised the central role of constructs that had a multiple of implicative links (which in this series of studies have been defined as "core" constructs. Therefore, any constructs with more than one superordinate or subordinate link were also to be preserved. Any laddering steps between these however were to be reduced to a single step. The criterion for accepting that step was that it adequately answered the question "How?" in relation to achieving its superordinate construct, and that its subordinate construct adequately answered the question "How ?" in relation to achieving the middle step itself. For example :

QUESTION :	"How can we enhance company revenue ?";
ANSWER :	"Through good public relations" ;
QUESTION :	"How can we achieve good public relations ?" ;
ANSWER :	"By attending to customers promptly".

This process was to be applied to all content derived through Value laddering. All Act laddering responses were retained since a major purpose of the exercise was to derive a broad repertoire of potential ways and means for achieving the higher order constructs.

Once this had been done the search for construct commonality was to proceed, whereby all responses would be translated onto a manual index-card data base. The content analysis procedure for this stage was modelled on the Key-Word-In-Context and concordance methods. This involved capturing the essential aspects of each response and listing these under noun titles. The key contexts of each response were translated into noun equivalents; thus the verb "to understand" would be translated into the noun "understanding" and the verb "to protect" would be translated into the noun "protection".

For example, using the first three responses contained in Table 8.1, the noun title of one card would have been "Rights". Other cards would have been titled "Exercise", "Adults" "Protection", "Citizens", "Guarantee", "Interchange" and "Information". By placing an article such as "the" Before

each of these words it can be seen that they represent nouns. A response such as "...protecting the rights of citizens..." would have been translated as " PROTECTION of the RIGHTS of CITIZENS". That statement would then be registered under three noun titles : PROTECTION, RIGHTS and CITIZENS. These constituted the key word for that register, and were accompanied by the appropriate subject and predicate relationships. In other words on the KWIC list card titled "RIGHTS" the response would be listed as " Protection of the RIGHTS of citizens" while on the KWIC list card titled "PROTECTION" the same response would have appeared as "PROTECTION of the rights of citizens.

8.2. Research Aims

In the present project, a conscious attempt was made to introduce as much control and objective research rigour as possible. The project was however, a practical application.

An area specifically targetted for increased objectivity, concerned the issue of content analysis and assessment of the validity and reliability of the outcome. It was intended to seek reliability in the form of accuracy, and validity in the form of semantic confirmation of the data. Assessment of these two measures took the form of reference back to the actual source of the data for confirmation of its accuracy in describing that person's construal of the situation. Also some indication of validity was sought by including two items in a post-treatment evaluative questionnaire that directly asked respondents to rate their cognitive maps and the resultant "Policy for Action" for the extent to which these accurately expressed their views.

It was reasoned prior to offering the intervention, that the project would be useful and valid if it served to enhance team building variables such as supportiveness, agreement, cooperativeness, warmth in interpersonal relationships and ease in communications. It would also be considered useful if it served to clarify individual Trustee's roles and the role of the BOT as a group. Assessment of these variables was to be carried out by pre-treatment and post-treatment questionnaires analysed for differences in responding that emerged over time. Also the post-treatment evaluative

questionnaire contained items directly related to participant's perceptions of the usefulness of the project, its value and its success.

It was anticipated that there would be a movement in pre-treatment and post treatment responding that indicated that the Treatment group felt clearer about their collective and combined roles following completion of the project, and also that they would report a greater understanding of one another. While such movement in responding may be of interest in and of itself, it is obvious that extraneous variables could have a major impact in a field experiment such as this ; for example, selection- maturation (Cook & Campbell, 1976, p.250) : the experience gained by the Trustees as a function of time served on the BOT could have as much impact as the intervention itself.

In order to optimise the chances of gaining interpretable results an "untreated control group design with Pre-test and Post-test" was adopted (see Cook & Campbell, 1976, p.249). As is often characteristic of quasi-experimental designs, it was not feasible to apply randomization's. Indeed pre-determined selection of the Treatment group was a necessary feature of the research. This occurred because a BOT that was willing to be a Treatment Group needed to be identified before it could be deemed viable to proceed with the project further. Once informed consent was gained from the Treatment Group, then approaches could be made to potential Control groups.

Because of small sample sizes (BOTs consisted of only 7 people) and potential sampling errors, more than one control group was sought. Also a multiple control group design was adopted to account for the very real possibility that the elected Trustees at different schools might not be equally endowed with Trustee relevant characteristics and expertise.

In other words the desire for a multiple of control groups was a response to the acknowledgement that the Treatment group had not been randomly selected. There could have been something about this school that rendered the BOT as either exemplary performers at the outset, or the converse was possible, they may have been substandard. It was feasible that if just one control group was used, then that control could have significantly out

performed the Treatment group by virtue of the very nature of the people elected onto that Board and the leadership displayed. The intervention could indeed have been useful and worthwhile, and yet the assessment of that usefulness ran the risk of being contaminated by the choice of either a too highly qualified or too lowly qualified control group.

The BOTs of the three primary schools geographically adjacent to the Treatment group school were approached for their cooperation to complete pre-test post-test questionnaires. The four schools in question were considered roughly equivalent in socio-economic and demographic composition since they had common student catchment borders, and each served a middle-class residential suburb bordering on the outskirts of the same medium sized New Zealand city. Other schools were not approached because they were considered to be geographically separated from the Treatment group, and also were known to serve communities comprising a different socio-economic structure. For example, one school was known to consist of parents in the higher professional circles of the city who lived amidst the most highly valued property of the city. Another school had a student catchment that included the city's largest and most depressed state housing area. As confirmation of the equivalence of the schools, it was expected that at the outset of their term of office, there should be little if any difference in their pre-test questionnaire responses.

Two of the potential control schools responded favourably, while the third school failed to either acknowledge or respond to any communications sent to them.

It was anticipated that all three BOTs, as a function of increased experience, would display some selection-maturation movement from pre-test to post-test responding. However it was reasoned that if the intervention was to be deemed to have provided benefit, then the Treatment group would display greater movement, in a positive direction, on a broader range of dimensions than the control groups. It was also reasoned that if movement from pre-test to post-test responding was unequally distributed in the Treatment group's favour then this should be reflected in the emergence of differences between the three groups at post-test analysis : differences that were not expected to be present at pre-test.

8.3 Method

8.3.1. PARTICIPANTS

The present project took place in a medium sized New Zealand city. Three Primary Schools with geographically adjacent pupil catchment areas were used. Two School Boards were treated as Control groups (Control Group A and Control Group B), and the third school was used as the Treatment Group.

All Boards of Trustees consisted of seven members : The School Principal, an elected representative of the school teaching staff and five elected parent representatives.

Personal and demographic data for all participants are presented in Table 8.3.

Treatment Group

Table 8.3 reveals that the majority of Trustees in the Treatment group were in the 35-40 age range, with a ratio of 4 males to 3 female members. On average these Trustees had spent 11.4 years in the local education district. Most had young families of 2 to 3 children. Trustees educational qualifications were predominantly at a Tertiary level (University Degree or Teaching Diploma). The Trustees generally had previous school committee or school council experience prior to election to the Board.

Particular details of Treatment group participants are as follows : Participant T1 was a 40-45 year old male Dental Surgeon. Participant T2 was a 35-40 year old female, educated and trained for an occupation in the Natural Sciences. She was currently not working and instead was raising a pre-school child. Participant T3 was a 35-40 year old male Freight Manager. He was the only member of the group with no previous school committee experience and also had lower formal educational qualifications than other members. Participant T4 was a 35-40 year old female who described the occupations for which she was trained, as Town Planner and Teacher. Like Participant T2 she was not currently employed in these professions and was raising a pre-school child. She and her husband owned and operated

two small retail shops. Participant T5 was a female in the 30-35 age group. Although a teacher at the school, this participant was an elected Parent Representative. The School Principal, Participant T6, was a male aged older than 45 years. He had one child attending the school. The Teacher representative was Participant T7. A female aged older than 45 years, she had a grown up family. She was therefore the only Trustee who did not actually have a child attending the school.

Comparison of Treatment group to Control Groups.

All three groups were closely matched for age and gender composition and for the number of years of residence in the district. The Treatment group tended to have more pre-school children in their family composition while Control Group B had no pre-school children and more children at the Intermediate school age (eleven to thirteen year-olds). Control group A families consisted of fewer members compared to the other two groups. The Treatment group and Control group A were closely matched for educational level. For these two groups education was almost exclusively at the tertiary level and the Trustees were almost exclusively professional people. Control Group B on the other hand appeared split between professional and non-professional personnel, and split between tertiary and non-tertiary education level. The level of previous school committee experience was similar for all three groups.

The Acting Principal of school A held a brief, 2 month, caretaker role on the BOT and hence chose to not provide data to the study. The Teacher Representative of School B did not return data. This created two imbalances in the control groups compared to the Treatment Group. Firstly it meant that data was analysed for only 6 members in each of the control groups, compared to 7 for the Treatment group. Secondly, it meant that for the control groups, data was analysed for only 1 member who was also on the school's teaching staff. In contrast, since one of the Treatment Group elected parent representatives was also a teacher at the school, data was analysed for three members of teaching staff. The absence of the School Principal from Control Group A during these formative few months is also an extraneous variable requiring mention.

TABLE 8.3

Demographic information for all participants including details of ages, sex, period of residence in local education district, family composition, educational qualifications, occupation or professional training and School committee experience.

School	Partici- pant	Age (years)	Sex	Years spent in District	Family composition. Number : level/age
T Group	T1	40-45	M	15.0	5:Spread from pre-school to Treatment secondary school age
	T2	35-40	F	9.0	3 : Pre-school and primary age
	T3	35-40	M	2.0	2 : Pre-school and primary age
	T4	35-40	F	4.0	2 : Pre-school and primary age
	T5	30-35	F	11.0	2 : Primary school age
	T6	>45	M	19.0	2 : Pre-school and primary age
	T7	>45	F	20.0	3 : Grown-up family
		mean= 35-40	ratio= 3:4	mean= 11.4	mean= 2.7
A Control Group A	A1	40-45	M	4.0	2 : Primary school age
	A2	40-45	F	15.0	2 : Primary school age
	A3	40-45	M	22.0	3 : Pre-school and primary age
	A4	30-35	F	1.5	3 : Pre-school and primary age
	A5	40-45	F	3.5	2 : Primary school age
	A6	35-40	M	15.0	0 :
	A7	Acting Principal in caretaker role. Did not submit data.			
		mean= 35-40	ratio= 3:3	mean= 10.2	mean= 2.0
B Control Group B	B1	40-45	M	15.0	3 : Primary & intermediate school age
	B2	35-40	M	7.0	2 : Primary school age
	B3	35-40	M	3.0	4 : Primary to secondary school age
	B4	40-45	M	0.3	2 : Primary school age
	B5	30-35	F	32.0	2 : Primary school age
	B6	40-45	F	5.5	3 : Primary & Intermediate school age
	B7	Teacher Rep. Data not obtained from this Trustee.			
		mean= 35-40	ratio = 2:4	mean= 10.5	mean= 2.6

TABLE 8.3 (Continued)

School	Participant	Level of formal educational qualifications	Occupation	Previous school committee experience
T Group	T1	Tertiary	Dental surgeon	Yes (at this school)
	T2	Tertiary	Natural sciences	Yes (at this school)
	T3	Senior secondary Certs.	Freight Manager	No
	T4	Tertiary	Town Planner/Teacher	Yes (at this school)
	T5	Tertiary	Primary teacher	Yes (at another school)
	T6	Tertiary	School Principal	Only in Principal's role
	T7	Tertiary	Primary Teacher	Yes (at another school)
		Mode= Tertiary	General description : Professional	Ratio Yes:No 6:1
A Control Group A	A1	Tertiary	Professional Engineer	Yes (at this school)
	A2	Tertiary	Physiotherapist	Yes (at this school)
	A3	Tertiary	Chartered Accountant	Yes (at another school)
	A4	Tertiary	Part-time Teacher	Yes (at this school)
	A5	Tertiary	Secondary Teacher	Yes (at this school)
	A6	Tertiary	Primary Teacher	No
	A7	Acting Principal in caretaker role. Did not submit data.		
		All= Tertiary	General description : Professional	Ratio Yes : No 5:1
B Control Group B	B1	Trade Qualifications	Marine Engineer	Yes (at this school)
	B2	Senior Secondary Certs.	Office Manager	Yes (at this school)
	B3	Tertiary	Professional Engineer	Yes (at another school)
	B4	Tertiary	School Principal	Only in Principal's role
	B5	Tertiary	Lab. Technologist	Yes (at another school)
	B6	Senior secondary Certs.	"House wife"	Yes (at this school)
	B7	Teacher Rep.: Data not obtained from this Trustee.		
		Mode= Tertiary	General description : Split : Professional & non-professional	Ratio Yes:No 6:0

8.3.2. MATERIALS

QUESTIONNAIRES

Pre-treatment and post-treatment Questionnaires were prepared, examples of which can be found in Appendix III.1. These questionnaires were entitled respectively "Board of Trustees Role Questionnaire" and "Board of Trustees Role Questionnaire : Follow-up Administration".

These questionnaires were purposefully designed, and contained items specifically of interest to the investigator. The pre-test version consisted of three parts. Part A sought information on the Trustee's feelings about their Board as a whole. Part A consisted of twelve 7-point rating scales which

intended to determine levels of organisation, goal directedness, supportiveness, trustee agreement, warmth in interpersonal relationships among trustees, control, suspicion, similarity in values and beliefs, ease in communicating with one another, understanding about school problems, clarity about the Board's role, and presence of cooperative team work.

Part B referred to Trustees' feelings about their personal role on the Board. This section comprised of eight 7-point rating scales intended to assess members' level of comfort about their role, tendency to disagree with other Trustees, understanding of other Trustees' opinions, suspicion about other Trustees, similarity of own beliefs and values compared to other Trustees, understanding of school problems, clarity about their personal role and feelings that their views were respected.

Part C was designed to elicit demographic data about participants. In particular it contained items relating to age, sex, number of years residence in the local education district, family size and age composition, educational qualifications, participant's occupations or the occupation for which they were most suitably trained and educated, and previous experience on school committees either at the present school or at another school.

The post-test version of the questionnaire was identical to the pre-test version, with the exception that the demographic section was omitted. For the Treatment group however a further section was attached. This section related to the intervention. It consisted of eight 7-point rating scales concerned with participants' levels of satisfaction with the exercise, acceptance of the outcomes, perceived value of the exercise both personally and for the group as a whole, enjoyment in doing the exercise, perceived success of the exercise and validity/accuracy of the products of the intervention.

Instructions on the pre-test version indicated that the questionnaire was specifically directed at newly appointed trustees. Its stated purpose was to follow Trustees' feelings about their current role as Board members over

time. Participants were advised that the questionnaire would be administered twice, once very early in the life of the Board and again at a point in the future. It was stated that the researcher was interested in any shifts in Trustee's feelings about their roles as their Board's functioning progressed in time. Confidentiality of information was assured, and a request was made for answers to be honest. Trustees were advised that their responses alone were wanted and therefore they were directed not to discuss their responses with other people. If they had problems, the researcher's telephone number was included and participants were encouraged to make contact if they felt the need.

Participants were then instructed to place a circle around the number on each rating scale that best indicated their current position on that dimension. They were advised that a score of 1 for instance, indicated strong agreement with the statement to the left of the scale, while a score of 7 indicated strong agreement with the statement to the right. A score of 4 indicated that their position was described just as strongly by the statement to the right as the one to the left. This was followed by an example item and description of what that example meant.

All scales had a pole that could have been construed as being more positive than the other. Therefore assignment of positive vs. negative poles to either the left or right hand side of the scale was done in a random fashion for all scales. This was done in an attempt to control for any patterned responding that did not relate to the content of the scales.

Instructions for the Post-test reminded participants that they had completed an identical questionnaire six months earlier, and also reminded them of the stated purpose of the questionnaires. Participants were instructed that their responses were to reflect their feelings at that moment, and not how they felt a few weeks or months earlier. Matters concerning confidentiality, own responses and contacting the researcher in cases of difficulty were repeated, as were the instructions as to how to complete the rating scales.

REPERTORY TEST

Repertory test, with the Treatment Group, was carried out in a card-sort fashion, and elements and constructs were transferred to a standard 10 x 10 repertory grid, for scoring. A standard form was used for laddering. Examples of these are included in Appendix III.1. It is pertinent to mention that a valuable tool for the preparation of cognitive maps included the computer aided draughting package "MacDraw" for Macintosh computers. This enabled quick professional feedback to participants in the Treatment group.

8.3.3 PROCEDURE

School Boards of Trustees were elected in late April 1989 and were required to have met by 25 May 1989. The first part of the procedure involved gaining the cooperation and informed consent of the Treatment and Control groups.

With respect to the Treatment group, the investigator sent letters immediately following Trustee elections to each Trustee, along with a resume' of the investigator's professional qualifications and experience. The letter explained the intentions of a proposed project and requested an audience with the Trustees at their first meeting. The proposal was worded as an offer to provide professional assistance through a period of transition and learning. An invitation to address the meeting was obtained.

In the intervening weeks a detailed response and much literature was supplied to the investigator by the school Principal. He appeared very sceptical about the value of the proposal, and one gained the impression that he viewed the project as an invasion of his territory. The commissioning of the "Tomorrow's Schools" concept and development was to be based on

the pioneering work of Caldwell & Spinks (1988). The School Principal, who was well versed with the Caldwell & Spinks literature appeared reluctant to accept a new process, especially one over which he did not have control.

Detailed perusal of Caldwell & Spinks (1988) revealed to the investigator, however, that the proposed intervention would go hand-in-glove with the intended process. Caldwell & Spinks provided advice as to what BOTs should do, and gave some generalised methods as to how Boards might go about that process. The intervention project proposed in this case, could be construed as a specific method available to achieve the same aims. Considerable care therefore went into the preparation of a presentation to the newly appointed Board. The proposal was accepted unanimously by the Trustees, with the School Principal becoming sufficiently convinced that he became the strongest ally to the investigator's proposal.

With the Treatment Group's acceptance, the investigator then approached the geographically adjacent schools' BOTs to gain their cooperation in completing a questionnaire early in their existence and then again after approximately six months experience. Three school's BOTS were originally approached. One BOT (Control group A) agreed to participate without hesitation. The second BOT (Control group B) agreed only after discussion and some suspicion about the intentions of the project. They thought initially that it was a Government sponsored project and viewed it as an intruding attempt to gain information about them. They agreed to participate when one of their own colleagues pointed out that the project was part of doctoral research, and was hence a genuine request. The third school failed both to acknowledge and to respond to the investigator's communications.

The investigator visited each Control group Trustee during June 1989 to deliver the pre-test questionnaires by hand, and returned seven days later to collect the questionnaire. Despite this approach, some Trustees were

very difficult to find at home, and for one Trustee in Control Group B, the completed questionnaires were never recovered (participant B7). A further Trustee of Control Group A opted not to provide data as he was performing only a two month caretaker role on the BOT. The procedure for delivery of Post-test questionnaires in December 1989 followed the same pattern, except that it was even more difficult to locate Trustees at home. The investigator had to resort to mailing questionnaires to over half the participants and to rely on their return through self-addressed and stamped envelopes. All questionnaires were recovered although a number of follow-up telephone calls were required to secure two or three of them.

Procedure with the Treatment Group.

During June 1989 the Investigator met individually with each Treatment group participant. Participants commenced by completing the pre-treatment questionnaire. Element elicitation then occurred. Participants were asked to write on index cards, titles or labels to represent ten personal projects that they either had been recently engaged in, were currently engaged in or which they anticipated they were about to become engaged in. In recognition of the importance of context specificity, personal projects were constrained to the context of the education of their own children, the community's children or their relationship with the school.

Construct elicitation took the form of normal triad elicitation, until a 10 x 10 grid had been configured. Participants then completed the grid by using each construct as a 7-point rating scale on which to assess each element. Participants were told that the purpose of the Repertory Grid scoring was to assist the Investigator in producing accurate cognitive maps.

Following this, Value Laddering and Act Laddering commenced for each construct. Prior to value laddering, participants were asked how they received information regarding the tasks and projects that they must perform as Trustees. Some, for instance, called daily at the school to collect material, while others relied on the school to send messages home with their children. Participants were asked to imagine that they had received

simultaneously, through their usual source of information, two messages requesting that they perform some sort of Trustee related task or activity. They were to imagine that the requests were virtually identical in every respect, except that one task was characterised by the left-hand pole of the first construct, while the other task was characterised by the right-hand pole. They were then asked to choose, as a Trustee, the task that would take priority ; the one they should attend to first. Value laddering by "Why ?" questions then progressed until the participant could ladder no further and agreed that the uppermost response was a fundamental value that expressed something of their general philosophy about education.

Following elicitation of the first ladder, the procedure of asking "Why ?" questions to move from the elicited construct to a higher order value, was explained to participants in more detail, and it was demonstrated that it was possible to follow the ladder downwards by answering the question "How?". The Act Laddering phase involved visual scrutiny of the completed grid, to identify a project/element that had been given a high weighting on the chosen construct pole. The participant was then asked to proceed to ladder downwards and was prompted with "How?" questions regarding how he or she intended, might intend or might imagine that one could carry out that project.

When the participant was clear about the procedure used to ladder on the first construct, Value and Act laddering were completed in the same fashion for the remaining nine constructs. Some participants completed this entire procedure in a single two to three hour session. Others required two sessions totalling about four hours.

Principal Components analysis, from the Circumgrids III package for personal computers (see Chambers & Grice, 1986, 1987), was then applied to each grid and the outcome used to laterally orient participant's cognitive maps. Circumgrids III is a "public domain" Repertory Grid software package. It enables both interactive elicitation with a respondent, and also direct input of Rep. Grid data for analysis. The Principal Components (Axes) analysis from Circumgrids III, produces output for both Construct (Row)

analysis and Element (Column) analysis. In each case a correlation matrix is produced, along with calculation of eigenvalues and percent variance of eigenvalues accounted for on each Principal Component. The user can select the number of Principal Components to be extracted. In the present case the default option was used which extracts the first three Principal Components. The output displays the construct (or element) loading on each component and plots their position in construct space using the first two Principal Components as orthogonal scales.

The data reduction procedure described in detail in the introduction to this chapter, was applied to each ladder. To reiterate, the uppermost responses on the ladders (the fundamental values), the initially elicited construct pole, all act laddering responses and any constructs that possessed more than two implicative links (defined by the present investigator as core constructs) were retained. Any intervening laddering steps were reduced to a single statement. The criterion for acceptance of that statement being that it adequately answered "How?" in relation to achieving the statement above it, and that the statement below it, in turn, adequately answered the question "How?" in relationship to achieving the data-reduced statement itself.

The outcome was graphically depicted as a cognitive map. Where possible, the converse, or opposite pole of each construct was also included. This meant that a statement such as "enhance a sense of belonging" was coupled with a statement such as "Avoid alienation". This was done so as to enrich the possibility of more accurately identifying similar content across participants, since some participants might have responded with a negative such as "Avoid alienation", or "avoid conflict" while other participants may have responded with the positive same-meaning construct pole, such as "enhance sense of belonging" or "enhance harmony".

Each piece of content was then subjected to a modified form of Key-Word-In-Context (KWIC) list, concordance style of content analysis (described in detail in the introduction to this chapter). Each response was translated into a string of noun equivalents. Each noun was then assigned as the Key

word for a KWIC list card and each response was transcribed onto the appropriate KWIC list card. A per-subject frequency count of responses was then made. In other words, since there were 7 participants, 7 was the maximum frequency possible, even though some participants had used the same response two or three times. Following this, each statement or construct shared by two or more participants was examined for its superordinate and subordinate linkages in order to identify common or shared implicative linkages with common content. The result of this procedure was expressed graphically as a group cognitive map or model (shown in the Results section).

Individual cognitive maps were duplicated, highlighting those aspects (content and/or linkages) that were shared with the group model. That is, individual's contributions to the group model were made explicit to them.

A feedback session was then held with each individual. Prior to this a document was prepared for each participant which consisted of copies of the group Cognitive Map, the individual's own cognitive map, the duplicate cognitive map highlighting individual contributions to the group map, plus an explanation as to how to interpret each depiction. (Discussion of these documents takes place in the Results section of this Chapter). For reasons of confidentiality participants did not receive any detailed feedback concerning the content and structure of cognitive maps of other participants.

At the feedback session, the investigator and the participant thoroughly negotiated each model. The term "negotiated" is deliberately chosen since it was applied in two senses of the word. The cognitive maps were negotiated as one would negotiate a road map ; running one's finger along lines from place to place. Additionally, the content and structure of individual cognitive maps were negotiated in the sense that the participant could question the investigator's interpretations, could request changes to wording, and could request removal or addition of content or linkages between content. They could also lend support to a notion depicted in the group model that had not been clearly identified in their own individual model.

A group workshop was then called. Since the workshop was largely unstructured, the procedure and the outcomes or developments of this session were difficult to differentiate. They are therefore described in the Results section. Rites of passage ("icebreakers" and "closure" exercises) were included at commencement and termination of the workshop. Each participant was supplied with an up-dated copy of their own cognitive maps and the group cognitive map. As mentioned above, the procedure within the workshop was left relatively unstructured with the intended outcome that the group would agree to a final version of the Group model and would draft a "Policy for Action" based on that model.

When the group members themselves finally called a halt to the project , the Post-treatment questionnaires were issued to all respondents in the Treatment group and in the Control groups. This coincided with the completion of a 6-month span from Pre-test to Post-test.

8.4. Results

8.4.1. TREATMENT GROUP INDIVIDUAL OUTCOMES.

The data obtained for each of the Treatment group Trustees is described below in case study form. Each case study consists of a table presenting the Repertory Grid raw data, and a brief description of the results of Principal Components analysis. The main reason for conducting Principal components analysis was to identify an objective dimension on which to arrange the lateral (left to right) organisation of cognitive maps. Only the first principal component was required for this purpose. However the analysis extracted the first three components. This was done in order that data was available for some structural description of construal, such as closeness - distance scores, percentage variances and eigenvalues (see Chapter 3 for an introduction to these concepts).

Table 8.4 displays the eigenvalues and percent variances of the first three Principal Components for each participant. It can be seen that participants T4 and T6 produced principal components that account for a high percentage of the variance - in both cases in excess of one standard deviation from the group mean. Participant T5, by comparison, has the lowest percent variance accounted for by the first three components at 72.5%, which is more than one standard deviation lower than the group mean.

The reader should note that when examining the placement of constructs in construct space (see Figures 8.1, 8.4, 8.7, 8.10, 8.13, 8.16 and 8.19), the analysis program places constructs in accordance with their left-hand poles. Where closeness and distance scores are described below, on some occasions distance expresses similarity rather than difference. This has occurred because of reversed polarity on some constructs that express similar concepts and meaning. For instance a construct expressing "self vs. others" may be placed at a distance to one expressing "others' families vs my family", simply because the left hand poles have been reversed such that one has been located in construct space in accordance with "others" ratings and its partner placed in accordance with "self" ratings. Polarity reversal could have been carried out by the investigator prior to analysis.

Such a procedure seemed presumptuous however, and could have contaminated the individual participant's actual meaning in construal.

The case studies also contain figures depicting each participant's cognitive map that resulted from Laddering technique, plus a brief verbal description of each cognitive map. In arranging cognitive map constructs from left to right, the direction (+) or (-), of the Principal Axis loading has been ignored, and only the value of that loading taken into account. The reasoning for this, as above, is concerned with the arbitrary polarity of the original construct dimensions. If a construct has a loading of +1.00 and another construct has a loading of -1.00, then both constructs have been used by the subject in an identical fashion. The only difference is the placement (left or right) of the construct poles. As stated above, it seemed presumptuous to reverse the polarity prior to analysis, and more objective to allow the analysis to identify those constructs used in a similar fashion.

INTERPRETATION OF INDIVIDUAL COGNITIVE MAPS

The cognitive maps represent illustrations of each participant's construct system or way of thinking about the context "being a School Trustee". The maps consist of content boxes and lines of linkage or implication between content boxes.

In the interpretation of these cognitive maps the reader would do well to note that any content on the diagram is defined by that which is above it and that which appears below it. Often this relationship can be expressed by saying that the upper box is achievable via the middle box and that this in turn is characterised by the lower box. Or, the meaning of the middle box can be defined as achieving the upper box by executing the lower box.

Two depictions of each map were produced. The first was an "original" ; an unblemished depiction (for example, see Figure 8.2). In this version thickness of line around content boxes distinguished superordinacy and importance of constructs. "Values" and some of the "core constructs" have the thickest lines, " middle order constructs" and "actions" have the finest lines. The differences in the printing style of the linkage lines (for example, plain black vs. dotted or hatched) were made only for ease in following

them through intersections with other lines. The different styles of the lines does not represent anything special in and of themselves.

The second personal map was a version altered to highlight those aspects of the individual's system that were shared with others in the group (for example, see Figure 8.3). In other words, this depicts those features that also appeared on the Group cognitive map. Shared content was printed in plain text surrounded by a solid line box while independent personal content was printed in italics surrounded by a less distinct box or no box at all. Shared linkages were depicted as thick solid lines while independent linkages were represented by the indistinct lines.

TABLE 8.4

Size of eigenvalues and percentage variance for the first three Principal Components, plus frequency of eigenvalues greater than one or greater than two for Treatment Group participants.

PARTICIPANT	EIGENVALUES			PERCENT VARIANCE	No. OF ROOTS	
	Comp.1	Comp.2	Comp.3		>2	>1
T1	3.69	2.33	1.78	78.0	2	3
T2	4.85	1.77	1.13	77.5	1	3
T3	4.20	1.88	1.13	76.3	1	3
T4	6.49	1.66	0.89	90.4	1	2
T5	3.96	2.32	0.97	72.5	2	2
T6	4.94	3.65	0.59	91.8	2	2
T7	3.70	2.39	1.46	75.5	2	3
MEAN	4.50	2.29	1.20	80.29		
STD. DEVIATION	0.92	0.62	0.39	7.04		

* Eigenvalues and Percentage Variance calculated by Circumgrids III grid analysis package.

CASE 1 : PARTICIPANT T3

TABLE 8.5

Repertory Grid, Elements, constructs and raw data for Participant T3

		<u>Elements/projects</u>											
		1: Promoting the school to the community	2 : Upgrading playing equipment	3 : Community involvement with school	4 : Improve teaching resources	5 : Set goals for BOT & Community	6 : Make school resources available	7 : Learning environment at home	8 : Set & maintain standards	9 : Be professional	10 : Dev. team concept		
												<u>LH construct pole</u>	<u>RH construct pole</u>
A. Equipment	4	1	4	4	7	7	4	7	7	7	7	"Staff & BOT	
B. Involvement	6	4	4	4	4	4	1	4	4	4	4	Presence	
C. Promote the school	1	7	4	7	7	4	4	4	4	1	1	Promote its resources	
D. Resources available	1	1	1	1	1	1	1	1	1	1	2	Resources unavailable	
E. School	4	1	4	1	1	1	7	2	1	1	1	Home	
F. Broad planning	2	7	4	4	1	4	7	1	1	1	1	Specific planning	
G. Developing	4	1	4	4	4	1	1	4	4	4	4	Planning	
H. Develop envmt.	3	1	1	4	4	4	1	4	4	7	7	Develop people	
I. Projecting standards	3	7	7	7	7	4	7	7	4	7	7	Setting standards	
J. Community	4	4	1	4	1	1	7	4	1	4	4	Home	

T3's grid revealed a strong tendency to rate elements at either the centre of the construct scales or at the extreme ends of the scales. It is also noted that on construct (D), all the projects were rated for the extent to which they made resources available rather than unavailable.

Principal Components analysis of T3's data as depicted on Figure 8.1 revealed a pattern where 8 of the ten elements were virtually lined from left to right across the principal dimension with a clustering of 5 to 6 constructs towards the centre of the component, and very little depth displayed on the second component. In contrast, the constructs in construct space seemed to be spread to the extremes of the first component with only one of them placed near the centre of the dimension. In fact constructs seemed to be

spread towards the perimeter of construct space rather than clustered towards the centre.

The first Principal Component accounted for 42.01% of the variance. T3's second component accounted for 18.81% of the variance.

Towards the centre of the two components, can be seen elements construed in similar ways (see Figure 8.1). Projects 8 and 1 were construed as similar. These related to maintaining good standards and promoting the school to the community. Projects 3 and 4 concerning teaching resources and community involvement were also construed as similar. Constructs relating to development and the BOT/staff team (constructs G and A) were also close. At a distance from these two was construct F, which related to the breadth vs. specificity of planning. It could be implied from this that specific planning is distant from the development of the BOT and staff, which is matter of broad planning.

Interpretation of T3's Cognitive map

T3's values relating to this context involved : (1) the importance of a comfortable future livelihood for the community's children, (2) the pursuit of goals and (3) the enhancement of self-esteem, (see Figure 8.2).

(1) Ensuring a comfortable future livelihood for the community's children was deemed by T3 to be achievable by ensuring that they were well prepared for their future within the community. Such preparation involved enhancing awareness of changes and improvements that could impact on the school and community, enhancing parental and community involvement in creating a learning environment that reflected community wants, and updating resources and methods to meet future demands. For Trustees, T3 believed that this involved pursuing aims that reflect the future, making the tools and resources available that would best prepare children for the future, being community orientated, getting parents and community along to the school and by having an attitude or orientation towards "development".

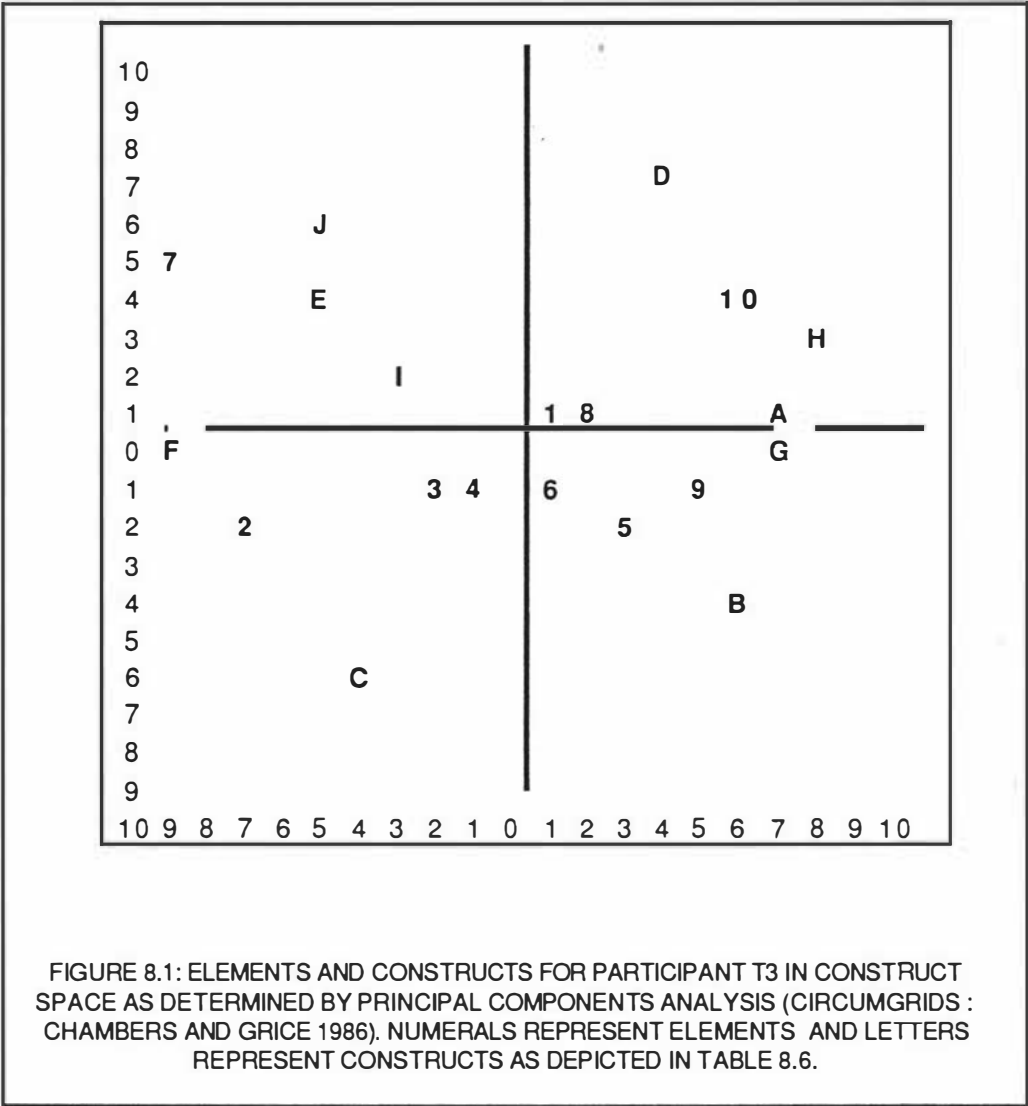
(2) T3 regarded the pursuit of goals and being in control of their pursuit as meaning for the Trustees, that they should try to contribute to (3) people's self esteem. This could be done by planning ahead so as to anticipate

events and avoid the upheaval of unplanned pressures. Facilitating consideration of a broader range of things was seen as, helping avoid unplanned pressures by carrying out specific resource planning. This would be achievable if the BOT and staff were a cohesive "team", with strong guide-lines and common goals. T3 advocated the enhancement of understanding the school's teaching aims. By this he meant utilisation of community and staff aims, by projecting and maintaining standards and by promoting the school through community newsletters and newspapers.

TABLE 8.6

Principal Components Analysis for Participant T3 for first two components.
(the choice pole of each construct prioritised in Laddering has been used to
label and identify it).

		<u>Component</u>	
		<u>First</u>	<u>Second</u>
A.	Eigenvalues	4.20	1.88
B.	Percent variance of Eigenvalues	42.01	18.81
C.	Constructs : Principal Axis Loadings		
A	Board/staff resource	+0.76	+0.15
B	Parental presence at school	+0.62	-0.43
C	Promotion of the school (publicity)	-0.40	-0.60
D	Resource availability	+0.46	+0.72
E	School orientation	-0.59	+0.42
F	Generality of planning	-0.94	-0.01
G	Development	+0.71	-0.02
H	Development of learning envmt.	+0.86	+0.31
I	Projection (display) of standards	-0.33	+0.27
J	Community orientation	-0.53	+0.67
D.	Elements in Construct Space		
1	Promoting the school to community	+0.18	+0.12
2	Upgrading play equipment	-0.76	-0.28
3	Community involvement	-0.21	-0.13
4	Resource availability for teachers	-0.10	-0.14
5	Setting achievable goals	+0.35	-0.29
6	School's resources availability to the community	+0.16	-0.19
7	Learning environment at home	-1.00	+0.53
8	Maintain good standards	+0.28	+0.13
9	Professionalism (projecting stds.)	+0.50	-0.19
10	Community orientation	+0.61	+0.44



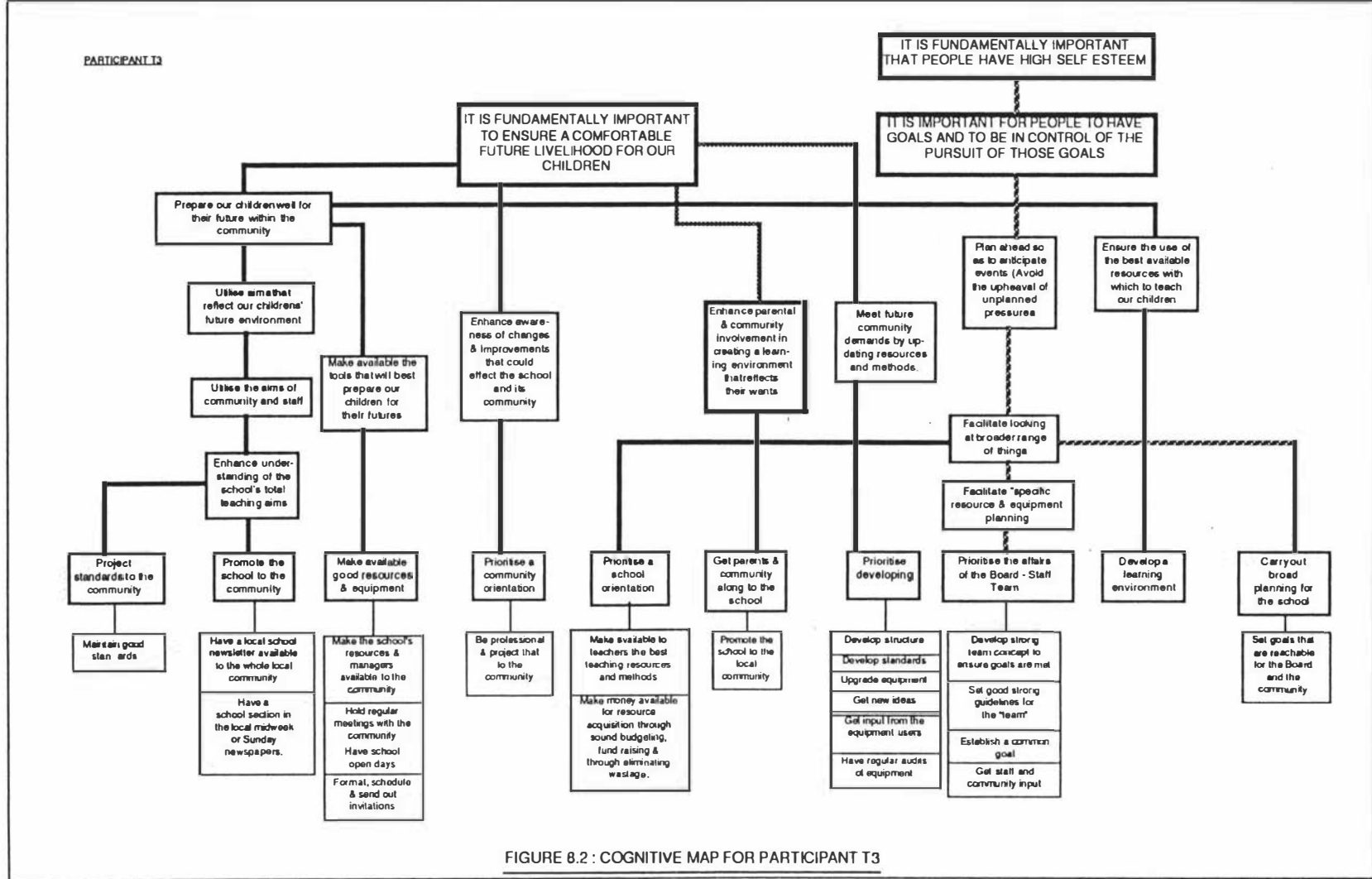


FIGURE 8.2 : COGNITIVE MAP FOR PARTICIPANT T3

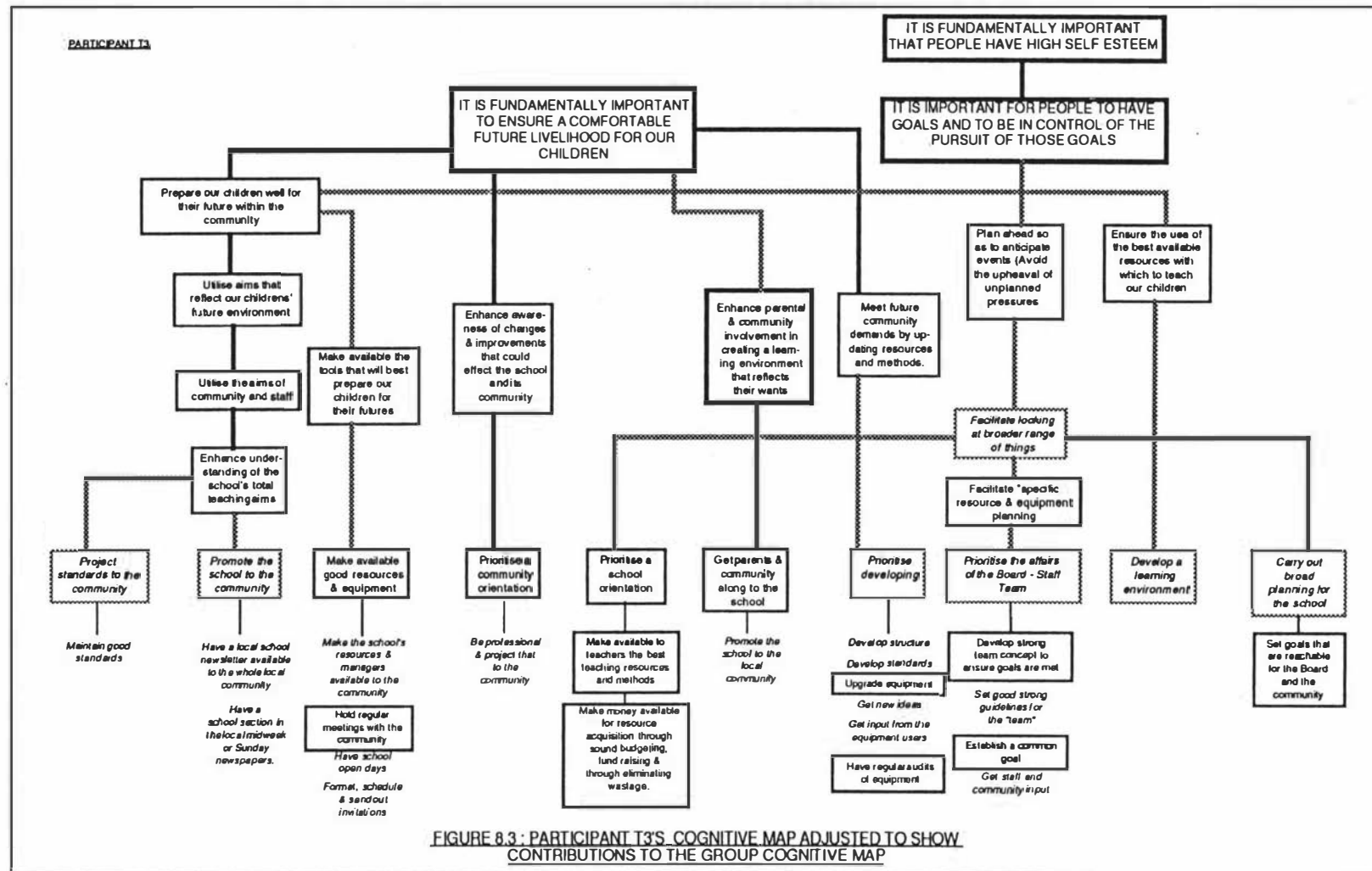


FIGURE 8.3 : PARTICIPANT T3'S COGNITIVE MAP ADJUSTED TO SHOW CONTRIBUTIONS TO THE GROUP COGNITIVE MAP

CASE 2 : PARTICIPANT T4

TABLE 8.7

Repertory Grid, Elements, constructs and raw data for Participant T4

		<u>Elements/projects</u>											
		1: Reduce student-teacher ratio	2 : Involve parents	3 : Broaden children's experience	4 : Improve teacher quality/experience	5 : Support teaching team	6 : School trips	7 : Get teacher X a bigger room	8 : Job as Chairwoman of BOT	9 : BOT/staff/parent relations	10 : Children "learn to learn"		
<u>LH construct pole</u>												<u>RH construct pole</u>	
A. Everyone's concern		1	1	1	1	1	1	1	3	1	1	Teachers only	
B. Direct impact on children		1	1	1	1	1	1	1	4	1	1	Indirect impact on children	
C. Ends		2	3	2	5	5	7	7	7	5	1	Means	
D. Children		1	1	1	1	1	1	4	5	1	1	"Agents" of learning	
E. Minor details		7	7	7	7	7	5	5	2	7	7	Major details	
F. Policies		6	5	6	5	5	3	2	1	5	7	Goals	
G. Important		1	1	1	1	1	3	3	6	1	1	Unimportant	
H. Non-action		7	7	7	7	7	7	7	7	7	1	Action	
I. Relationships		7	4	7	4	7	7	7	4	1	4	Actions	
J. Will "die" to get this		1	2	2	1	2	4	4	4	2	1	Won't "die" to get this	

T4 was a particularly difficult subject to deal with. Quick visual inspection of her grid reveals an overwhelming tendency to score at the extreme ends of the construct rating scales. Also it will be noted that she tended to score almost all elements at one extreme of the construct dimension to the exclusion of the other. For instance, she scored all but one element as "1" on Construct dimension (A), and scored all but one element as "7" on Construct dimension (H), (see Table 8.7, above).

This participant responded to laddering in a fashion not experienced by this investigator with any other respondent, in this or previous applications of the method. Some subjects occasionally have difficulty reaching the apex of

the Value ladder, and considerable effort may be required on the part of the practitioner to facilitate elicitation of superordinate constructs. T4 was not only one of these subjects, but got herself into an unresolvable circular argument in her first few ladders. For example, with regard to construct (A), she chose to prioritise projects that related to all concerned in education, rather than those that related to teachers only. When asked "Why ?" she had made that choice, she stated that it was something that she could relate to more easily. On further "Why ?" enquiry, she stated that something she could relate to easily was important because it would have instant meaning for her. When asked "Why" instant meaning was important, T4 responded, because she could relate to it more easily.

The investigator pursued this particular ladder for a full twenty minutes, but the participant continued to respond that something she could relate to easily provided instant meaning for her, and that this in turn was because she could relate to it more easily. T4 was unable to break this circular mind-set and for this subject the first attempt at Value Laddering had to be abandoned, and tried again at a later date. The intervening time period of 7 days seemed to provide conditions at the second attempt that enabled successful laddering to occur.

T4 produced constructs and construct-linkages that were shared with other participants but it was interesting to discover at the feedback session that she assigned, in some cases, virtually the reverse meaning to concepts compared to her colleagues. For example most of the trustees produced a statement of the nature "It is important to prepare children for the future". For every other Trustee, this statement meant "It is important for the children that we prepare them for the future". Participant T4 in contrast assigned the meaning "It is important for the future, that we prepare children". In one case "children" are the subject and "the future" is the object, whereas in the other case the reverse applies. On top of this T4 was slightly upset by the thought that the other trustees had not interpreted as she had.

T4's first Principle Component accounted for 64.92% of the variance in her data (see Table 8.8). On this component elements tended to be clustered towards the centre of construct space (see Figure 8.4). Component 2, accounted for 16.59% of the variance.

Figure 8.4 shows that constructs A and B were used in virtually an identical fashion. These constructs related to the extent to which the elements "related to all concerned in education" and the degree of "direct impact on children". Constructs D and G, "concern with children" and "importance", were also used in an almost identical way, strongly implying that things that concerned the children were of utmost importance. The closeness of these constructs as displayed on Figure 8.4, also implies that things concerned with the less direct agents of children's learning (for example, staff and BOT), were less important. T4 has aligned Element 8, the task of "BOT Chairwoman", as being close to this implication, indicating that she felt her own performance in this role was less crucial than other child related issues that the BOT must face. Constructs E and F appear at the extreme distance from these constructs on component 1. However, the polarity appears to have been reversed for constructs E and F indicating that they too have been used in a similar fashion to A, B and element 8. E and F are concerned with importance ("major vs. minor details") and whether the projects relate to goals or policies, it being suggested that goals align more closely with important impact on children than do policies.

A close cluster of elements can be found towards the centre of construct space. This cluster appears to be related to philosophical issues for education, such as teacher quality and support, community involvement, teaching styles and aims.

Interpretation of T4's cognitive map

T4's values as displayed in Figure 8.5 involved : (1) the importance of independent learning as a life skill, (2) an improved future world, and (3) the paramount importance of children's needs as a core construct.

(1) According to T4 the life skill of independent learning may be accomplished by producing happy children who are receptive to learning. For Trustees this suggested they should be concerned about relationships between people. For example, the BOT could give teachers autonomy, and encourage parents to feel comfortable and to feel as if they are valuable contributors.

(2) It was T4's view that production of a better, saner world for the future could be reached by producing better citizens for tomorrow and by developing children who were carers, sharers, discoverers, lateral thinkers and who were "open". This was reflected in the achievement of some of "those things on the long list of things to do", and by acknowledging that children's needs were of paramount importance. That long list of things to do included obtaining Government money, obtaining bigger classrooms and developing facilities.

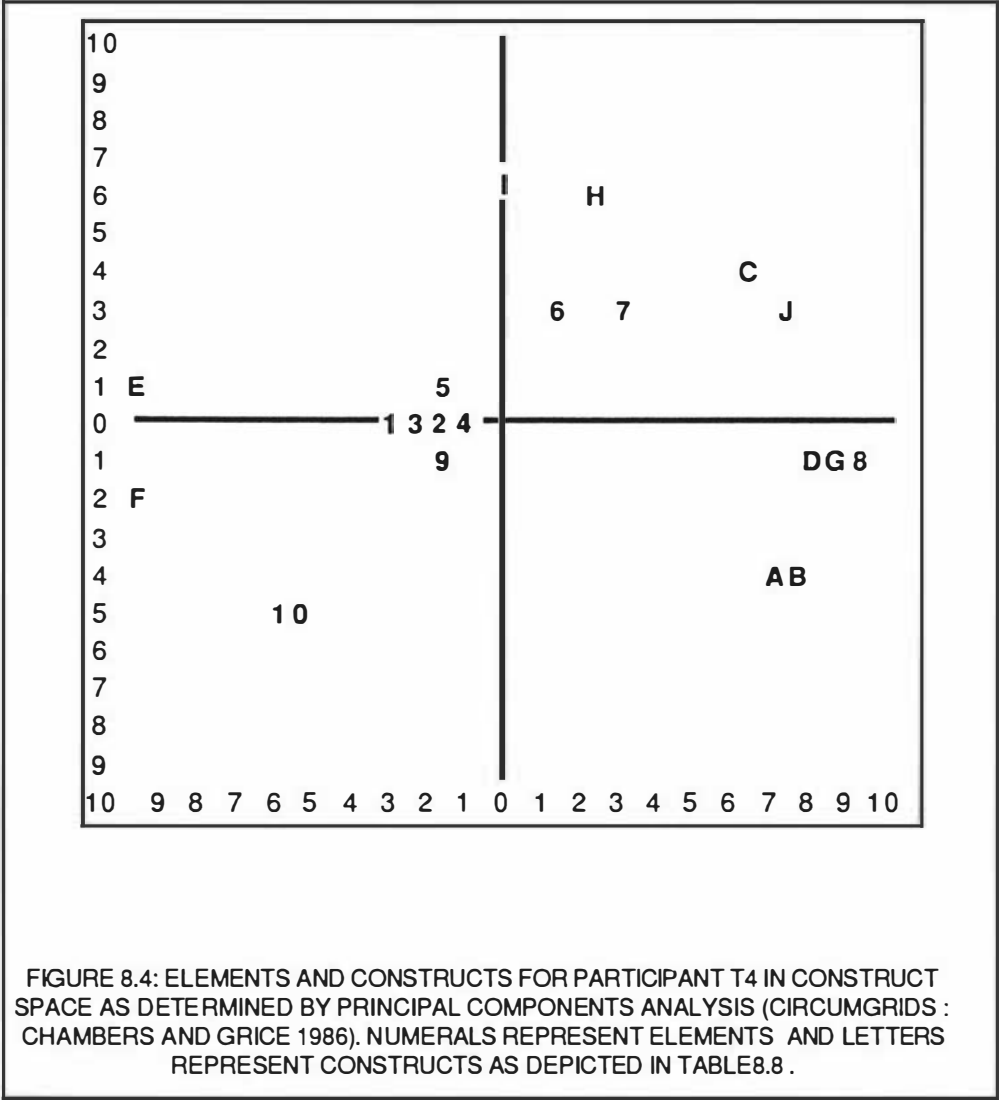
(3) T4 considered that the core construct of children's needs being of paramount importance meant, for the Trustees, being party to producing better citizens for tomorrow. This might be done by : maximising children's opportunities, in turn by dealing with urgent matters without delay; helping all parties to work well together to the benefit of children, in turn by attending to major broad based issues; having an orientation towards children; attempting to give our children the "best"; prioritising actions that have direct impact on children's learning; and, by achieving "some of those things on the long list of things to do". This involved pursuit of a more desirable student-teacher ratio, acquisition of high quality teachers, perhaps encouraging teachers to "unlearn" some current teaching methods, presenting different subjects (for example. language, mathematics, natural science) to students under a common theme, encouraging more school trips and ventures out of the classroom, and by providing support and encouragement to the teaching team.

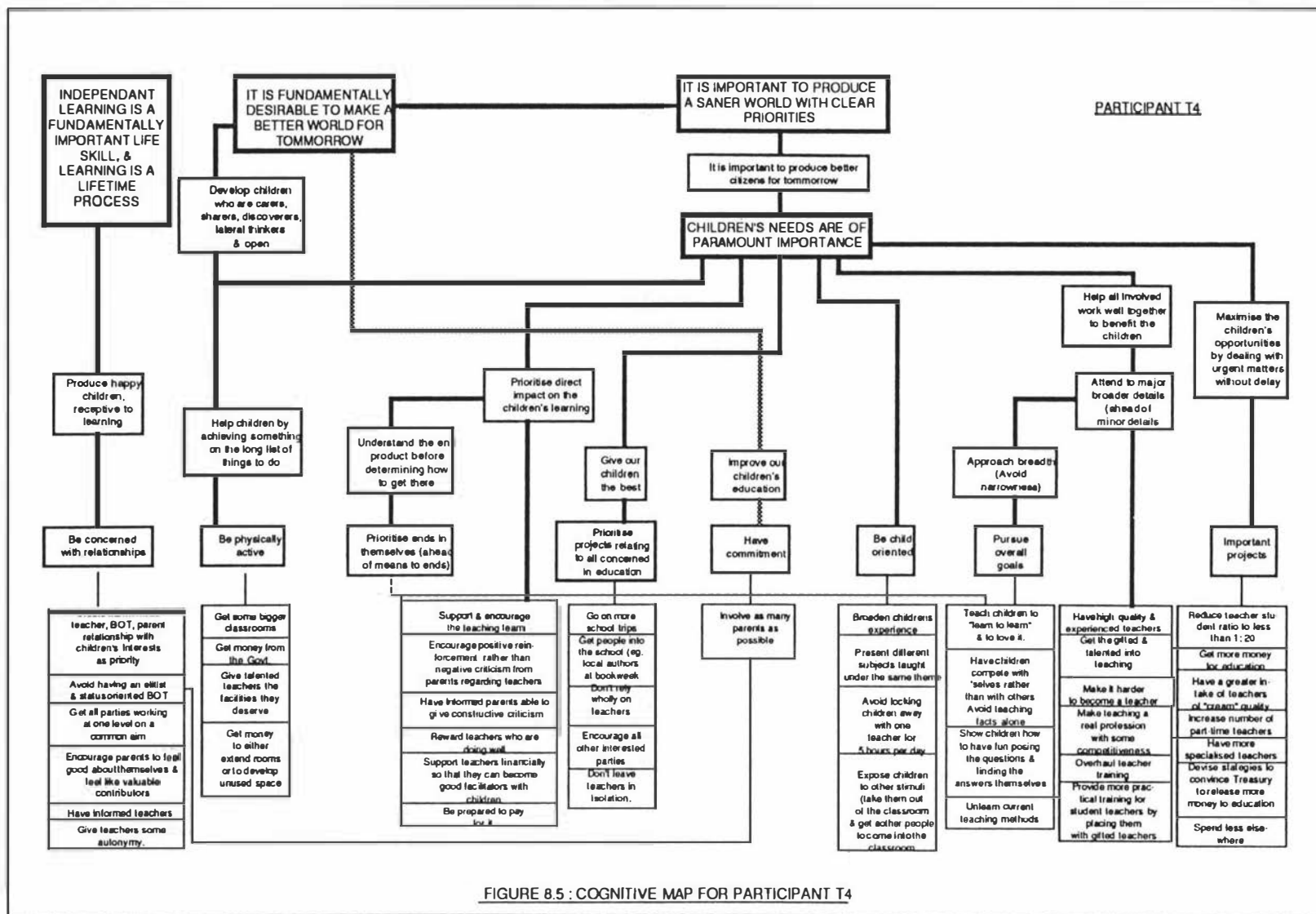
The concept "importance" for T4, meant maximising children's opportunities by dealing immediately with urgent matters such as: reducing the teacher/pupil ratio, getting more money for education and by attracting teachers of "cream" quality into the profession. Pursuit of goals was deemed by T4 to mean avoiding narrowness by teaching children to "learn to learn" and to have fun doing so. T4 believed that being child oriented meant acknowledging the importance of children's needs by broadening their experience and presenting them with a variety of stimuli. "Commitment" for T4 meant improving children's education by involving as many parents as possible; or perhaps this defined what she felt Trustees should be particularly committed to.

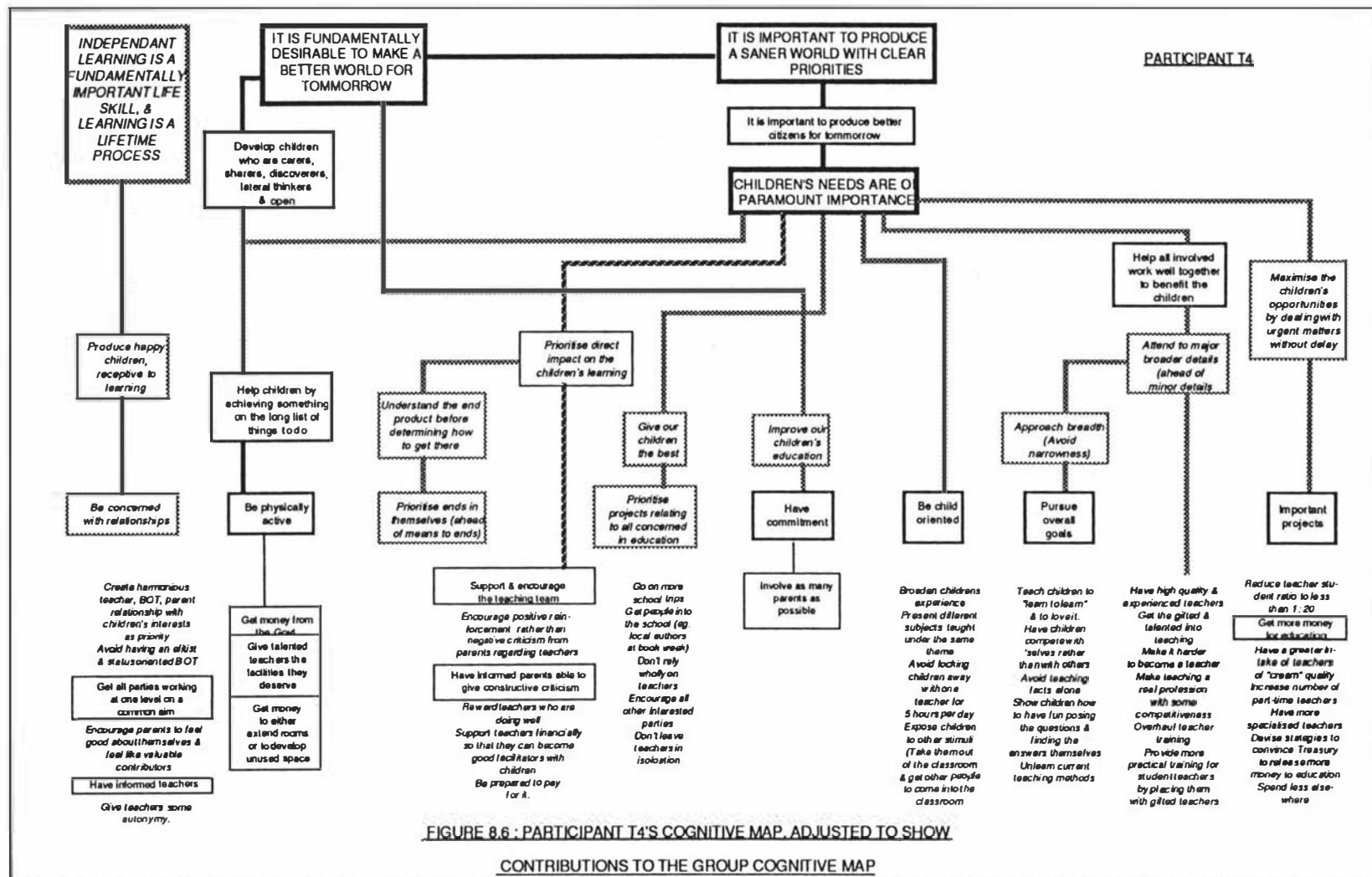
TABLE 8.8

Principal Components Analysis for Participant T4 for first two components.
(the choice pole of each construct prioritised in Laddering has been used to
label and identify it).

		<u>Component</u>	
		<u>First</u>	<u>Second</u>
A.	Eigenvalues	6.49	1.66
B.	Percent variance of Eigenvalues	64.92	16.59
C.	Constructs : Principal Axis Loadings		
A	Breadth of those concerned	+0.84	-0.46
B	Directness of impact on children	+0.84	-0.46
C	Ends & means	+0.78	+0.42
D	Extent of concern with children	+0.90	-0.12
E	Importance (major/minor details)	-0.98	+0.11
F	Goal orientation	-0.95	-0.24
G	Importance (vs. unimportance)	+0.98	-0.11
H	Activeness	+0.34	+0.65
I	Concern with relationships	+0.02	+0.64
J	Commitment ("I'll die for this")	+0.85	+0.36
D.	Elements in Construct Space		
1	Reduce student teacher ratio	-0.32	+0.02
2	Parent involvement	-0.20	-0.06
3	Broaden children's experience	-0.28	+0.05
4	Enhance teacher quality/experience	-0.17	-0.02
5	Support teaching team	-0.13	+0.19
6	More school trips/visitors to school	+0.29	+0.33
7	Get bigger classroom for teacher X	+0.46	+0.32
8	Be a reasonable BOT Chairwoman	+1.00	-0.11
9	BOT, parent teacher harmony	-0.14	-0.16
10	Children to "learn to learn" & enjoy.	-0.50	-0.57







CASE 3 : PARTICIPANT T6

TABLE 8.9

Repertory Grid, Elements, constructs and raw data for Participant T6

		<u>Elements/projects</u>											
		1 : Clarify community goals	2 : Develop staff collective vision	3 : Structure for teacher/team responsibility	4 : Staff development	5 : Self development	6 : To work in classes	7 : Create outside learning networks	8 : Admin folders for classes	9 : Make school parent-friendly	10 : Office administration		
<u>LH construct pole</u>												<u>RH construct pole</u>	
A. Staff development	7	1	1	1	1	1	6	4	7	4		Parent development	
B. Development	4	1	1	1	1	1	4	7	4	7		Administration	
C. Develop shared vision	1	1	1	1	1	1	2	4	1	4		Me in class	
D. School culture devpt.	1	1	1	1	1	2	2	7	1	7		Self development	
E. Community liaison	1	1	7	5	5	4	1	7	1	6		Capitalising on the past	
F. Devpt. of vision	1	1	1	1	1	2	3	7	3	7		Management of details	
G. Clarify goals	1	1	1	1	1	2	1	7	1	7		Organise material	
H. Organise for change	1	1	7	7	1	7	3	6	1	3		Organise past matters	
I. My communic'n skills	1	1	7	7	1	7	1	7	1	4		Teachers' skills	
J. Community u'standing	1	1	7	6	4	4	1	6	1	4		Implementing vision	

Visual inspection of T6's raw data in Table 8.9 indicates that he, like some of the other participants, tended to score at the extreme ends of the construct scales. Furthermore, he tended to score elements 1 to 5 towards the extreme left hand construct pole.

Table 8.10 shows that both of T6's first two principal components accounted for quite large portions of the variance. Principal component 1 accounted for 49.37% and component 2 accounted for 36.52%.

Two distinct clusters of constructs are identifiable in Figure 8.7. The first of these, comprising constructs C, D, F and G, appeared to be concerned with development of a shared school and community vision, culture and goals. Constructs H, I and J are also closely placed. These constructs each involve contrasts with teacher assistance and development (for example, own skills development vs. staff skills development, helping staff vs. organising change). These three constructs are distant from Construct A which also involves a contrast with staff development, but in this case "staff development" makes up the opposite pole.

Interpretation of T6's cognitive map

T6's values and core constructs relating to this context involved : (1) the world's need for competent confident self managing people, (2) the paramount importance of children's needs, (3) the generation of an idealised sharing global community and vision (that is, one where communities share with one another rather than retain things for their own exclusive benefit), and (4) development of the skills required to enable children to act in caring and sharing ways (see Figure 8.8).

(1) T6 considered the production of competent, confident, self managing, empowered people as attainable by development of the schools most valuable resource - its teachers. This meant developing them to become confident, motivated self-developers. For the Trustees this might mean providing individual staff members with the help they needed, accepting people as they are and celebrating any small advances.

T6 deemed that (2) acknowledging the paramount importance of children's needs, meant for the Trustees, that they were (3) contributing to a shared global community and vision; a community that cared for its members and enabled a sense of belonging. T6 believed this represented : enhancing community-school agreement and mutual understanding, developing education as a partnership in which both the school and the parents/community were involved, and developing a supportive community willing to help in providing an education that advantaged the children. T6 also regarded the idealised sharing global community and vision as achievable, or at least T6 could contribute to it, by enhancing his own communication skills. Not only would he do this so that he could learn from

others, but also so as to avoid people misinterpreting him, in order that that they, in turn, could learn from him. This involved T6 in improving his listening and presentation skills and developing a more complete repertoire of personal communication media.

(4) According to T6 to produce children who are skilled in acting in a caring and sharing way, meant producing committed, self-motivated teachers who provide industrious role models and model classroom environments. This implied the development of unity, cohesion and a sense of direction. Developing commitment and ownership to a School culture, in T6's view, meant developing education as a partnership. This would involve development of an informed parent group who could choose to accept or reject the school.

TABLE 8.10

Principal Components Analysis for Participant T6 for first two components.
(the choice pole of each construct prioritised in Laddering has been used to
label and identify it).

		<u>Component</u>	
		<u>First</u>	<u>Second</u>
A.	Eigenvalues	4.94	3.65
B.	Percent variance of Eigenvalues	49.37	36.52
C.	Constructs : Principal Axis Loadings		
A	Extent of parent development	-0.01	-0.84
B	Staff/self development	+0.68	-0.68
C	Development of shared vision	+0.88	-0.36
D	Development of school "culture"	+0.91	-0.28
E	Community liaison; public relations	+0.70	+0.58
F	Development of own & group vision	+0.85	-0.42
G	Clarification of community goals	+0.91	-0.23
H	Degree of indiv. staff help	+0.45	+0.76
I	Own communication skills	+0.57	+0.73
J	Devt. of community understanding	+0.55	+0.77
D.	Elements in Construct Space		
1	Clarify community goals	-0.43	-0.48
2	Develop staff collective vision	-0.52	-0.13
3	Organise teacher team structure	+0.07	+0.72
4	Staff Development	-0.02	+0.63
5	Self Development	-0.32	+0.10
6	To work more in classrooms	+0.02	+0.47
7	Create external learning network	-0.24	-0.44
8	Admin. folders for classrooms	+1.00	-0.01
9	Make school "parent friendly"	-0.36	-0.52
10	Office administration	+0.79	-0.34

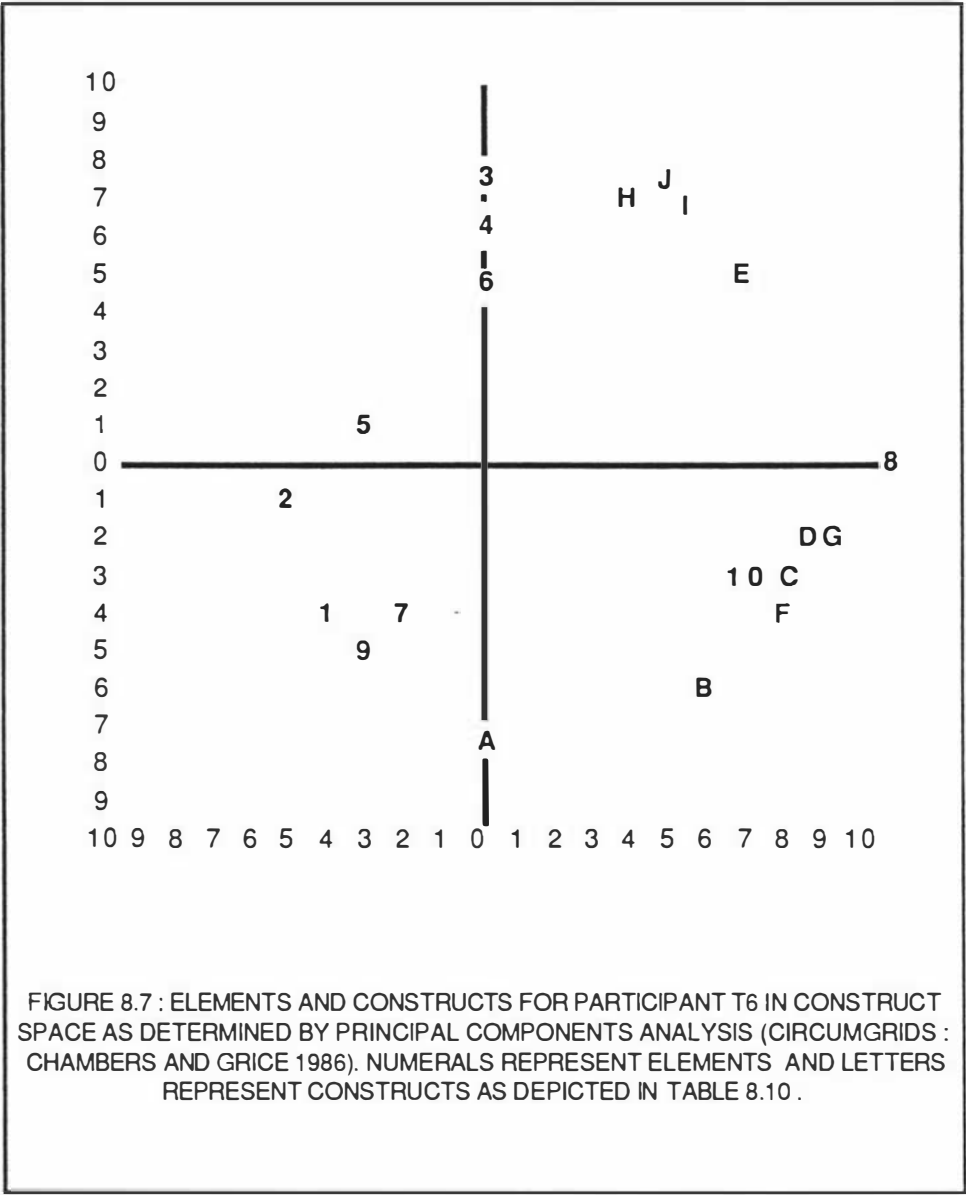
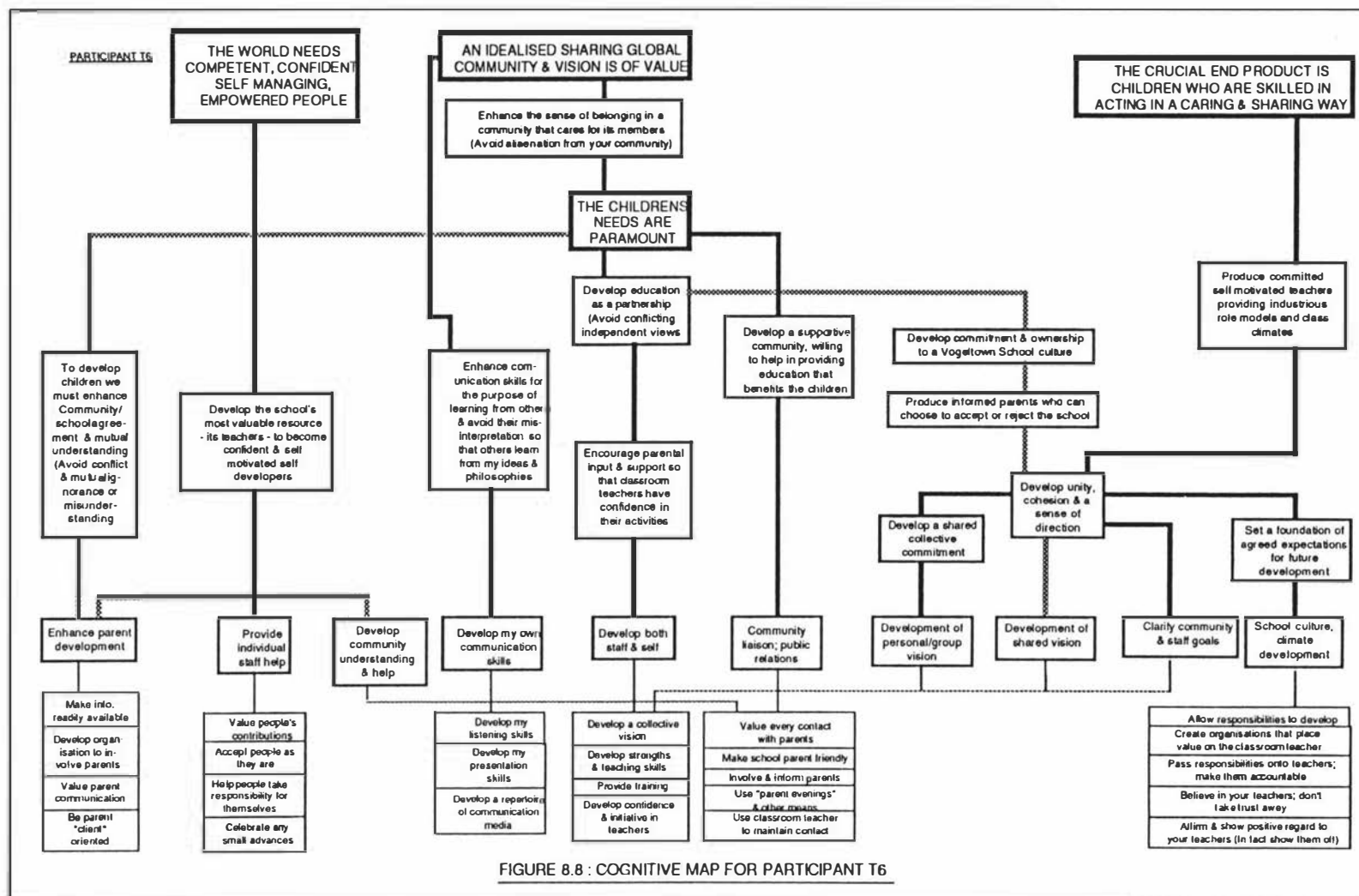
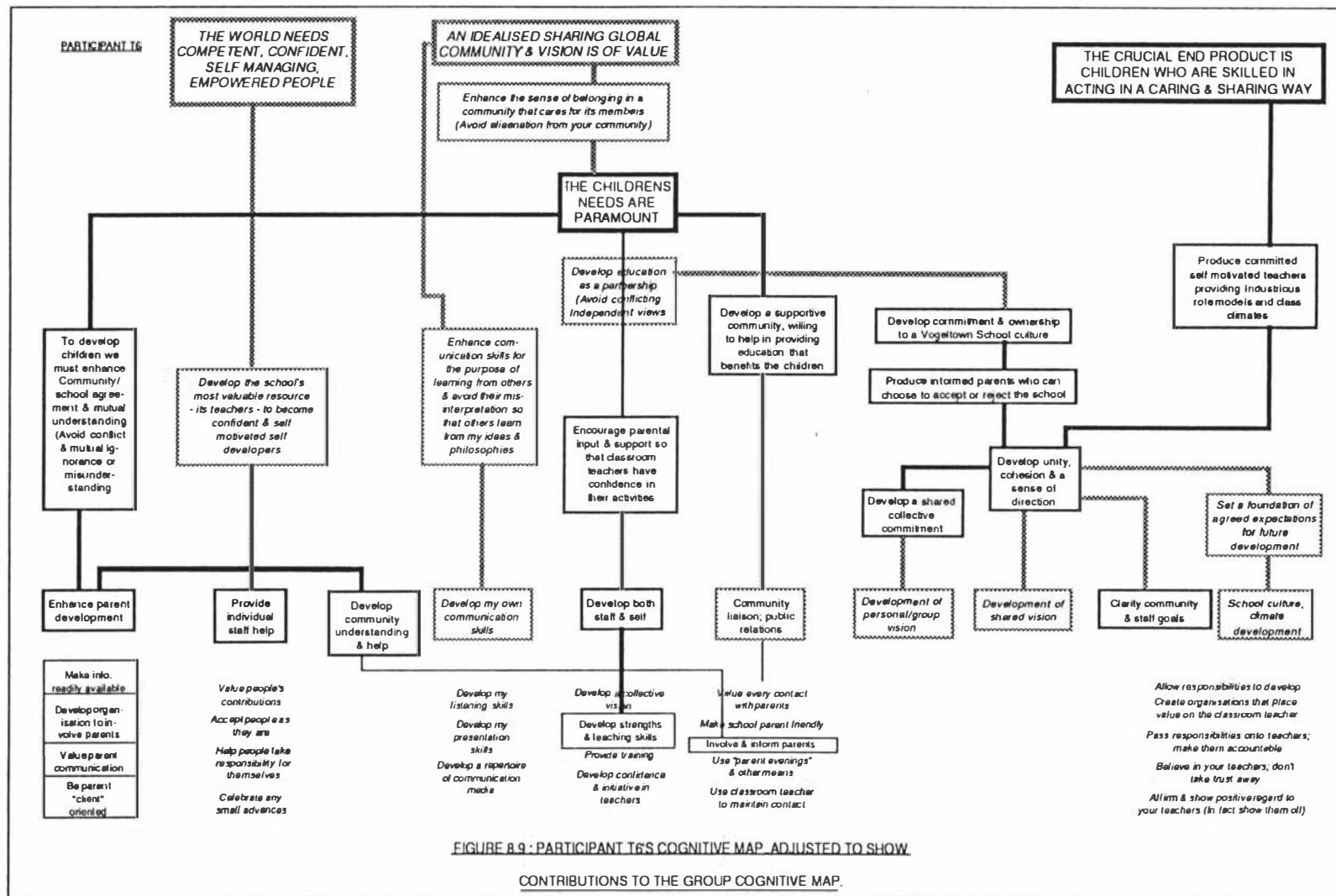


FIGURE 8.7 : ELEMENTS AND CONSTRUCTS FOR PARTICIPANT T6 IN CONSTRUCT SPACE AS DETERMINED BY PRINCIPAL COMPONENTS ANALYSIS (CIRCUMGRIDS : CHAMBERS AND GRICE 1986). NUMERALS REPRESENT ELEMENTS AND LETTERS REPRESENT CONSTRUCTS AS DEPICTED IN TABLE 8.10 .





CASE 4 : PARTICIPANT T1.

TABLE 8.11

Repertory Grid. Elements, constructs and raw data for Participant T1

		<u>Elements/projects</u>											
		1 :	2 :	3 :	4 :	5 :	6 :	7 :	8 :	9 :	10 :		
		Charting children's education	Increase physical activity in school (sport)	Election to BOT	Dev. own child's sporting activities	Get financial deal for the school	Provide income base for future	Balanced educ' views on BOT	Support own children's projects	Wife & I : Own time togeth	Read pre-cursor info.		
<u>LH construct pole</u>												<u>RH construct pole</u>	
A. Broaden children	1	6	6	1	6	7	3	2	7	3		Stabilise environment	
B. Experience for school	7	4	7	2	1	2	1	7	6	2		Experience for family	
C. Personal goal	1	7	1	3	1	1	5	1	1	7		School goal	
D. Easily committed to	1	3	1	2	1	1	3	2	1	6		Difficult to commit to	
E. Family importance	1	6	6	1	6	1	6	3	1	6		Community importance	
F. Board responsibility	4	6	2	5	1	4	7	6	2	2		School responsibility	
G. Children's future	1	5	6	2	5	1	2	6	1	2		Children's present	
H. State education	6	2	2	4	1	5	6	2	6	2		Private education	
I. Business	5	6	2	6	1	1	2	7	7	2		Pleasure	
J. Direct influence	1	6	2	1	5	1	2	1	1	2		Indirect influence	

As indicated in Table 8.12, T1's first principal component accounted for 36.89% of the variance, and the second principal component accounted for 22.33% of the variance. The third component accounted for 17.8% of the variance.

TABLE 8.12

Principal Components Analysis for Participant T1 for first two components.
(the choice pole of each construct prioritised in Laddering has been used to
label and identify it).

		<u>Component</u>	
		<u>First</u>	<u>Second</u>
A. Eigenvalues		3.69	2.33
B. Percent variance of Eigenvalues		36.89	22.33
C. Constructs : Principal Axis Loadings			
A	Breadth of children's horizons	+0.34	-0.66
B	Experience to the school	-0.77	+0.37
C	School's goals	+0.57	+0.68
D	Ease of commitment	+0.48	+0.66
E	Community importance	+0.93	+0.12
F	Responsibility of Board	-0.21	+0.68
G	Importance of children's present	+0.55	-0.03
H	Private Education	-0.74	-0.01
I	Business orientation	-0.56	+0.48
J	Direct/personal nature of influence	+0.57	+0.21
D. Elements in Construct Space			
1	Charting Children's Education	-1.00	+0.15
2	Increase physical activity in school	+0.69	+0.62
3	Election to BOT	+0.56	-0.63
4	Develop own child's sport	-0.66	+0.49
5	Get best financial deal for school	+0.85	-0.73
6	Provide sound income base	-0.26	-0.68
7	Get balance of views on the BOT	+0.29	+0.35
8	Support own child's projects	-0.42	+0.42
9	Ensure wife & I have our own time	-0.82	-0.36
10	Read BOT precursor information	+0.78	+0.39

Interpretation of T1's Cognitive map

Figure 8.11 depicts T1's cognitive map. T1's values relating to this context involved : (1) his view that education is a fundamental principle of the western world, (2) the importance of one's past in child rearing, the

importance of (3) successfulness, (4) trust, (5) personal satisfaction, (6) quality and (7) having a goal orientation.

(1) It was T1's view that education is a necessity in Western civilisation. Fulfilment of this necessity was achievable by establishing the background experiences and foundations for change. For Trustees this was characterised by prioritising projects intended to broaden children's horizons. For example, T1 believed that one way of doing this was to emulate your own educational experiences in planning or charting your child's education.

Fulfilment of the principle that one's past experiences were the biggest influence on the way one educates children was deemed by T1 to be achievable by using the past and present as the building blocks for children's futures. This in turn was characterised by focussing on actions that affect children's present day life. As an example, it was T1's view that he could do this by influencing children with experiences, knowledge and interests based on his own past.

(3) T1 considered that success was achievable by providing goals, leadership and a good example to follow; this in turn was characterised by the BOT having a business orientation, among other things.

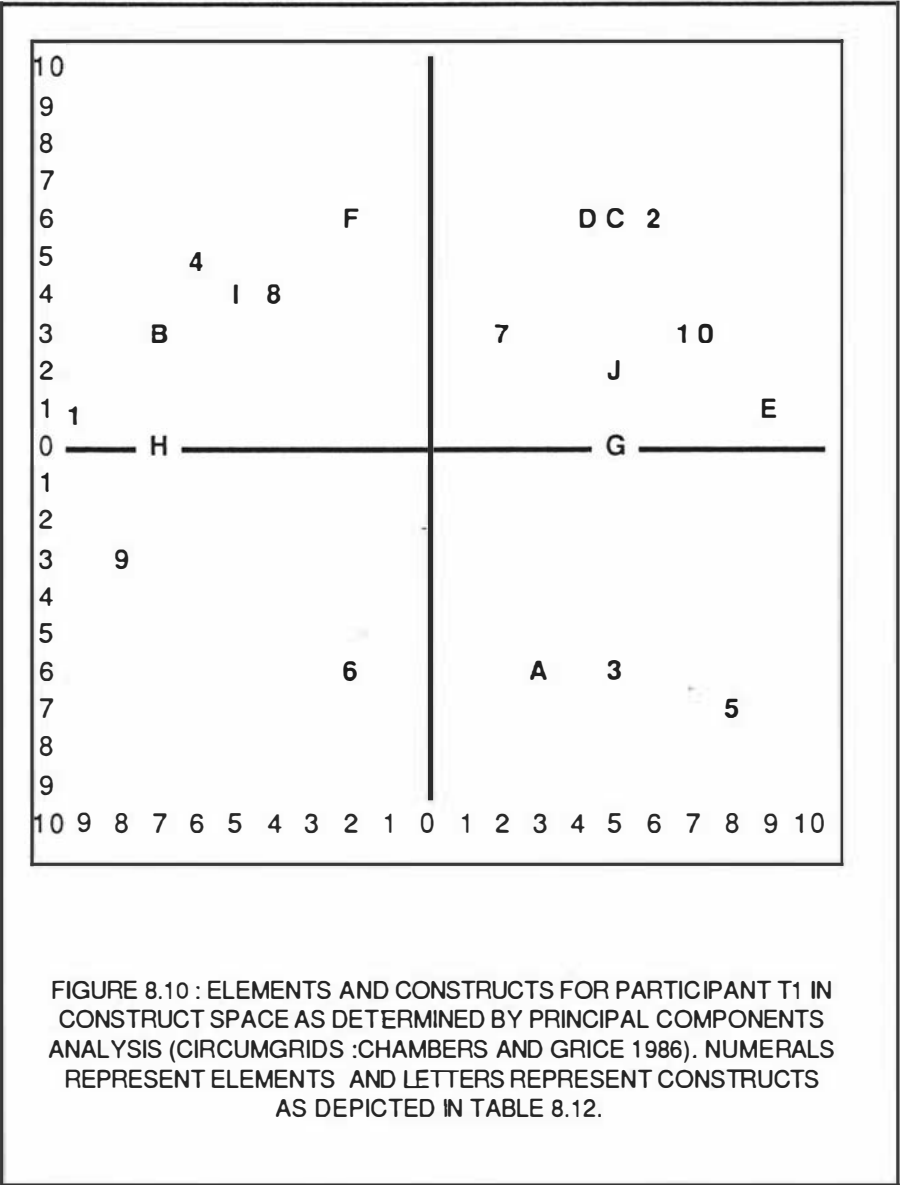
(4) Trust, according to T1, meant enhancing confidence in the parent community who have expectations of the Trustees. This involved actually seeing things through to their conclusion. A means for seeing things quickly and efficiently to their conclusion involved prioritising projects that one could easily commit oneself to ; such as T1 getting himself elected to the BOT.

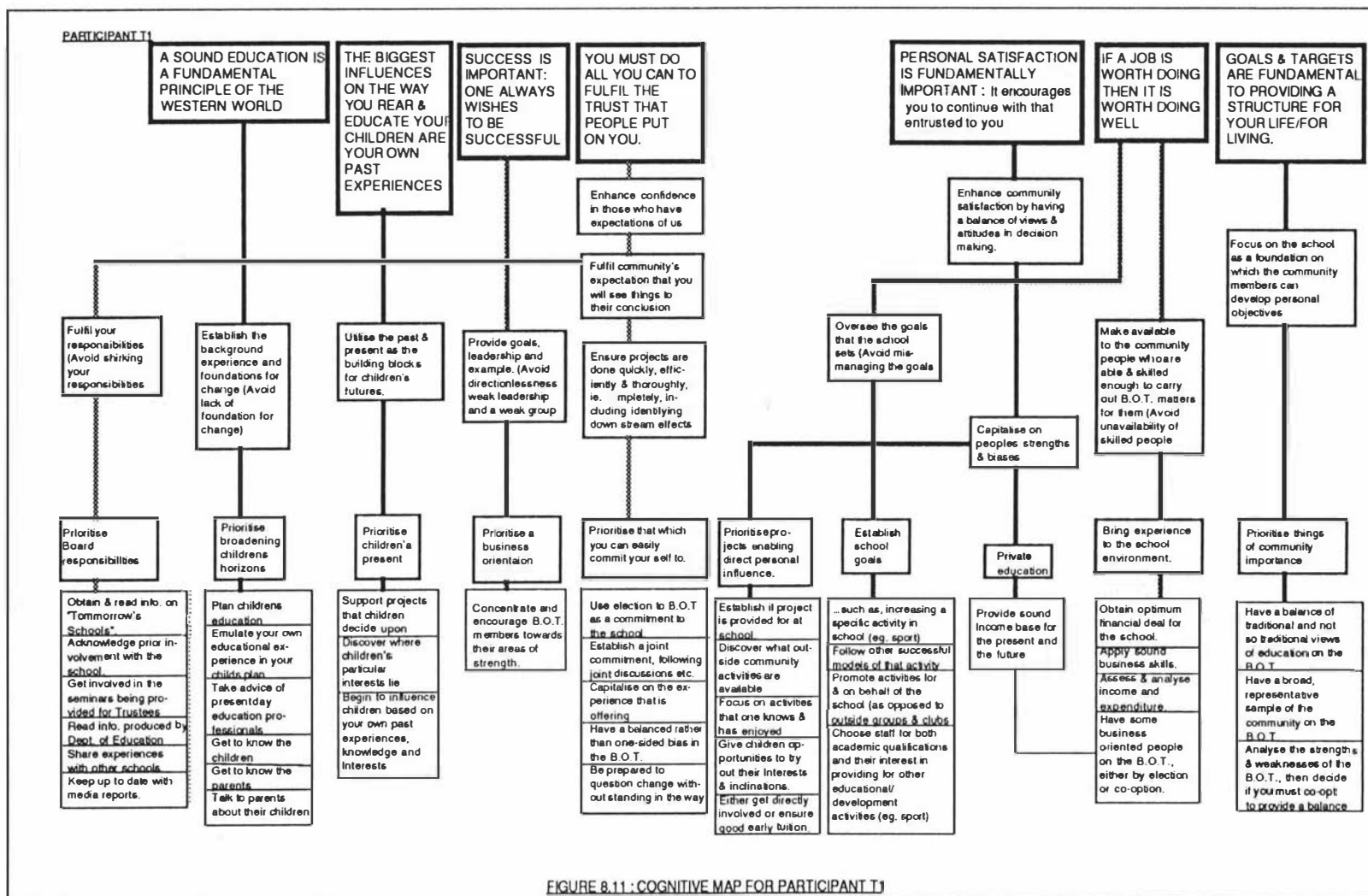
(5) Personal satisfaction was viewed as achievable by enhancing community satisfaction, in turn influenced by having a balance of views and attitudes in decision making. This involved capitalising on people's strengths and biases. T1 considered his knowledge of the privately funded education system to be one of his own strengths (he had been educated in privately funded schools, and his eldest daughter attended a privately funded secondary school). Hence he deemed issues concerning the

school's financial situation as those in which he should be specifically involved.

(6) T1 believed that doing a good job for the school, in other words performing as a high quality Trustee, involved overseeing the goals the school set. It also meant the availability of Trustees who were skilled and well able to represent the community. This was characterised by the establishment of school goals and by bringing outside experience into the school environment. For example, T1 had targetted increased sporting activity as a goal that should be established, and saw his own experience as a businessman as an example of bringing experience into the school.

(7) School goals were deemed achievable by focussing on the school as a foundation on which community members could develop personal objectives. For the BOT this involved prioritising things of community importance. T1 felt that to do this a broad representative sample of the community was required on the BOT. "Commitment" for the Trustees meant ensuring projects were done quickly, efficiently and thoroughly including identification of downstream effects. This was influenced by the selections of Trustees to the BOT, having joint discussions, capitalising on the experience and expertise that was offering, having a balanced BOT and by being prepared to question change without standing in its way.





PARTICIPANT 11

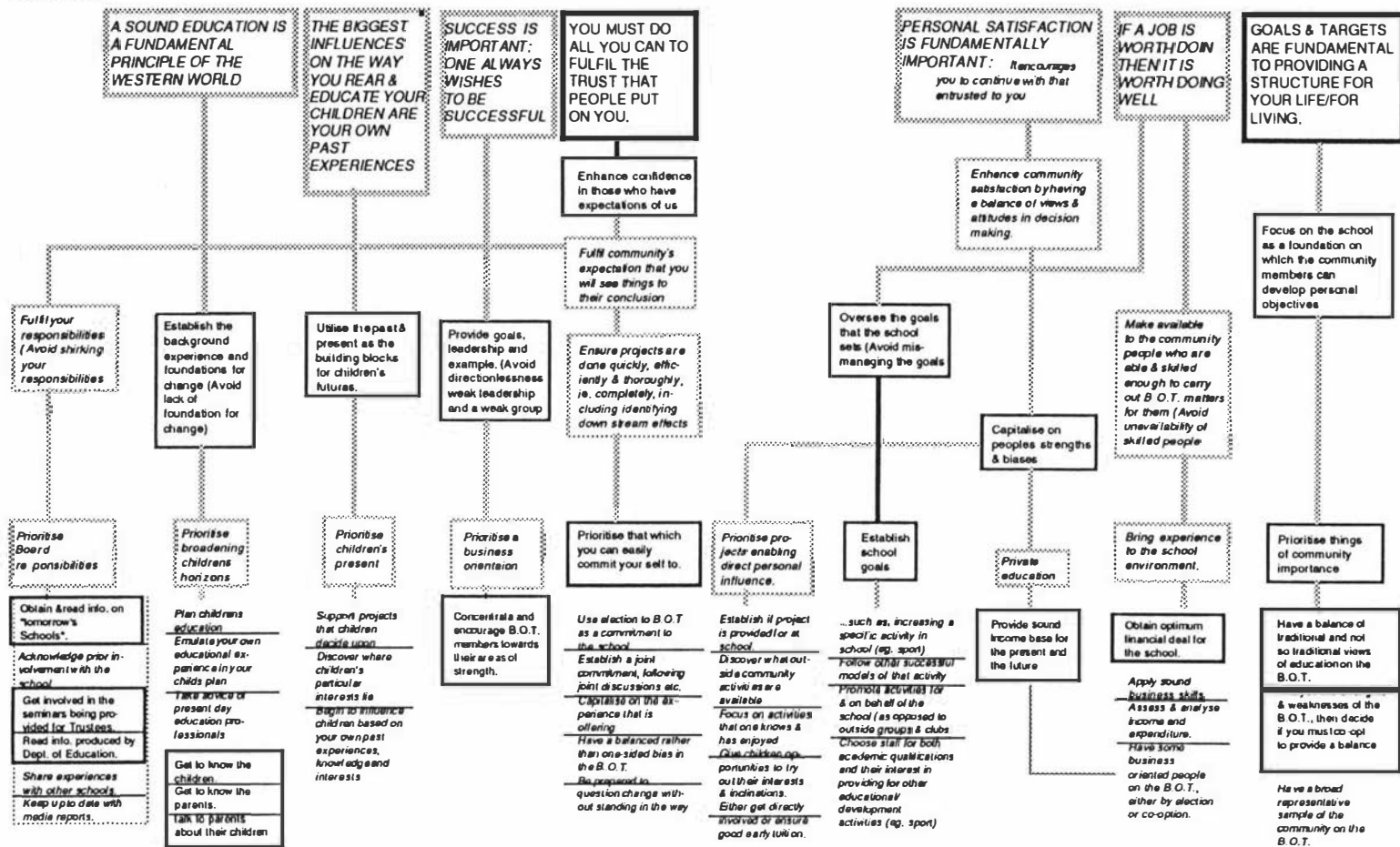


FIGURE 8.12 : PARTICIPANT 11'S COGNITIVE MAP ADJUSTED TO SHOW

CONTRIBUTIONS TO THE GROUP COGNITIVE MAP

CASE 5 : PARTICIPANT T2

TABLE 8.13

Repertory Grid. Elements, constructs and raw data for Participant T2

		<u>Elements/projects</u>											
		1: Doing "parent help" in classroom	2 :Piano lessens for own child	3 : Pre-school council	4 : BOT training	5 : Regular family exercise	6 : BOT mail distribution system	7 : Est. BOT community involemt.	8 : Est. channels of communic'	9 : 1989 Gala	10 : Election to BOT		
<u>LH construct pole</u>												<u>RH construct pole</u>	
A. Personal growth	6	5	5	4	5	7	5	5	7	2		Service to others	
B. School activity	4	7	2	1	7	2	2	2	2	4		Personal family activity	
C. Direct child interact'n	1	1	6	7	1	7	6	6	6	6		Admin. (less direct)	
D. On-going function	1	1	1	1	1	6	5	5	7	7		Defined goal	
E. Goal to be achieved	4	4	4	2	2	2	1	2	7	7		A task completed	
F. Child interaction	2	2	6	7	3	5	5	6	6	6		Personal	
G. Board activity	6	4	2	2	4	1	2	3	2	1		Classroom activity	
H. Community related	1	3	4	6	4	7	2	2	2	2		Involves BOT only	
I. Administration	7	7	1	1	7	1	2	2	1	4		Non-administration	
J. Primary school	1	1	6	2	4	2	2	2	2	1		Pre-school	

The first Principal component to emerge from T2's data accounted for 48.46 of the variance (see Table 8.14). T2's second Principal Component, accounted for 17.67% and the third accounted for 11.3 %.

T2 was teaching her daughter to play the piano, and was a frequent "Parent Helper" in both of her own school-aged children's classrooms. These two projects were listed as elements. Both were loaded highly for their direct child interaction and were construed in an almost identical fashion. Establishment of both community involvement and meaningful channels of communication were also elements that were construed in an almost identical fashion on the construct dimensions. Constructs C and I both

related to administration vs. non-administration with the implication from scoring on construct C, that non-administration aligns with direct interaction with children and administration aligns with indirect interaction with them. Figure 8.13 indicates that these two constructs are at extreme poles of the Principal Component, and since the polarisation on these constructs has been reversed, these results indicate that the two constructs were used in a very similar fashion. This is reinforced by noting the position of construct F on Figure 8.13, which relates to the extent of child interaction involved.

Interpretation of T2's Cognitive map

T2's fundamental values, as depicted in Figure 8.14, involved (1) reliability (as in being a reliable person), (2) the importance of striving to improve, (3) possession of an achievement orientation, (4) having an orientation towards children, and (5) the importance of providing appropriate opportunities.

(1) For T2 and the other Trustees to be regarded as reliable they must do what they say or promise, and for the Trustees this would mean the execution of obligations without delay. It was also concerned with Trustee's administrative practices. At a behavioural level this meant, for example, actively contributing to fundraising ventures and also streamlining the handling of Board mail.

(2) An improvement orientation for the school was attainable according to T2, through enhancement of parental understanding. This implied prioritising community related things, (for example, devising strategies such as meetings and morning teas to get parents into the school).

(3) An achievement orientation had to do with improving results by focussed action. This was characterised by the execution or pursuit of defined goals. To do this T2 advocated that Trustees consciously determine the definite foreseeable end of any action.

(4) The Board of Trustees exists to act for the children. This meant for T2, that it was important that the Board did what is best for children. This was possible by the Trustees: executing their designated function within their designated sphere of action, engaging in classroom activities, doing school

related things and by enhancing their contributions to the BOT by exploiting strengths. This might involve, for example, separating personal and BOT actions, and by helping in the classroom. T2 saw one of her strengths as administrative ability and hence felt she could contribute to children's needs by immersing herself in the BOT's administrative functions.

(5) It was T2's view that providing children with the most appropriate opportunities, could be accomplished by enhancing their performance both at school and for the future. This was reflected in the Trustees' commitment to the Board. T2 considered that commitment to the Board meant for the Trustees : Enhancing children's performance, now and for the future, by prioritising school activities (such as being on school groups such as the BOT), and by execution of administrative functions (such as preparing BOT minutes and agendas).

TABLE 8.14

Principal Components Analysis for Participant T2 for first two components.
(the choice pole of each construct prioritised in Laddering has been used to
label and identify it).

		<u>Component</u>	
		<u>First</u>	<u>Second</u>
A.	Eigenvalues	4.85	1.77
B.	Percent variance of Eigenvalues	48.46	17.67
C.	Constructs : Principal Axis Loadings		
A	Extent of service to others	-0.03	+0.38
B	Group/school activities	-0.86	-0.10
C	Administration/indirect interaction	+1.00	-0.03
D	Goal definition	+0.59	-0.65
E	Goal to be achieved	-0.42	-0.45
F	Orientation to child interaction	+0.94	-0.06
G	Activity at classroom level	-0.89	+0.11
H	Extent to which community related	+0.38	+0.70
I	Administration	-0.97	-0.15
J	Extent of priority of primary school	+0.16	+0.54
D.	Elements in Construct Space		
1	Parent Helping in classroom	-1.00	-0.07
2	Piano lessons for own child	-1.00	-0.01
3	Work on pre-school council	+0.36	+0.42
4	BOT Training program	+0.54	+0.43
5	Regular family exercise together	-0.89	+0.35
6	Streamline BOT mail distribution	+0.63	+0.28
7	Establish community involvement	+0.30	-0.04
8	Establish communication channels	+0.30	-0.10
9	School Gala arrangements	+0.49	-0.46
10	Election to BOT	+0.26	-0.79

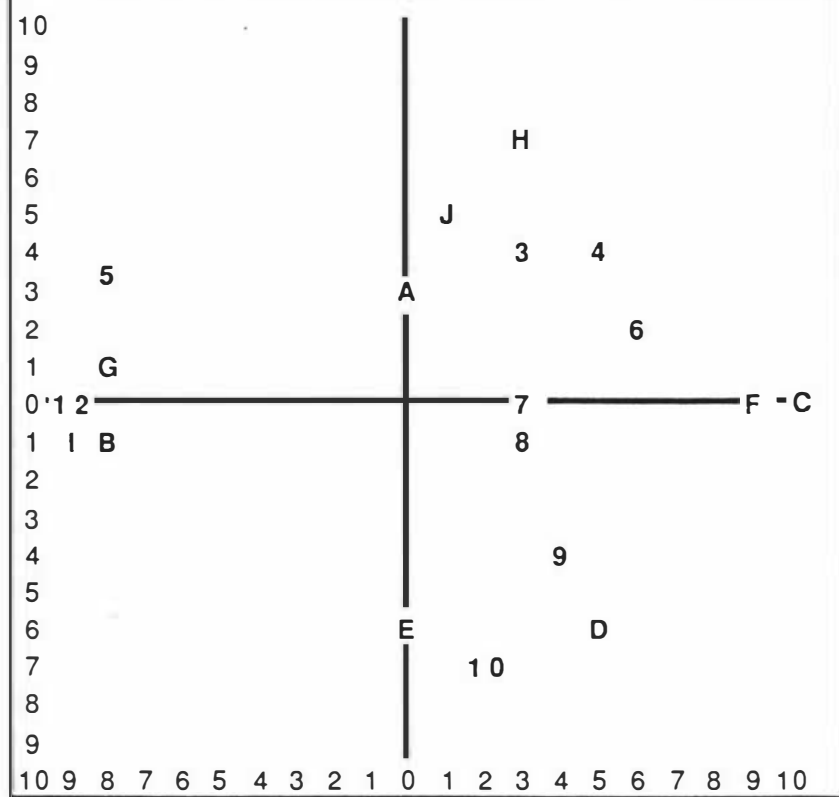
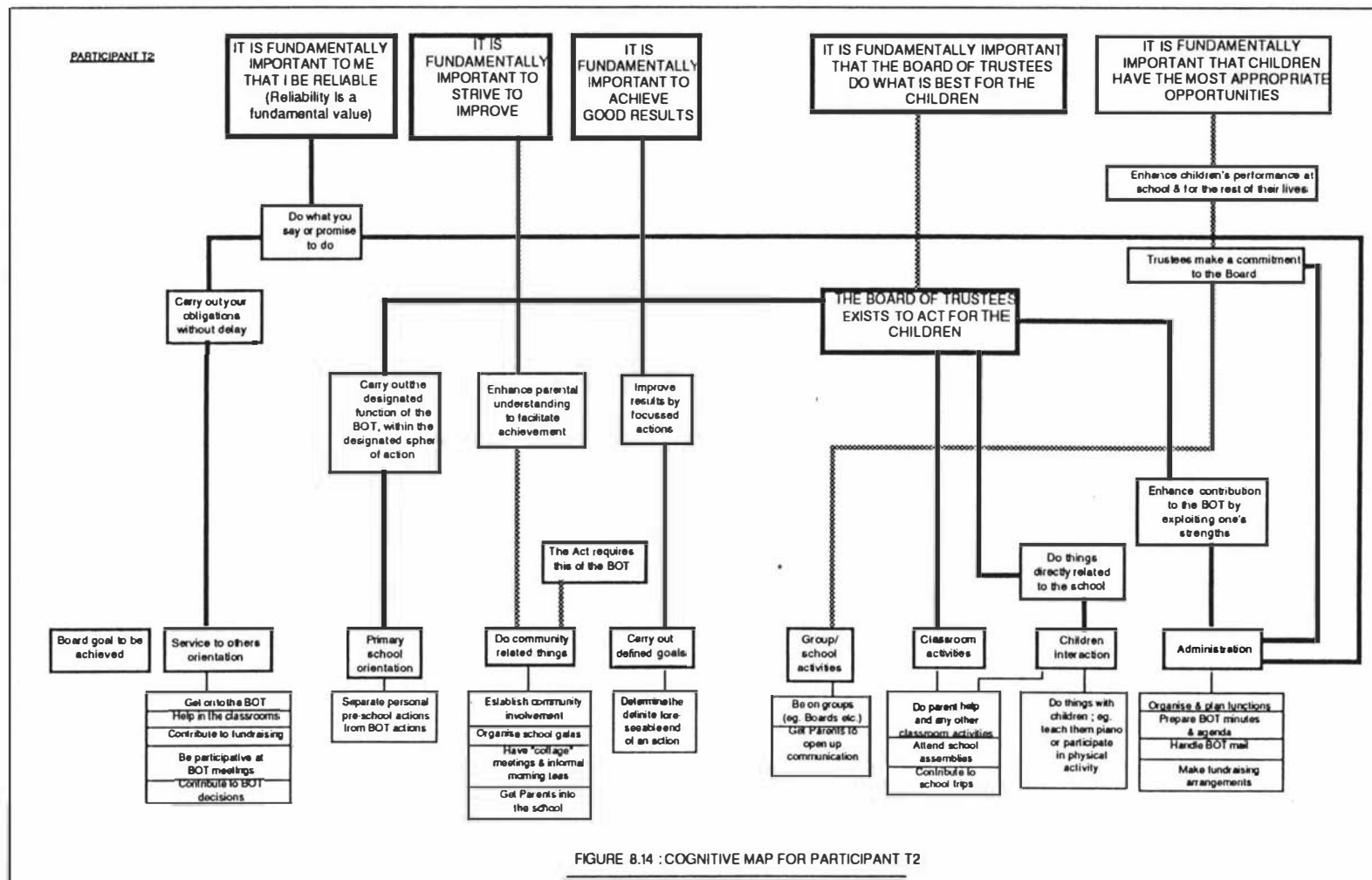
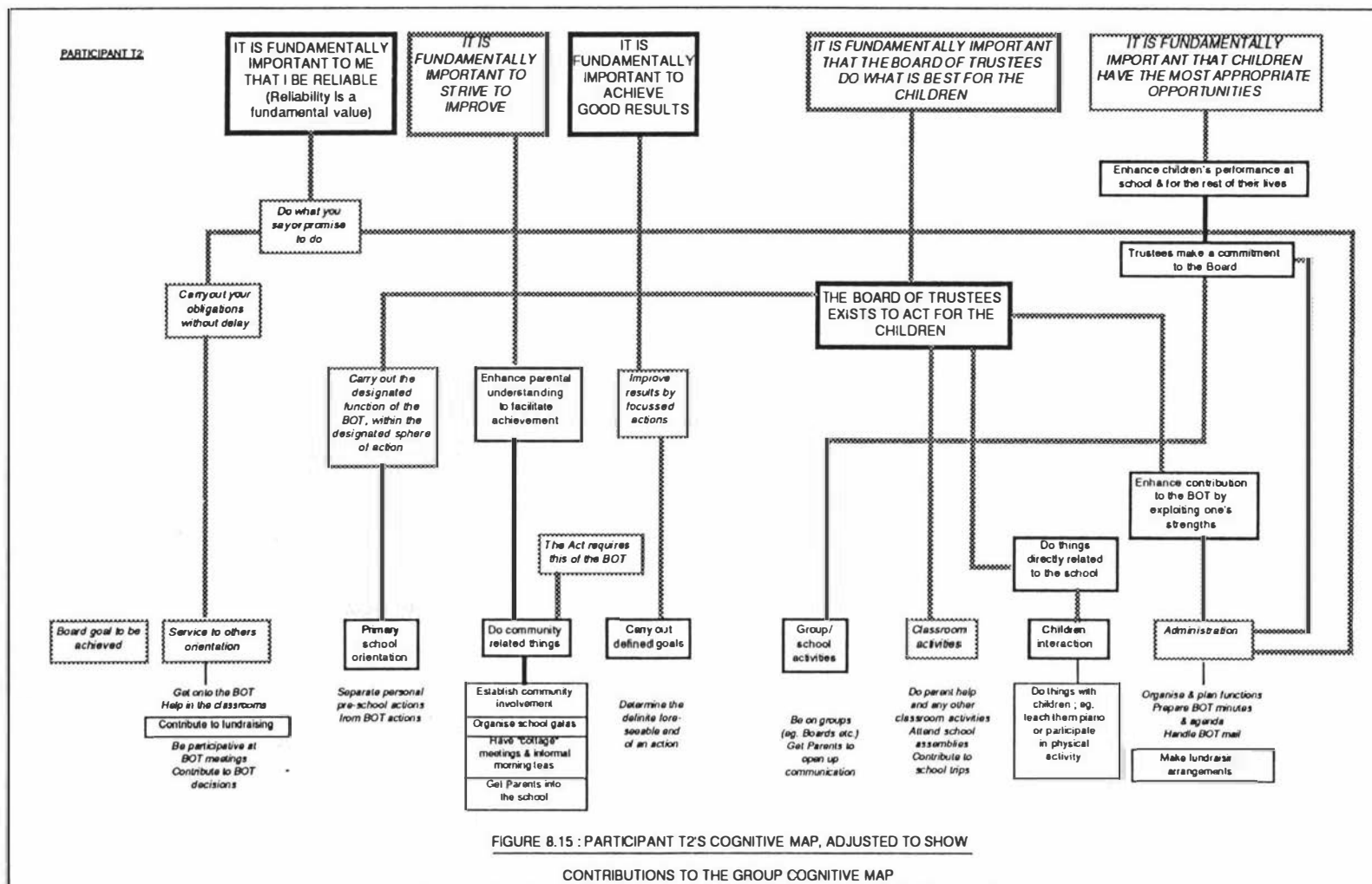


FIGURE 8.13 : ELEMENTS AND CONSTRUCTS FOR PARTICIPANT T2 IN CONSTRUCT SPACE AS DETERMINED BY PRINCIPAL COMPONENTS ANALYSIS (CIRCUMGRIDS : CHAMBERS AND GRICE 1986). NUMERALS REPRESENT ELEMENTS AND LETTERS REPRESENT CONSTRUCTS AS DEPICTED IN TABLE 8.14.





CASE 6 : PARTICIPANT T5.

TABLE 8.15

Repertory Grid. Elements, constructs and raw data for Participant T5

		<u>Elements/projects</u>											
		1 :	2 :	3 :	4 :	5 :	6 :	7 :	8 :	9 :	10 :		
		Organise library & resource room	Carry out fundraising	Enrol own child in swimming lessons	Learn to play guitar	Generate sub-committee confidence	Community involvement	Listen to everyone's ideas	Get to know more parents	Do extra things with children	Create & use filing system		
<u>LH construct pole</u>												<u>RH construct pole</u>	
A. For self	7	7	7	3	7	7	4	4	7	1		For children	
B. Opening up	3	1	7	3	1	1	4	1	1	4		Narrowing down	
C. School based	1	1	7	2	4	7	4	4	1	2		Community based	
D. Enjoyment	2	4	1	2	4	4	6	1	4	7		"Hum-drum"	
E. Me inactive	7	7	4	7	7	7	4	7	7	7		Me active	
F. Organising self	4	4	2	1	4	7	4	1	1	1		Organising others	
G. Future	4	1	2	1	1	1	1	1	1	1		Past	
H. Important	1	1	1	1	1	1	1	1	1	4		Unimportant	
I. Parent oriented	7	4	7	3	4	4	4	1	7	1		Child oriented	
J. Natural progression	1	7	1	5	7	7	4	7	4	7		Carefully sequenced	

T5's first Principle Component accounted for just 39.56 % of the variance, as shown on Table 8.16. Component 2 accounted for 23.19% of the variance and component 3 accounted for 9.7%.

It is not surprising that projects 2 and 5 appear very close together on Figure 8.16 since both projects were concerned with fundraising. Also Project 1, reorganising the library, appears in construct space very close to construct G which was concerned with past vs. future. Reorganisation of the library was a past project recently completed by T5.

Interpretation of T5's cognitive map

As shown in Figure 8.17, T5's values relating to this context involved the importance of : (1) adaptability, (2) openness to accept change, (3) "teams", (4) tolerance and caring ,and (5) goals.

(1) T5 believed adaptability to change could be realised by better equipping children to fit into the local community. For Trustees this involved encouraging the inclusion of local values into the school. To do this Trustees would need to get to know more parents, perhaps by motivating parents to get involved in school projects.

(2) Openness to change was regarded by T5 as effected by activating beneficial change. This represented the careful consideration of change (not just change for change sake), provision of sufficient information to enable sound debate and equipping children better to fit into the community. At a behavioural level these things were reflected in spending time thinking before making hasty decisions, having meetings to get ideas, making lists of parents and telephoning them, and by making enquiries to discover who the experts are on particular issues and approaching them to gain cooperation.

(3) T5 regarded the "team" concept as controllable by having the confidence in yourself and others, and/or by breeding confidence in all parties, so as to provide a comforting framework that facilitated delegation. This implied organising other people, ensuring there was back-up support, and by pursuing carefully sequenced projects. For example, this might mean taking a personal approach with parent-community members to actively get to know them.

(4) According to T5 a tolerant and caring world was influenced by enhanced parental understanding and unified caring support for their children's education. This was characterised by increasing parents' presence and involvement in the school. For T5 this meant making lists of willing helpers, telephoning parents to generate interest, and by involvement in after hours activities such as weekend sports and school cabarets.

(5) It was T5's view that pursuit of goals was attainable by clarifying one's values and having tolerance for other people's values. This meant improving communication and interaction between parents and their children so that they better understand and are aware of each others view point. As a Trustee and as a teacher, T5 felt that to do this she should educate herself on topics or questions of issue.

TABLE 8.16

Principal Components Analysis for Participant T5 for first two components.
(the choice pole of each construct prioritised in Laddering has been used to
label and identify it).

		<u>Component</u>	
		<u>First</u>	<u>Second</u>
A.	Eigenvalues	3.96	2.32
B.	Percent variance of Eigenvalues	39.56	23.19
C.	Constructs : Principal Axis Loadings		
A	Target of project (Children vs. self)	+0.73	+0.59
B	Opening up	+0.36	-0.90
C	Extent to which school based	+0.19	-0.14
D	Enjoyment	-0.77	-0.20
E	Personal activeness	-0.43	+0.65
F	Organisation of others	+0.21	+0.48
G	Future orientation	+0.66	-0.12
H	Importance	-0.63	-0.50
I	Orientation towards children	+0.93	-0.09
J	Sequencing of events (Planning)	-0.86	+0.43
D.	Elements in Construct Space		
1	Reorganise Library & resource room	+0.77	+0.05
2	Fundraising	-0.17	+0.46
3	Re-enrol own children in activities	+0.99	-0.65
4	Learn guitar	-0.20	-0.17
5	Fundraising committee confidence	-0.13	+0.42
6	Increase community involvement	-0.04	+0.52
7	Listen to all ideas before deciding	-0.03	-0.40
8	Get to know more parents	-0.56	+0.07
9	Do extras with children	+0.37	+0.27
10	Create & use filing system	-1.00	-0.57

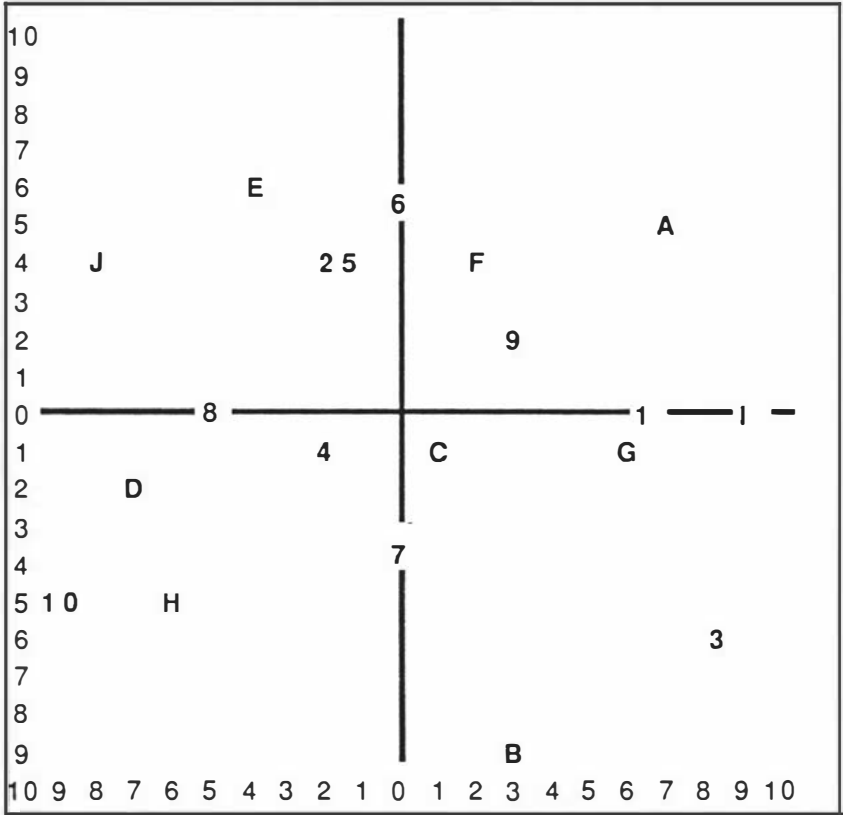


FIGURE 8.16 : ELEMENTS AND CONSTRUCTS FOR PARTICIPANT T5 IN CONSTRUCT SPACE AS DETERMINED BY PRINCIPAL COMPONENTS ANALYSIS (CIRCUMGRIDS : CHAMBERS AND GRICE 1986). NUMERALS REPRESENT ELEMENTS AND LETTERS REPRESENT CONSTRUCTS AS DEPICTED IN TABLE 8.16

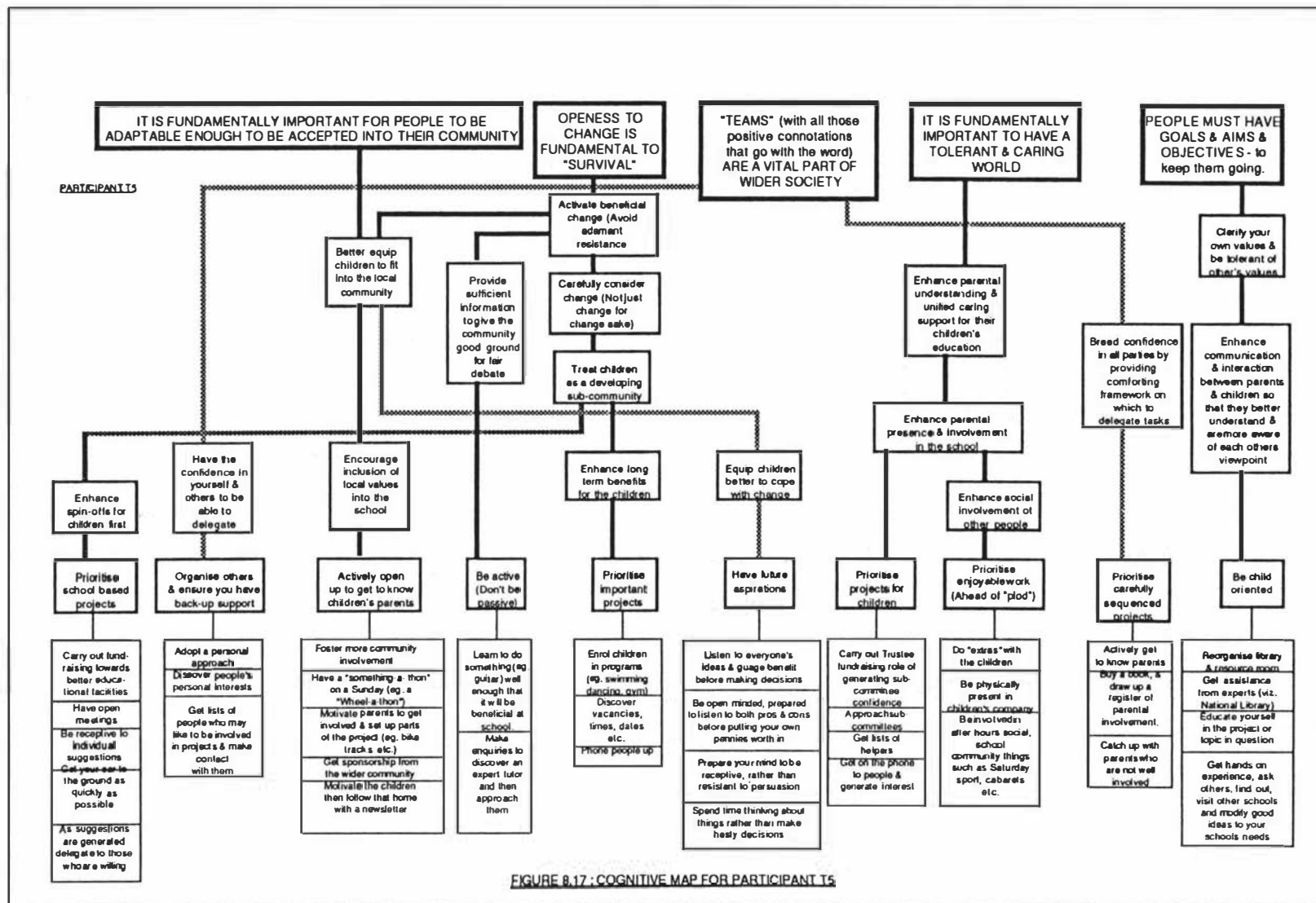
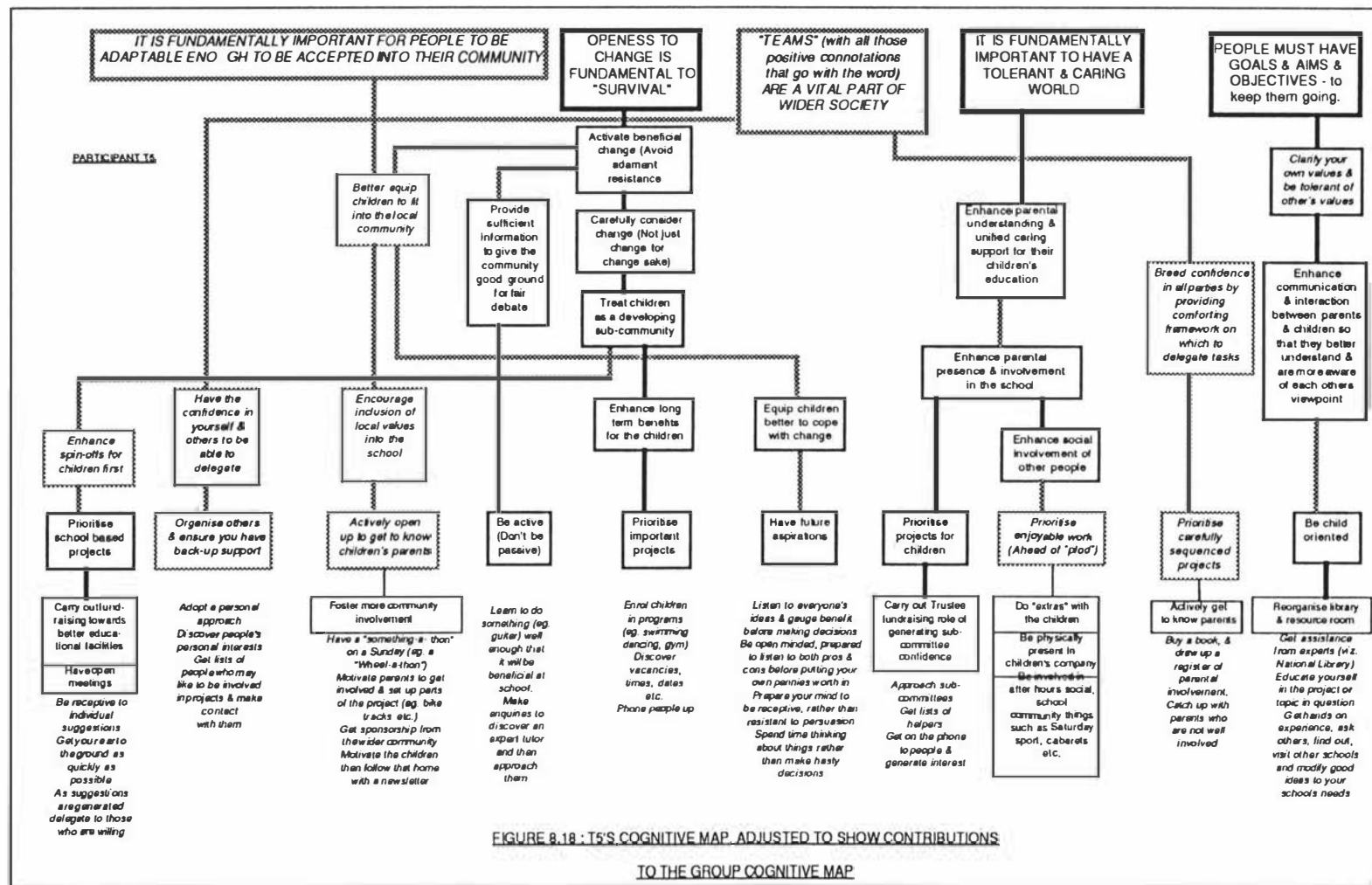


FIGURE 8.17 : COGNITIVE MAP FOR PARTICIPANT T5



CASE 7 : PARTICIPANT T7

TABLE 8.17

Repertory Grid, Elements, constructs and raw data for Participant T7

		Elements/projects											
		1	2	3	4	5	6	7	8	9	10		
		1: Arrange visit to marae	2 : Upgrading playing equipment	3 : Med. school application for own child	4 : Parent involvement in school	5 : Tidy my desk	6 : Write report on pupil leaving	7 : Sort out my class roll	8 : Summarise indiv. child progress	9 : Get gear for next study topic	10 : Own child's 21st birthday		
												LH construct pole	RH construct pole
A.	For parent body	5	4	1	2	7	5	3	6	6	1	For my class	
B.	Immediate need	1	3	1	5	1	2	1	3	3	4	Distant need	
C.	Benefit children	3	6	7	7	7	3	6	3	2	7	Benefit parents	
D.	For own family	6	7	1	7	3	6	6	7	7	3	For others' families	
E.	Preparing	1	1	1	1	1	7	1	7	1	1	Summarising	
F.	Planning	1	4	3	4	7	5	4	6	5	4	Doing	
G.	Achieve for others	2	2	2	2	6	2	5	6	6	5	Achieve for self	
H.	For own benefit	4	6	6	7	1	6	4	4	4	5	Someone else's benefit	
I.	For efficiency later	3	3	3	6	7	6	6	6	3	2	For efficiency now	
J.	Sorting out self	5	5	5	6	1	6	2	6	2	6	Sorting out others	

T7's Principle Components accounted for 37.03%, 23.87% and 14.62% of the variance respectively (see Table 8.18 and Table 8.4).

Project 6, a report to be written about a student who was leaving to go to another school, appears on Figure 8.19, very close to constructs E and D, which taken together express summarisation for the benefit of other people's families. This was a task that would benefit that student and his or her family as he/she entered a new school.

Organising things for T7's own family members, such as a birthday party (Project 10) or application to attend Medical school (Project 3) are depicted on Figure 8.19 at a distance from constructs relating to organising things for other people's benefit (constructs D, G, H and J).

Interpretation of T7's cognitive map

Figure 8.20 indicates that T7's values relating to this context involve (1) enabling children to grow, (2) self esteem and, (3) the virtues of trust and reliability.

(1) It was T7's view that enabling children to grow, to become skilled and caring, may be reached by promoting children to the highest priority and by acting to benefit other people's families. For Trustees this concerned them in doing things that benefit children and in providing occasions when parents could get into the school.

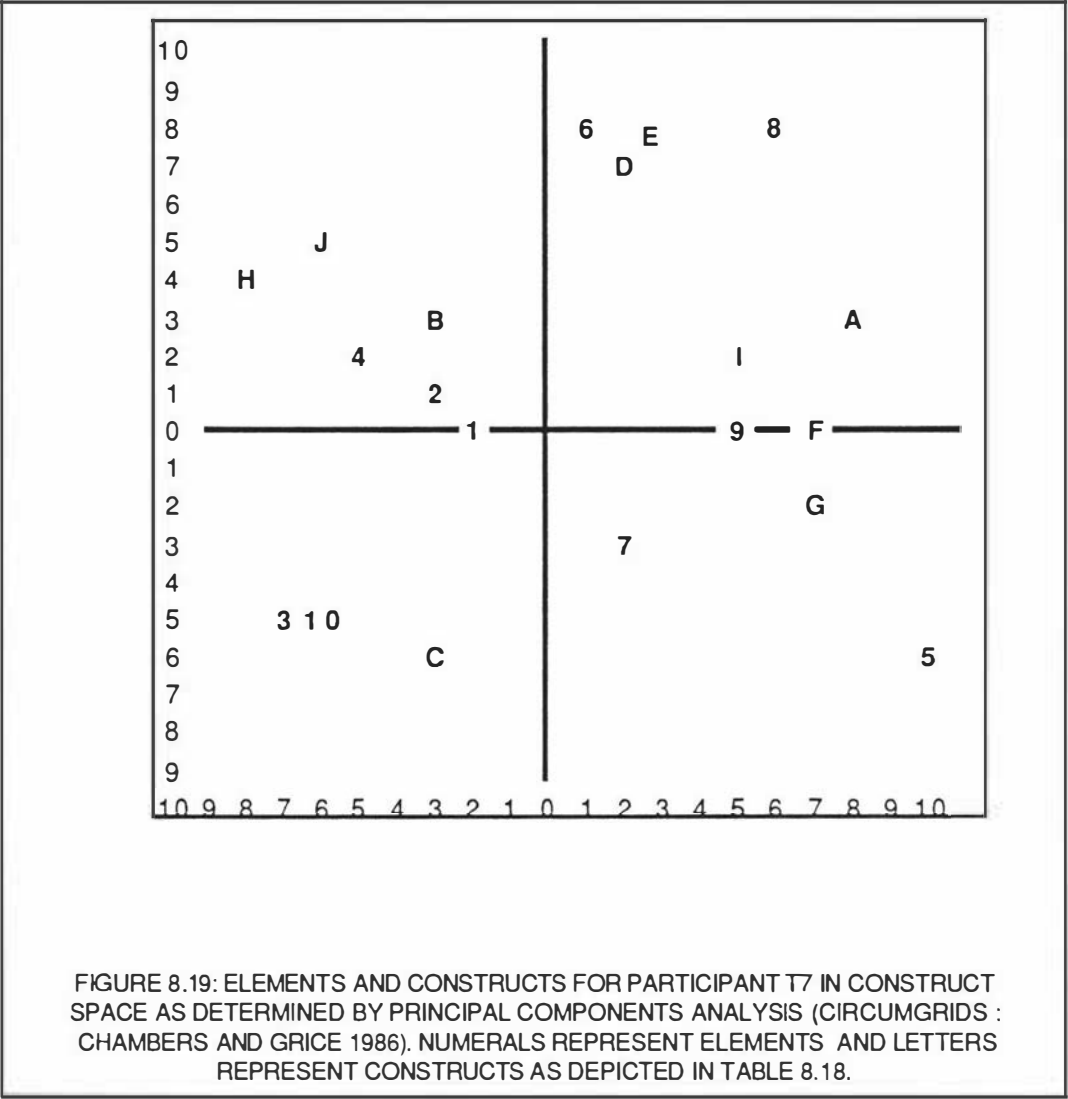
(2) T7 considered that enhancing people's self esteem meant for the Trustees, enabling people to feel good about themselves by : developing a strong supportive body who provided security, putting ideas to the test of experience so as to achieve growth, eliminating the larger more stressful jobs first and, by enhancing achievement of goals. At a behavioural level this might involve T7 and her colleagues in actively ensuring that they do not stand aloof. Not only must they attempt to get parents involved with the school but also actually get involved with them.

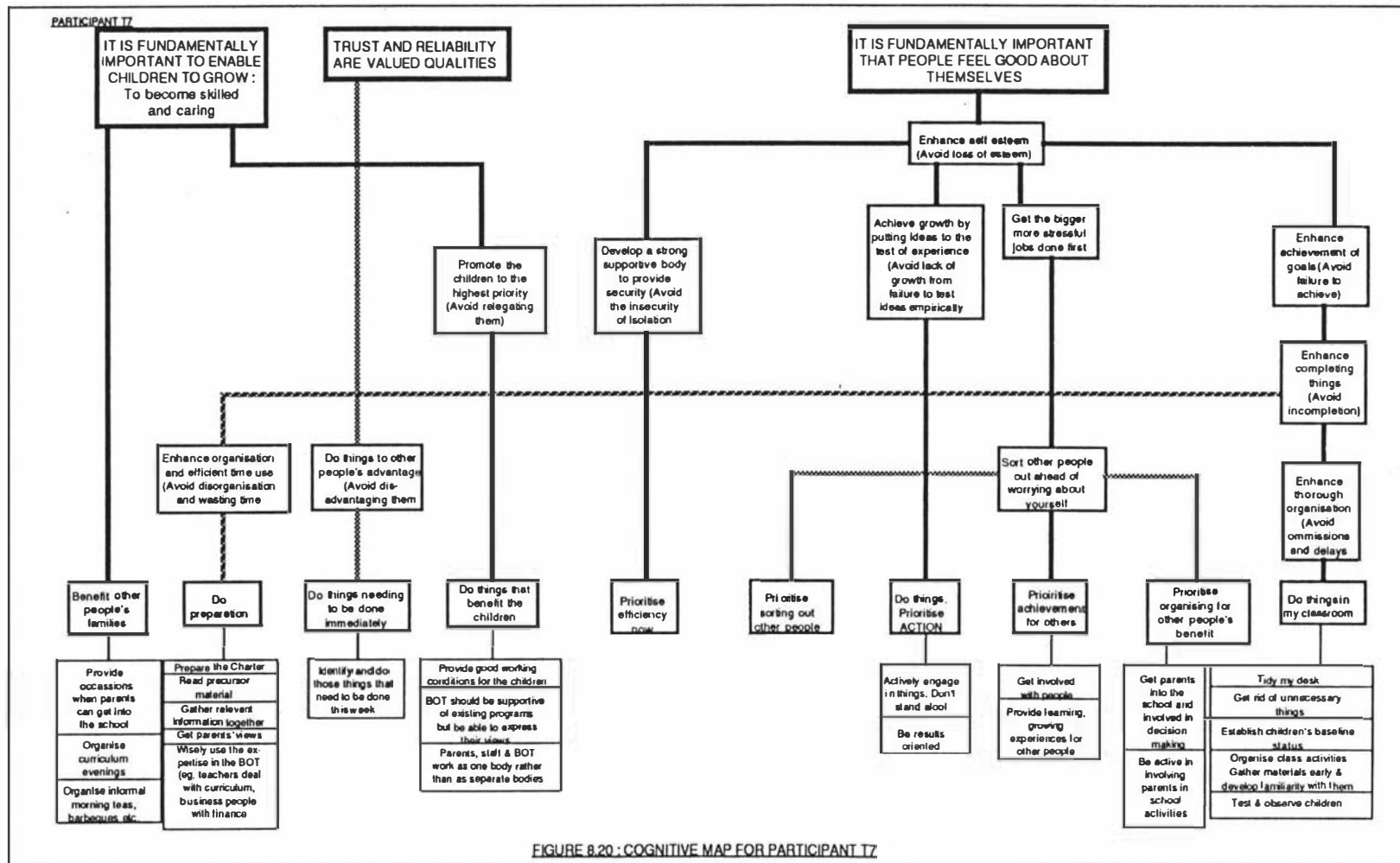
(3) Gaining trust and being seen as reliable were deemed by T7 to be achievable by doing things that advantaged other people. This suggested that Trustees should attempt not only to recognise what needed to be treated with immediacy, but also to do them immediately.

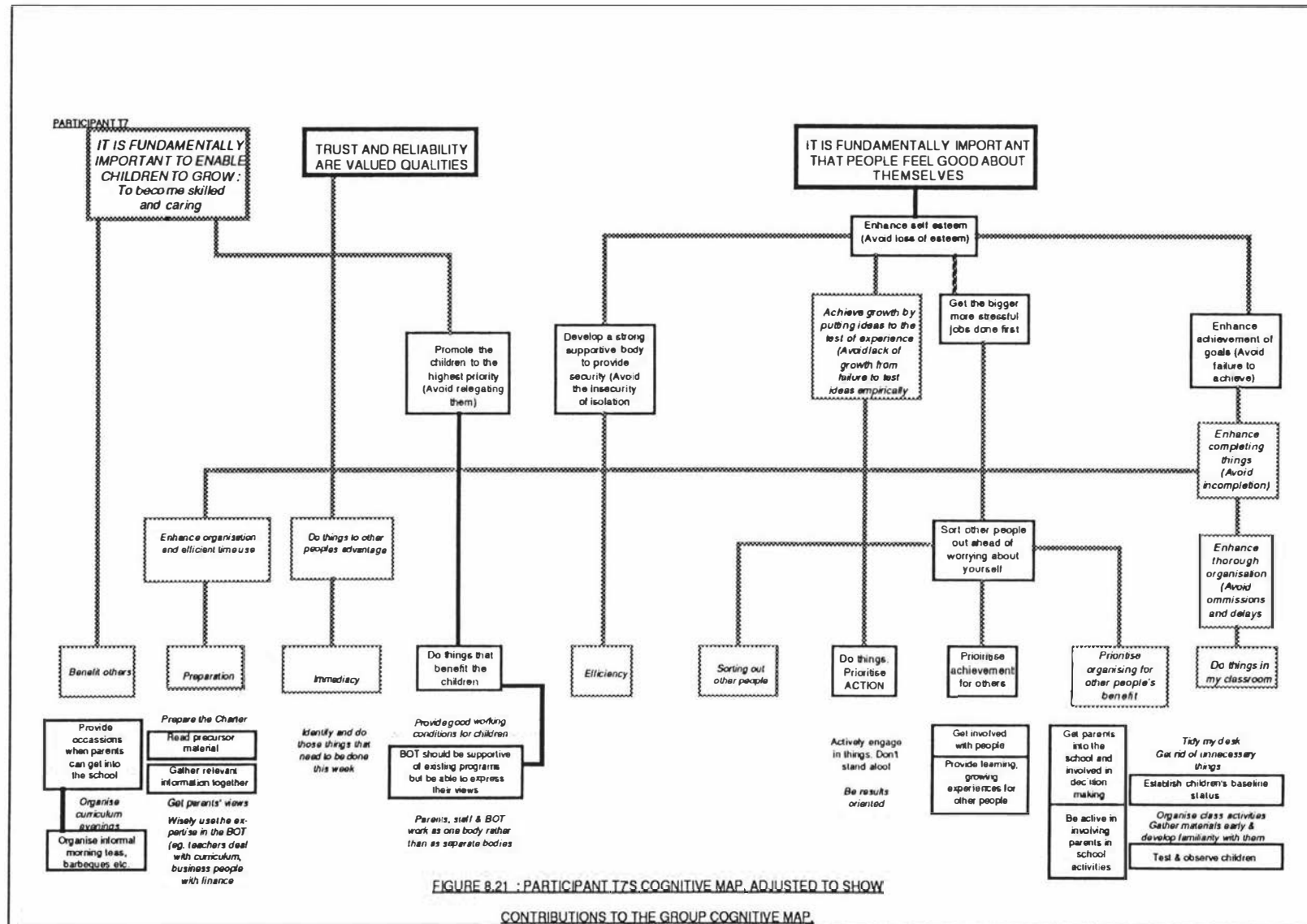
TABLE 8.18

Principal Components Analysis for Participant T7 for first two components.
(the choice pole of each construct prioritised in Laddering has been used to
label and identify it).

		<u>Component</u>	
		<u>First</u>	<u>Second</u>
A.	Eigenvalues	3.70	2.39
B.	Percent variance of Eigenvalues	37.03	23.87
C.	Constructs : Principal Axis Loadings		
A	Degree of in classroom work	+0.86	+0.30
B	Immediacy	-0.35	+0.38
C	Extent of benefit for children	-0.36	-0.65
D	Benefit to others' families	+0.24	+0.71
E	Preparation	+0.28	+0.78
F	Action	+0.72	+0.08
G	Others' achievement	+0.74	-0.24
H	Organisation for others' benefit	-0.84	+0.43
I	Immediacy of efficiency	+0.58	+0.22
J	Sorting out other people	-0.69	+0.57
D.	Elements in Construct Space		
1	Arrange visit to marae	-0.20	+0.08
2	Plan fund raising ideas	-0.36	+0.11
3	Med. school application for own child	-0.73	-0.58
4	Parent involvement & comfort	-0.58	+0.23
5	Tidy my school desk	+1.00	-0.68
6	Write report on pupil leaving school	+0.10	+0.85
7	Sort out my class Roll (for BOT)	+0.25	-0.35
8	Summary students' progress	+0.61	+0.81
9	Get gear for next topic	+0.52	+0.08
10	Son's 21st birthday party	-0.61	-0.54







8.4.2. TREATMENT GROUP COLLECTIVE RESULTS.

A total of 290 KWIC list cards were examined for commonality. 60 constructs of commonality were finally identified. The twenty-five constructs that ranked highest for commonality are shown in Table 8.19. The full list can be found in Appendix III.

TABLE 8.19
COMMONALITY OF CONSTRUCTS : THE 25 CONSTRUCTS RANKED HIGHEST FOR COMMONALITY

"COMMONALITY SCORE" IS THE NUMBER OF GROUP MEMBERS WHO PRODUCED THE CONSTRUCT AND "HEIRARCHY LEVEL" DEPICTS THE PREDOMINANT LEVEL OF SUPERORDINACY OF THE CONSTRUCT ON CONSTRUCT SYSTEMS. "VALUE " MEANS LADDER APEX OR SUPERORDINATE CONSTRUCT, "CONSTRUCT" MEANS REP. TEST AND VALUE LADDER ELICITED CONSTRUCT AND "ACT" MEANS ACT LADDER ELICITED CONSTRUCT.

RANK	CONSTRUCT	COMMONALITY SCORE	HEIRARCHY LEVEL
1	GOAL ORIENTATION	7	VALUE/CONSTRUCT
2	INVOLVEMENT	7	CONSTRUCT/ACT
3	FUTURE ORIENTATION	6	VALUE/CONSTRUCT
4	"PARAMOUNT IMPORTANCE OF CHILDREN'S NEEDS"	4	VALUE
5	BENEFIT CHILDREN	4	CONSTRUCT
6	COMMITTMENT	4	CONSTRUCT
7	SCHOOL ORIENTATION	4	CONSTRUCT
8	MUTUAL UNDERSTANDING	4	CONSTRUCT
9	KNOW THE CHILDREN (INTERACTION)	4	CONSTRUCT/ACT
10	CARING	3	VALUE
11	ACHIEVEMENT	3	CONSTRUCT
12	ACTION	3	CONSTRUCT
13	CHANGE ORIENTATION	3	CONSTRUCT
14	CHILDREN ORIENTATION	3	CONSTRUCT
15	COMMUNITY ORIENTATION	3	CONSTRUCT
16	PEOPLE DEVELOPMENT	3	CONSTRUCT
17	IMPORTANCE	3	CONSTRUCT
18	DEVELOPING STRENGTHS	3	CONSTRUCT
19	SUPPORTIVENESS	3	CONSTRUCT
20	FINANCIAL MANAGEMENT	3	ACT
21	FUNDRAISING	3	ACT
22	MEETINGS	3	ACT
23	ACQUAINTANCE WITH PARENTS	3	ACT
24	RESOURCE & FACILITY MANAGEMENT	3	ACT
25	TRUST & RELIABILITY	3	VALUE

When carrying out this analysis the investigator was struck by the way different individuals produced the same constructs, but at different levels within their construct hierarchy. For example the concept of developing people's strengths appeared in two cognitive maps as a result of Value ladder elicitation and appeared on a third cognitive map as a result of Act Ladder elicitation. Also some respondents produced more Value Laddered responses than Act laddered responses, while others produced the converse, more Act Laddered responses than Value Laddered ones.

For this reason Table 8.19 includes a column stating the hierarchical level of the predominant occurrence of each construct. Constructs at the apex of a system are listed on Table 8.19 as "Values" and value laddered responses are labelled as "constructs". "Constructs" also include the original constructs elicited by Repertory Test. Responses produced through Act Laddering are labelled as "Acts". For example, the first on the list, "Goal orientation" appeared about as frequently as a fundamental value at the apex of people's ladders, as it appeared embedded elsewhere in more subordinate levels of the value ladders. The paramount importance of Children's needs, produced by 4 respondents, occurred in each case as a superordinate construct or value. Constructs relating to fundraising had some commonality at the Act laddering level.

The most commonly shared constructs related to Trustees being goal oriented (that is, inclined towards the setting and pursuit of goals) and concern with parent community involvement. These constructs were shared by all 7 participants. Six of the seven Trustees expressed an orientation towards the future. The next most common constructs, each with a frequency of four (more than half the group) related to "the paramount importance of children's needs", an orientation towards benefiting children, commitment, having an orientation towards the school (that is, to prioritise school business), a desire to enhance mutual understanding between all parties, and actually interacting with and getting to know the children.

Figures 8.3, 8.6, 8.9, 8.12, 8.15, 8.18 and 8.21 depict for each individual, those parts of their cognitive maps which they shared with the group

cognitive map (Figure 8.22), and hence which they shared with other participants. Put another way, these figures represent those parts of individual maps, which participants contributed to the group cognitive map. Not all of the 60 common constructs were included on Figure 8.22. The criteria for inclusion on Figure 8.22 are described below. However of the 60 constructs identified, participant T5 contributed the most at 27 constructs. Participants T1 and T7 shared 26 and 25 constructs respectively, with the group map. Participants T3 and T2 both contributed 21 constructs and T4 and T6 both contributed 19.

Figure 8.22 represents the first (that is, pre-workshop) version of the BOT group cognitive map. It shows those aspects of the individual cognitive maps that were shared by the group members. The group members not only shared the content of the boxes shown on the map but also shared the linkages between particular content boxes (though the latter was more rare).

The extent to which the content boxes in Figure 8.22 were shared, is discernible by the thickness of the line forming the box. There are three thicknesses of line. The thickest lined boxes indicate that at least 6 of the 7 group members shared that construct. The next thickness means that 4 or 5 of the group members shared the construct. The thinnest lined boxes represent constructs shared by 3 group members, or by 2 group members who also shared a common implication linkage to that construct. Where two people shared a construct, but linked it to other constructs in a completely idiosyncratic manner, the commonality has not been displayed in Figure 8.22. That is why only 31 of the reported 60 common constructs have been included in Figure 8.22. Inclusion of a further 29 constructs shared only by two people seemed an unnecessary exercise in cluttering the cognitive map. Also, at a frequency of only 2, they were viewed by the investigator as not sufficiently representative of group commonality.

No more than two people agreed upon or shared linkages between constructs. Hence the thicker linkage line indicates that 2 people shared that linkage, and the remaining thinner lines indicate that just one person

made the implicative link. For example the "Trust and Reliability" construct on the far left hand side of Figure 8.22 was shared in content by three Trustees but not one of them linked this construct with any other construct depicted on the map.

The collective Group cognitive map has been described below in a similar fashion to the way individual cognitive maps were described earlier. However only shared linkages and majority shared constructs (frequency of 4 or more) are described.

The group were unanimous in the view that they should have an orientation towards setting and pursuing goals. This goal orientation appeared to be related to the enhancement of both the future and people's self esteem by developing mutual understanding between all parties (parents, trustees, teachers and pupils) and by avoiding the stress of unanticipated events. In many respects the goal orientation represented planning. It is interesting to note, however, that all participants made reference to goal setting but not to planning, although at individual feedback sessions it was revealed that the concept of planning was embedded in other constructs, such as "goal setting". For one participant planning was embedded within her notion of "administration".

Every member in the group considered the enhancement of parental involvement as important. It was deemed that Trustees could influence this by : (1) having an "achievement orientation" (by which they meant, an inclination to get things completed ; to achieve the intended result), (2) arranging for the actual physical presence of parents at the school, and (3) interacting with and getting to know the children.

All but one member of the Board made reference to having an orientation towards the future. Although at the feedback session this participant endorsed the contention that a future orientation was important, and that it was a notion that had simply failed to be elicited in the Repertory Test and Laddering processes. An orientation towards the future related directly to

the importance placed on preparing children for the future. According to at least 2 group members this was influenced by having a "change orientation", which meant having a progressive attitude of openness and preparedness for change in contrast to being resistant to change. The future orientation was also a reflection of the "paramount importance" assigned to the question of children's needs, which in turn involved doing things that advantaged children. Among other things this represented Trustees having an attitude towards the development of people, and also went some way towards defining occurrences of the term "importance". "Importance" meant doing things to benefit children, a notion which two members felt could be served by ensuring there was a balance of view points on the Board and by enabling the expression of those views.

The term "commitment" appeared to mean : prepare children for the future and develop a sense of direction, by involving parents and by giving highest priority to issues affecting children. Or at least this is what the group felt they should be committed to.

Two participants shared a chain of constructs whereby they believed it was important to have caring people in a caring world. It was their view that this could be accomplished by providing positive role models for the children and that this in turn concerned the development or establishment of a sense of direction.

There also existed a shared linkage between concepts of finance, monetary and budget control on the one hand and school resources and facilities control and management on the other hand.

Feedback sessions with all 7 participants confirmed the content and linkages of their individual cognitive maps, and made explicit the relationships between their cognitive maps and the group cognitive map. When all feedback sessions had been completed a workshop was called for the entire group.

At the workshop the group members made it clear that they found the cognitive map depicted in Figure 8.22 to be unwieldy, complex and visually "too busy". They tended to react against its visual complexity rather than respond to its content, and indicated that they wished to discard that model and generate a new one. Unfortunately, at this stage the three teaching staff on the Board tried to dominate this part of the workshop, and wished to impose a completely new model equivalent to one that they had been using for a different set of issues at the school. The model they sought to impose contained no hierarchical representation and went well away from being an explanatory construct system style of model. Furthermore, their model tended to ignore almost the entire content of the group cognitive map.

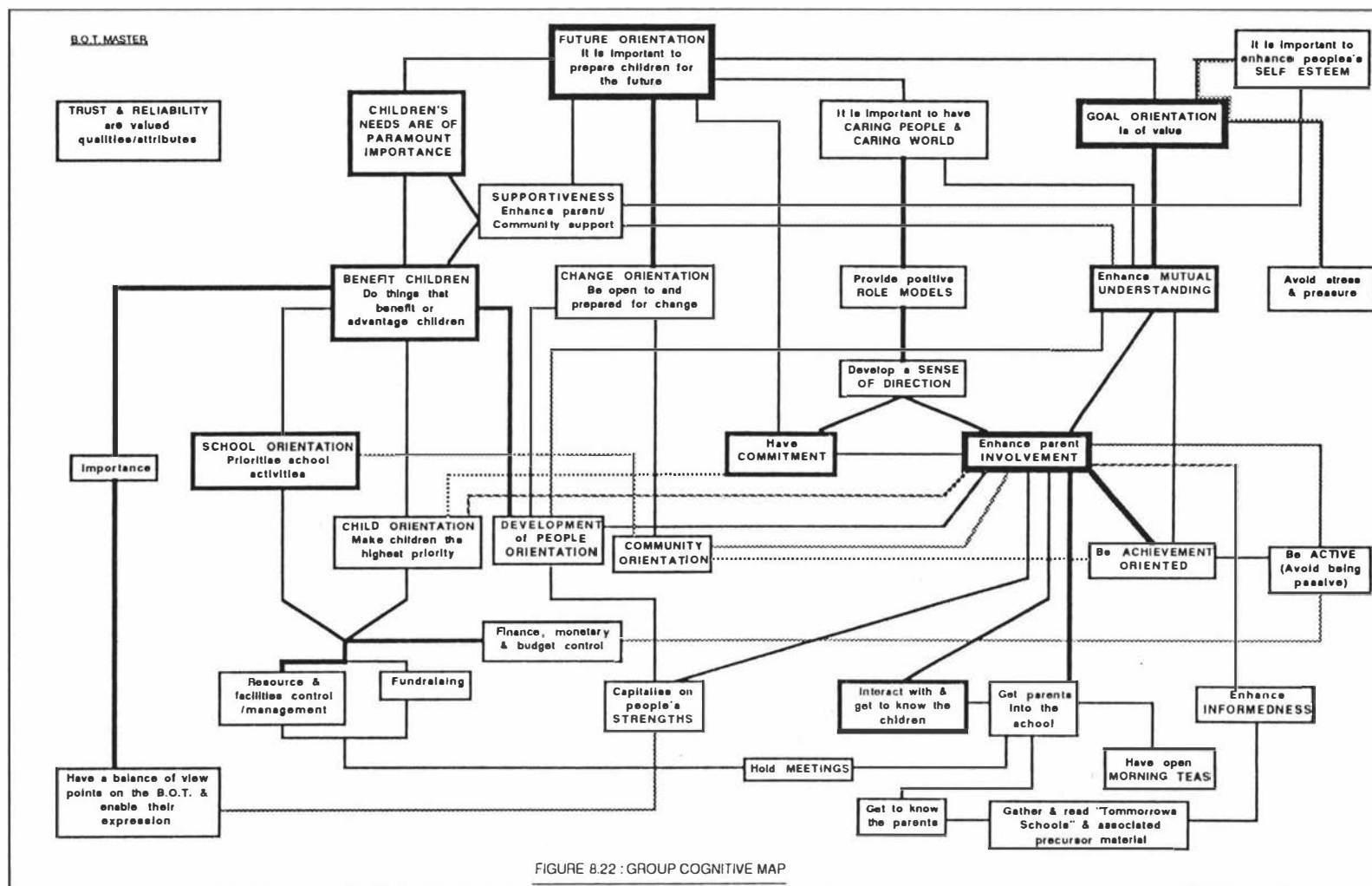
A large portion of the workshop session therefore involved the facilitator and the non-teaching Trustees in steering the teaching staff back to the exercise at hand, an exercise in which they had invested considerable time, energy and disclosure. They had worked through through a process and they wished the final outcome to reflect that specific process and not a model that emanated from a text book session at the school. In other words a sizeable portion of participant's contributions to the shared map would have been lost in the somewhat stylised and impoverished model proposed by the teaching staff. This debate and negotiation was an extremely valuable and important feature of the entire team building program since, after some creative thinking by all participants, it lead to the development of a 3-dimensional hierarchical model that consisted of 5 interrelated hierarchically arranged cognitive maps.

This model is both depicted graphically and described verbally in Section 8.4.3, which entails a reprint of the Policy for Action that the BOT finally adopted. The policy commences with the school's Mission Statement. Preparation of Mission Statements for all schools was a requirement of the Tomorrow's Schools program. The group model contains sub-models that describe the school's values, the BOT's role and the interrelationship of these with the teaching staff, the community and the pupils. By 9.00am on the day following the workshop, there appeared in the school staff-room a 3-dimensional version of the model made of Table-tennis balls and pipe

cleaners. At the time of writing this chapter, that model was still hanging from the ceiling of the Principal's office.

Up until the workshop, the investigator had not discussed nor disclosed to any Trustee details of the content of any other Trustee's cognitive map, except that which appeared as shared constructs on the group cognitive map. It had been made clear to the participants that within the code of ethics adhered to by the investigator and within the boundaries of his professional registration, all material was confidential to himself and the individual source of that material. It was up to participants to take the initiative themselves if they were prepared to, or wished to disclose the contents of their cognitive maps to other group members. At the workshop, participant T1 volunteered to disclose his cognitive map to the rest of the group and this led to a spontaneous exchange of individual cognitive maps (including the versions that indicated each individual's contribution to the group map). At the conclusion of the workshop a closure ceremony involved participants in acknowledging the value they had gained from the exercise. There was unanimous agreement at this stage that the workshop had been valuable and that in particular, the exchange of cognitive maps had been of the most value.

Another noteworthy feature of the workshop involved a statement by participant T6. He revealed that he had been sceptical about the procedure, but when he received his copy of his cognitive map at the feedback session, it was unquestionably "his". He stated that he could not dispute the model because it described his attitudes and beliefs precisely. There was general support from the rest of the group who indicated that they had the same experience when they received their individual cognitive maps.



8.4.3. REPRINT OF SCHOOL BOARD OF TRUSTEES

POLICY FOR ACTION

MISSION STATEMENT

"To create a friendly but challenging environment to encourage all children to take a growing responsibility for their own quality learning and behaviour and to achieve this in partnership with the home."

THE BOARD'S ROLE

To enable achievement of the school's values through goal directed actions devoted to developing the pupils, the staff and the community.

The Board's role can be depicted as a pyramidal structure (see FIGURE 1), whereby the Board mediate the school's values, goals and ideals in relation to the pupils, the staff and the community.

Specifically :

1. The Board's purpose is to manage the school's values as they relate to the three principle groups of people involved in the school : the pupils, the staff and the community.

Referred to collectively, the pupils, the staff , the Board and the community will be known as **the school**.

2. The Board will set goals for the school and actively encourage the pursuit of and achievement of these goals.
3. The Board will act as the school's agency for change and improvement and mediate the pursuit of the values with the school.
4. The Trustees' ongoing program will be to constantly ask :

"How can we achieve the goals, objectives and ideals embodied in the the school's values and reflected in the mission statement ?"

"What sorts of actions, environments and symbols are directly compatible with and reflect the school's values ?"

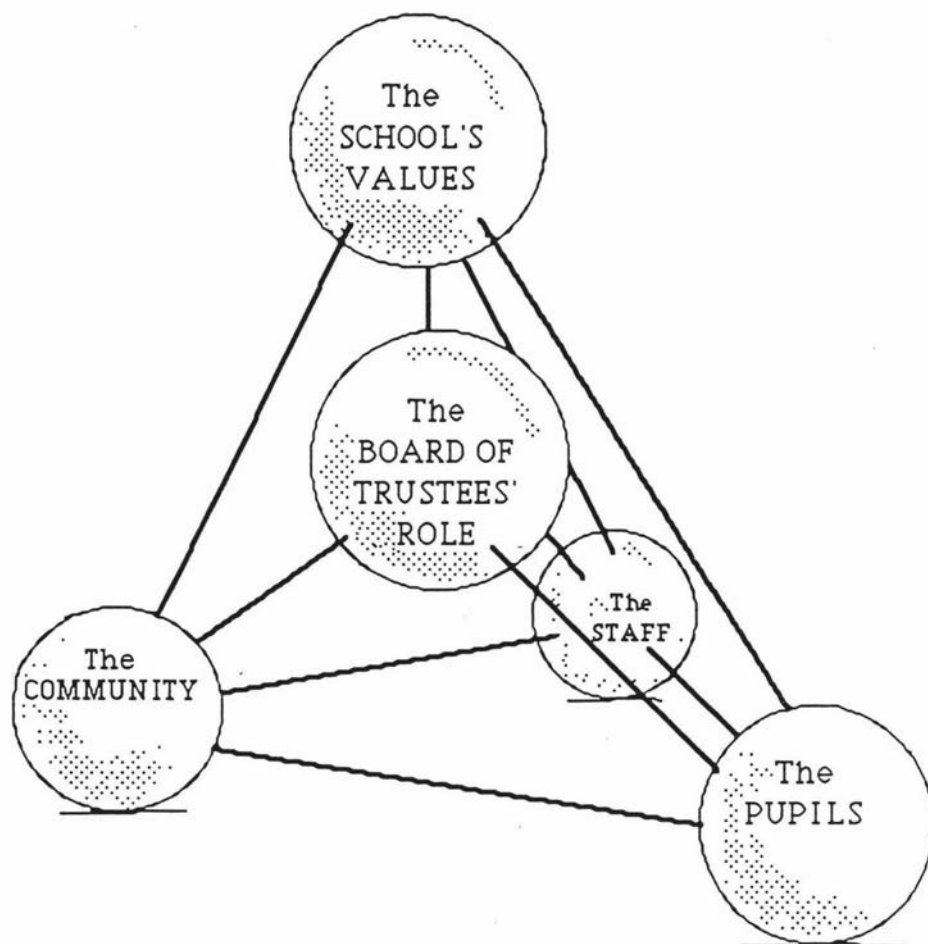
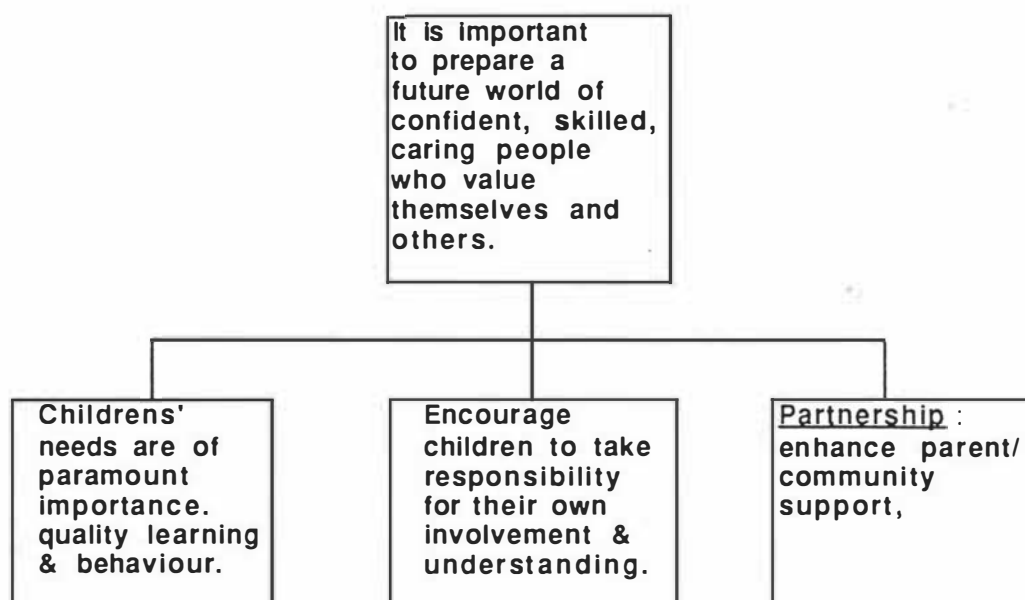


FIGURE 1. MODEL OF THE BOARD OF TRUSTEES' ROLE.

THE SCHOOL'S VALUES

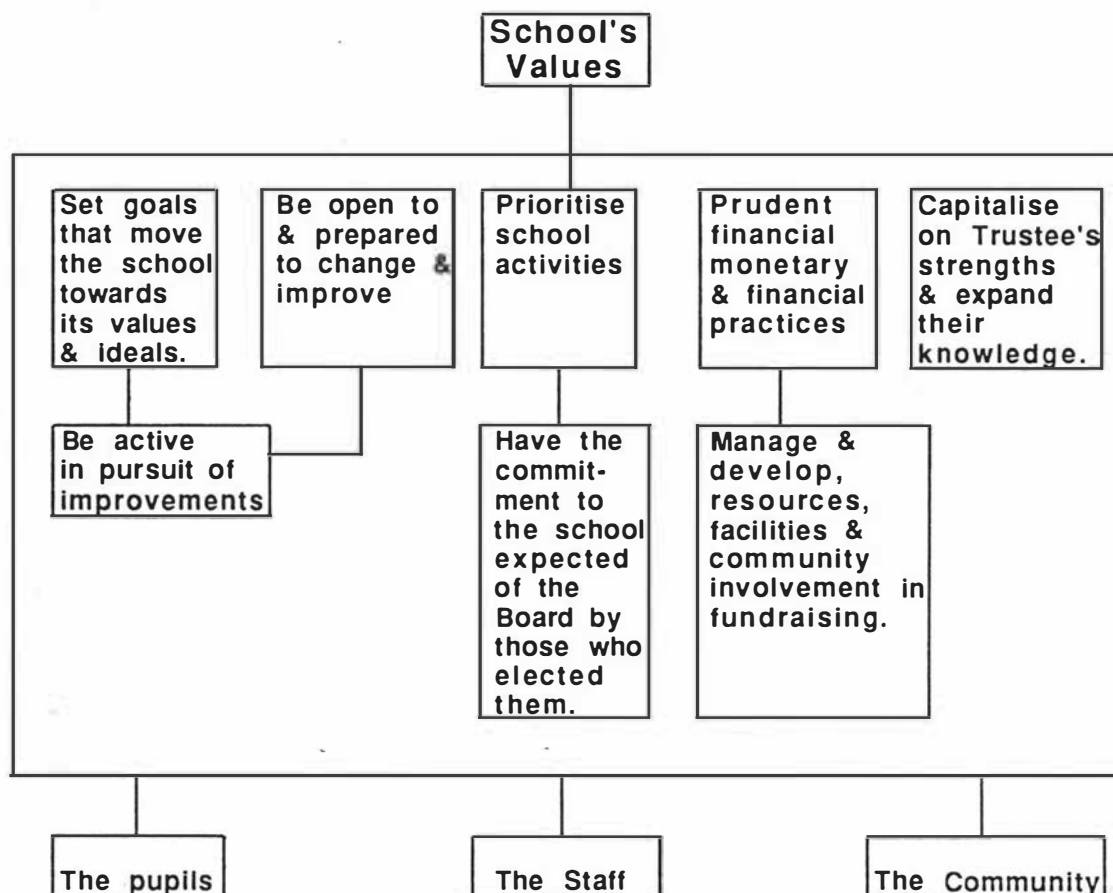


Specifically :

The Board of Trustees acknowledge the importance of preparing a future world of confident, skilled, caring people who feel good about themselves and value other people. To achieve this preparation the Board will :

1. Treat childrens' needs as their **highest** priority.
2. Develop a teaching environment that facilitates childrens' acquisition of the skills they need to assume an increasing responsibility for their own quality learning and behaviour. In other words, to become active, motivated learners rather than passive receptors of information.
3. Involve the school/parent community in school activities, and in so doing, aim to help all parties to develop a mutual and supportive understanding of one another.

THE BOARD OF TRUSTEES

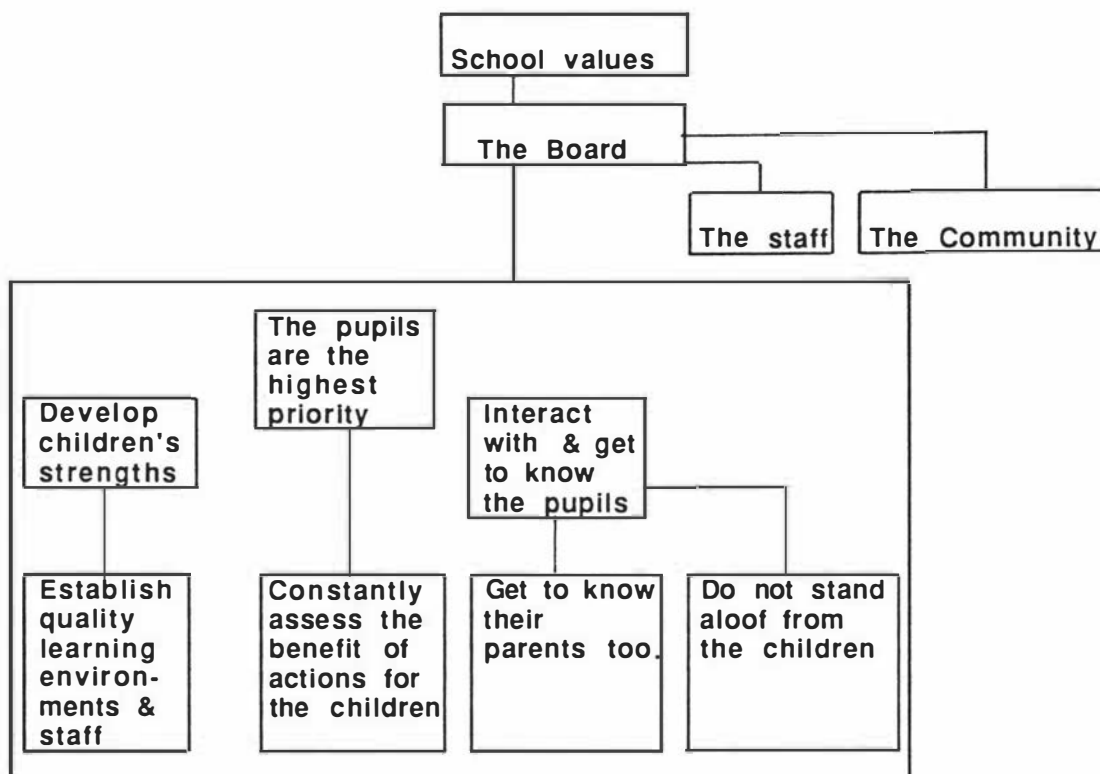


Specifically :

To achieve the school's values, as embodied in the mission statement the Board of Trustees will :

1. Set achievable goals for the school. This involves the **active** pursuit of improvements for the school. The Board will be proactive rather than simply reactive to agenda items.
2. Be open to and prepared for change that improves the school. The Board will avoid resistance to change and complacency of the status quo.
3. Place high priority on school activities. As the elected representatives, this involves being committed to the school.
4. Adopt prudent financial, monetary and budgetary policies and practices. This is characterised by skilled management and development of the school's resources and facilities, and by the planning and implementation of community involved fundraising activities.
5. Capitalise on the strengths inherent among the Trustees and develop in them an expanded knowledge and information base.

THE PUPILS

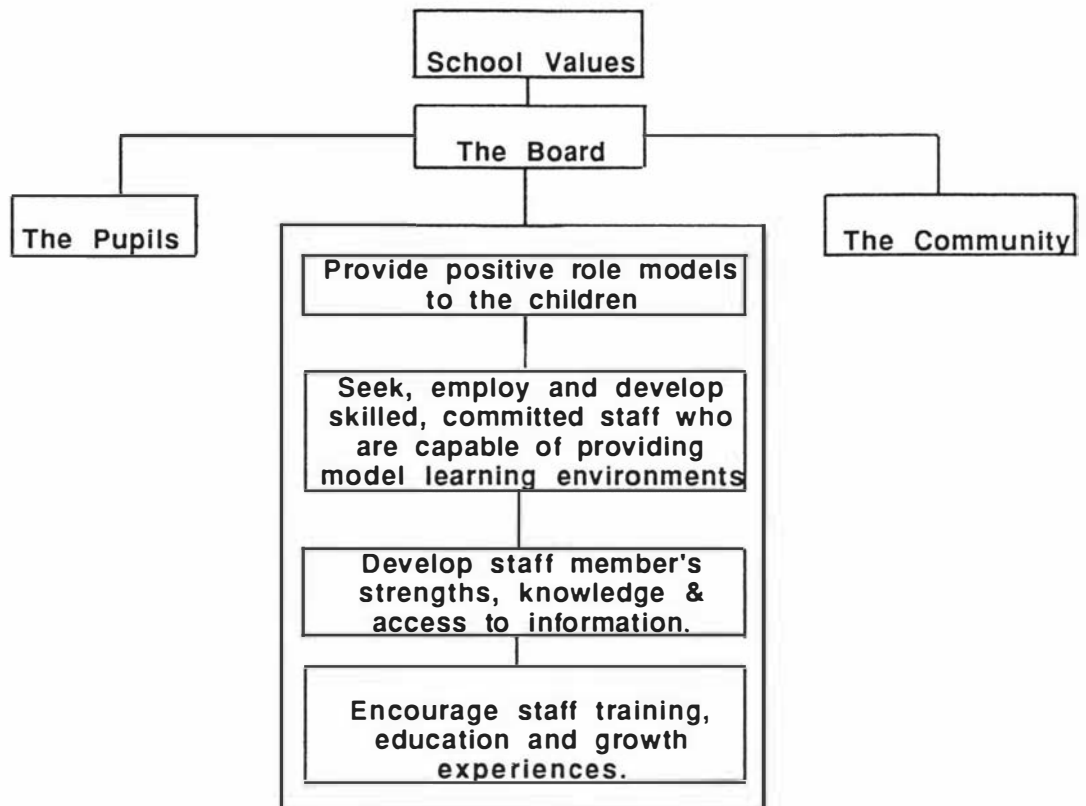


Specifically :

To achieve the schools' values, particularly regarding the paramount importance of childrens' needs and the endeavour to develop young people adept in the skills required to take responsibility for their own actions, the Board will :

1. Treat the pupils as the highest priority. This means that the Trustees will constantly review proposals and actions for their beneficial impact on the pupils. Above all the Trustees must not lose sight of or neglect he childrens' needs.
2. Interact with and get to know the pupils as much as possible. This involves getting to know their parents too, and ensuring that the Trustees do not stand aloof of the pupils.
3. Establish, within their means, learning environments conducive to the development of pupils strengths and gradual improvement of their weaknesses.

THE STAFF

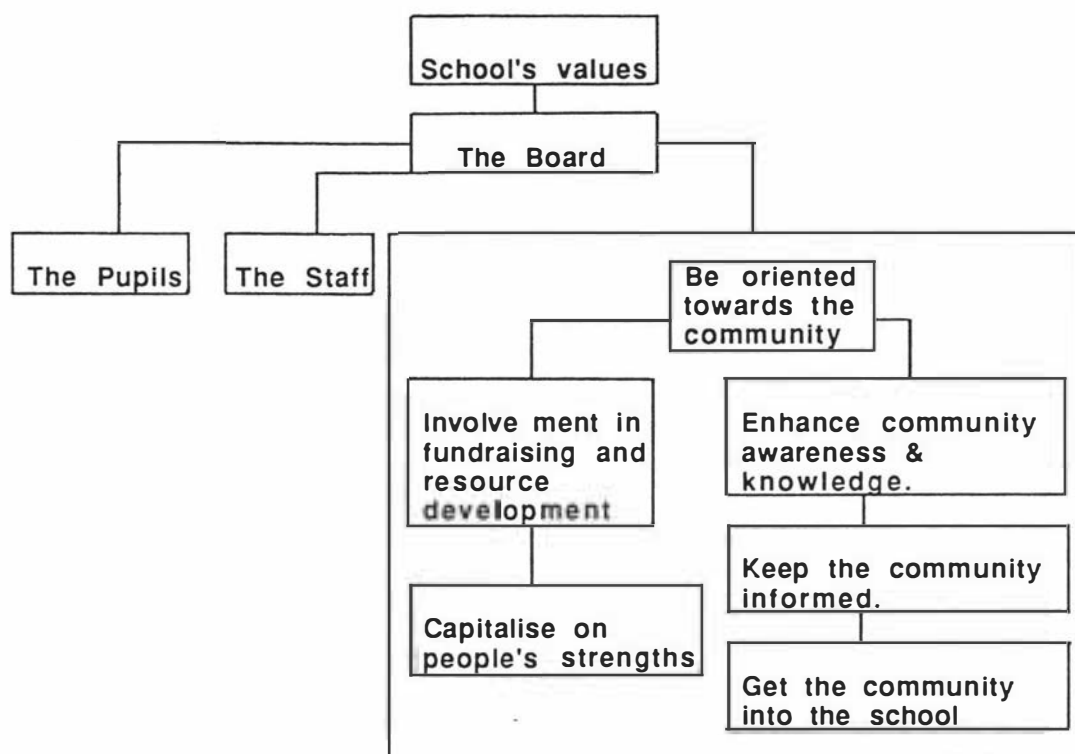


Specifically :

To achieve the school's values, as embodied in the mission statement, the Board will :

1. Aim to provide positive role models to the children. This involves seeking, employing and developing committed, skilled staff who are capable of providing model learning environments.
2. Encourage the development of staff member's strengths and enhance their knowledge and access to information. This involves the provision of on-going education, training and growth experiences for the staff, in accordance with their individual and collective needs.

THE COMMUNITY



Specifically :

The term "community" refers to both the parent community and the wider school community which includes the school's neighbours, local shopkeepers and the school's extended families.

To function within the school's values, particularly with regard to partnership in education, community supportiveness, involvement and mutual understanding, the Board will :

1. Maintain an acute awareness of the community and an orientation to include the community in school activities. Try not to neglect, ignore or stand aloof of the community.
2. Try to enhance the knowledge and awareness of the community. This involves getting the parents and community into direct interface or communication with the school.
3. Encourage the community into fundraising and other resource development activities. This involves identifying and capitalising on the strengths, expertise and willingness of the people in the community.

8.4.4. COMPARISON OF TREATMENT GROUP AND CONTROL GROUPS.

Differences in Pre-test and Post-test responding were analysed by One-way Analysis of Variance for differences between groups and by t-test for differences within groups. ANOVA Summary tables of significant between groups results are included IN Appendix III.

Of the 20 items surveyed only one significant difference was found between groups at the Pre-test administration of the Board of Trustees Role Questionnaire. This occurred on an item related to the extent to which Trustees felt that their Board was directed towards clearly defined goals. Control Group A Trustees indicated on the Pre-test that to some extent they were not directed towards clearly defined goals (see Figure 8.24). In contrast the Treatment Group felt that they were directed towards clearly defined goals ($F=5.1$, $df=2$, $p<0.05$).

Figure 8.24 and Tables 8.21 and 8.22 show that on this item, both Control Group B and the Treatment Group recorded a significant increase at Post-test for the extent to which they were directed towards clear goals, (Control Group B : $t= 3.81$, $df=5$, $p.<0.05$; Treatment Group : $t= 3.24$, $df=6$, $p.<0.05$). Control Group A who had scored most negatively on this item at pre-test, did not record a significant movement towards a more positive result (see Table 8.20).

On all other items at Pre-test administration, there was statistically no difference between the three groups. However at Post-test administration of the questionnaire, significant between groups differences had occurred on 6 of the 20 items (30% of items). Figures 8.25, 8.27, 8.29, 8.31 and 8.33 show that at the post-test administration of the questionnaire, significant differences had emerged for the extent to which the different groups felt that their Trustees agreed with one another, held similar beliefs and values to one another, were clear about their role as a Board, felt individually comfortable in their role as a trustee, and felt that their personal beliefs and values were similar to other Trustees (see Appendix III for figures and ANOVA tables). In addition, at Post-test there remained the same between groups difference relating to directedness towards clearly defined goals.

TABLE 8.20

SUMMARY OF t-TEST ANALYSIS OF CONTROL GROUP A WITHIN
GROUPS PRE-TEST AND POST-TEST SURVEY QUESTIONNAIRE
RESULTS.

ITEM NO.	DESCRIPTION	PRE-TEST MEAN	PRE-TEST sd.	POST-TEST MEAN	POST-TEST sd.	t	SIGNIF	Notes
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PART A : FEELINGS ABOUT THE BOARD AS A WHOLE.

1	Organised	3.83	1.94	5.00	1.26	2.91	0.033	p.<0.05
2	Goal direction	4.83	1.60	4.00	1.67	1.75	NS	
3	Supportiveness	2.33	1.37	2.50	1.05	0.35	NS	
4	Disagreement	5.00	1.10	4.67	1.03	0.54	NS	
5	Warmth	2.33	1.37	2.67	1.21	0.60	NS	
6	Control	3.00	0.89	2.67	1.21	1.00	NS	Approaching
7	Suspicion	5.83	0.75	5.17	1.72	1.20	NS	
8	Similar values	5.17	1.17	4.00	1.41	2.15	0.083	
9	Communication	2.00	1.10	2.50	1.22	1.46	NS	Approaching
10	School problems	5.17	1.17	5.17	1.83	0.00	NS	
11	Role clarity	4.17	1.33	3.17	1.47	2.24	0.075	
12	Team work	5.00	0.89	5.33	1.21	0.60	NS	

PART B : FEELINGS ABOUT OWN ROLE.

1	Comfort	2.83	0.75	3.33	1.21	1.46	NS
2	Disagreement	4.83	0.98	4.83	1.60	0.00	NS
3	Understanding	5.50	0.55	5.50	1.38	0.00	NS
4	Suspicion	5.50	1.38	5.33	1.51	0.28	NS
5	Similar values	2.83	1.17	3.33	1.51	0.65	NS
6	School problems	2.00	0.89	2.00	1.10	0.00	NS
7	Role clarity	4.33	1.97	5.50	1.22	1.08	NS
8	Respect	5.33	0.52	5.67	1.21	0.50	NS

PAIRED COMPARISONS = 6 , DEGREES OF FREEDOM = 5.

TABLE 8.22

SUMMARY OF t-TEST ANALYSIS OF TREATMENT GROUP WITHIN
GROUPS PRE-TEST AND POST-TEST SURVEY QUESTIONNAIRE
RESULTS.

ITEM NO.	DESCRIPTION	PRE-TEST MEAN	PRE-TEST sd.	POST-TEST MEAN	POST-TEST sd.	t	SIGNIF.	Notes
PART A : FEELINGS ABOUT THE BOARD AS A WHOLE.								
1	Organised	5.14	1.07	5.86	0.90	3.87	0.009	p.<.01
2	Goal direction	2.71	1.11	1.71	1.49	3.24	0.018	p.=.01
3	Supportiveness	2.71	0.95	2.00	0.58	1.99	0.092	Approaching
4	Disagreement	4.86	1.35	5.86	0.38	1.87	NS	
5	Warmth	2.43	0.79	2.29	0.95	0.35	NS	
6	Control	2.57	1.13	2.43	1.27	0.23	NS	
7	Suspicion	5.14	1.21	6.14	0.69	2.05	0.085	Approaching
8	Similar values	4.71	1.50	6.00	1.00	3.06	0.022	p.<.05
9	Communication	2.57	1.51	1.71	0.49	1.69	NS	
10	School problems	5.43	0.98	6.14	0.69	3.87	0.009	p.<.01
11	Role clarity	3.14	1.21	1.57	0.53	3.67	0.011	p.=.01
12	Team work	6.00	0.82	6.29	0.95	0.55	NS	

PART B : FEELINGS ABOUT OWN ROLE.

1	Comfort	2.00	1.53	1.86	0.38	0.26	NS	
2	Disagreement	5.29	0.95	6.14	0.38	3.29	0.017	p.=.01
3	Understanding	5.71	1.11	6.29	0.76	1.92	NS	
4	Suspicion	5.57	1.40	6.00	0.82	1.16	NS	
5	Similar values	2.71	1.38	2.43	0.98	0.68	NS	
6	School problems	2.43	0.79	1.86	0.69	2.83	0.029	p.<.05
7	Role clarity	5.43	1.40	6.57	0.53	1.80	NS	
8	Respect	5.86	0.90	6.43	0.53	1.92	NS	

PAIRED COMPARISONS = 7 , DEGREES OF FREEDOM = 6.

In each of these six cases Control Group A had rated further towards the negative end of each scale, and on all but two items the Treatment Group had scored most positively (and on one of these two items, the treatment group mean was just 0.03 from being the most positive score). Hence, at the post-test the Treatment Group felt more directed towards clear goals, in greater agreement with one another, more similar in values and beliefs, and clearer and more comfortable in their role than did Control Group A. These differences had not been present at Pre-test.

All three groups recorded a significant difference from Pre-test to Post-test for the extent to which they believed they had moved towards being more

After independent consultation with professional statistical advisers it was confirmed that the use of ANOVA was the appropriately obvious test to use within the current research design. They advised that an analysis of covariance could be considered as an alternative statistic, but only if sample sizes had been much larger.

organised (see Tables 8.20, 8.21, 8.22 and Figure 8.23). For Control Group A this was the only significant change ($t=2.91$, $df=5$, $p<0.05$). Control Group B recorded this difference at the $p<0.05$ level ($t=2.71$, $df=5$) while the Treatment Group recorded this change at the $p<0.01$ level ($t=3.87$, $df=6$).

Control Group B produced significant pre-test to post-test differences on a further three of the twenty items. This group indicated an improvement from pre- to post-test in their directedness towards clear goals ($t=3.8$, $df=5$, $p<0.05$), an increase in their open-mindedness towards one another ($t=3.16$, $df=5$, $p<0.05$), and in increase in the extent to which their Board was characterised by cooperative team-work ($t=2.91$, $df=5$, $p<0.05$). (See Table 8.21 and also Figures 8.24, 8.26 & 8.30).

In contrast the Treatment Group produced a total of 7 significant differences from pre- to post-test, (a significant movement on 35% of the scales). Two of these differences were at the $p<0.01$ level and a further 3 of them were within 0.008 of achieving the $p=0.01$ level (see Table 8.22).

Like the other groups, the Treatment Group also recorded an improved directedness towards clear goals ($t=3.24$, $df=6$, $p<0.05$). These Trustees indicated a significant difference in their perception that they held similar beliefs and values following the role and values clarification exercise ($t=3.06$, $df=6$, $p<0.05$). A highly significant improvement was indicated for the extent to which the Board felt they understood their school's problems after 6 months in office, both as a group ($t=3.87$, $df=6$, $p<0.01$) and as individuals ($t=1.69$, $df=6$, $p<0.05$), (see Table 8.22). The Treatment Group felt significantly clearer about their role as a Board of Trustees at the post-test administration ($t=3.67$, $df=6$, $p<0.01$), and also reported an increase in the extent to which they tended to agree with their fellow Trustees ($t=3.29$, $df=6$, $p<0.05$). See Figures 8.24, 8.27, 8.28, 8.29, 8.32 and 8.34 for a summary of these results.

In summary, the Treatment Group displayed a greater number of significant differences from pre-test to post-test responding than did the control groups. Furthermore the significance levels of differences tended to be stronger for the Treatment Group than for Control groups. By the Post-test administration, significant differences had emerged between the three groups, when such differences had not been present at the pre-test stage.

POST-TREATMENT EVALUATION

At the post-test administration of the Board of Trustees Role Questionnaire the Treatment Group responded to a further 8 items regarding their assessment of the intervention exercise and its products. Table 8.23, which shows this data, indicates that all eight rating means were at the extreme ends of the scales. In each case this represented the positive end of each scale. The data indicate that the Treatment Group were very satisfied with the outcome of the intervention exercise and that each participant accepted totally the "Policy for Action" document that resulted. They reported that the intervention was very valuable, both from a personal perspective and also for the group as a whole. The participants enjoyed the exercise, with the exception of participant T6 who reported relative unenjoyment. All respondents however contributed to the rating that the exercise had been successful. The Treatment Group reported that the "Policy for Action" was a very accurate expression of their views and that their personal cognitive maps were also a very accurate expression of their views.

TABLE 8.23

Treatment Group assessment of Intervention exercise and its products, as
rated on 7-point rating scales.

Item #	KEY CONCEPT	MEAN.RATING	s.d.
1.	Satisfaction with outcome	6.43	0.79
2.	Acceptance of "Policy for Action"	1.43	0.53
3.	Personal value of exercise	2.00	1.00
4.	Value of exercise to group	1.57	0.53
5.	Enjoyment of exercise	5.77	1.40
6.	Success of exercise	6.14	0.69
7.	Validity/Accuracy of "Policy for Action"	1.71	0.49
8.	Validity/Accuracy of Personal Cogn. Maps	1.86	0.90

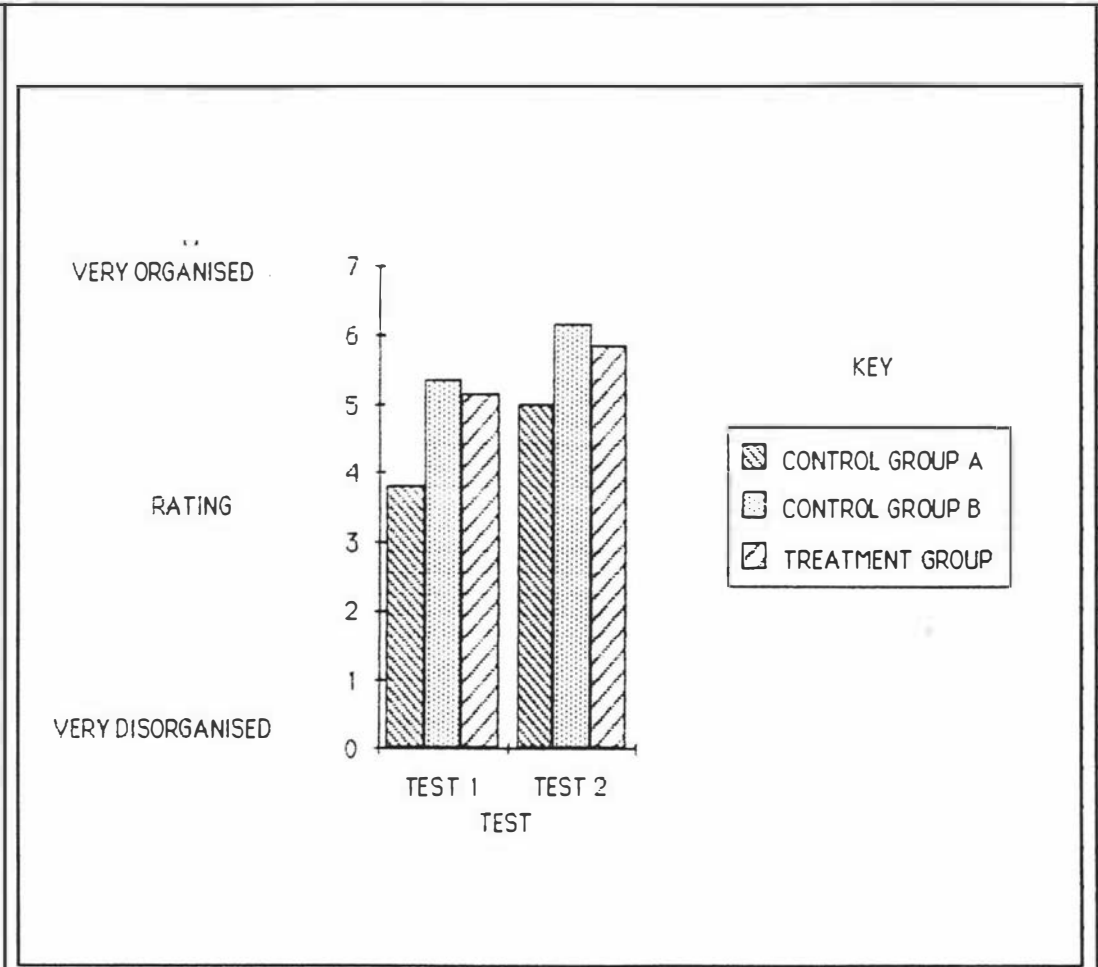


FIGURE 8.23 : TRUSTEES MEAN PRE-TEST (TEST 1) AND POST-TEST (TEST 2) RATINGS OF THEIR LEVEL OF ORGANISATION

There were significant within groups differences in pre-test to post-test ratings for all three groups.

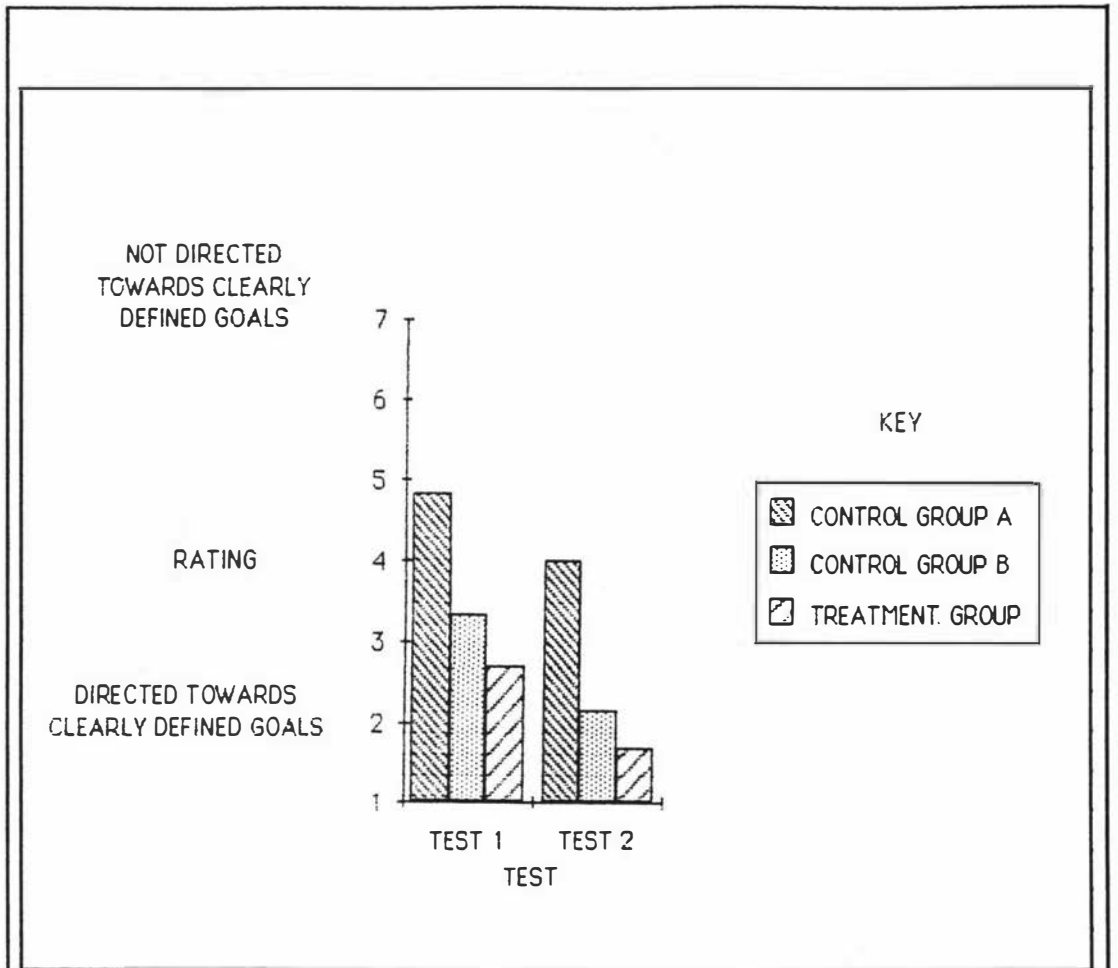


FIGURE 8.24 : TRUSTEES MEAN PRE-TEST (TEST 1) AND POST TEST (TEST 2) RATINGS OF THEIR LEVEL OF DIRECTEDNESS TOWARDS CLEAR GOALS

There were significant between groups differences at both pre-test and post-test, and significant within groups differences for both the Treatment Group and Control Group B from pre-test to post-test

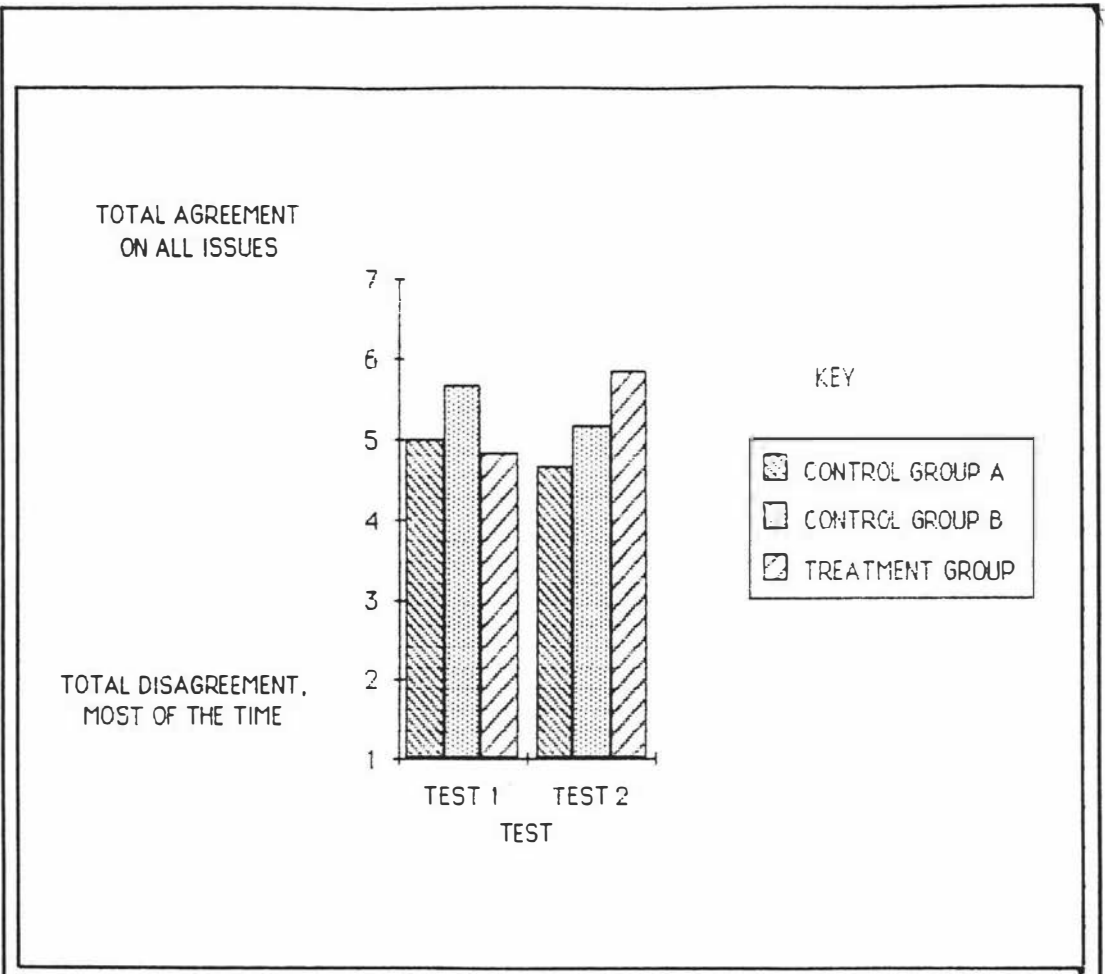


FIGURE 8.25 : TRUSTEES MEAN PRE-TEST (TEST 1) AND POST-TEST (TEST 2) RATINGS OF THEIR LEVEL OF PERCEIVED AGREEMENT.

There was a significant between groups difference on the post-test.

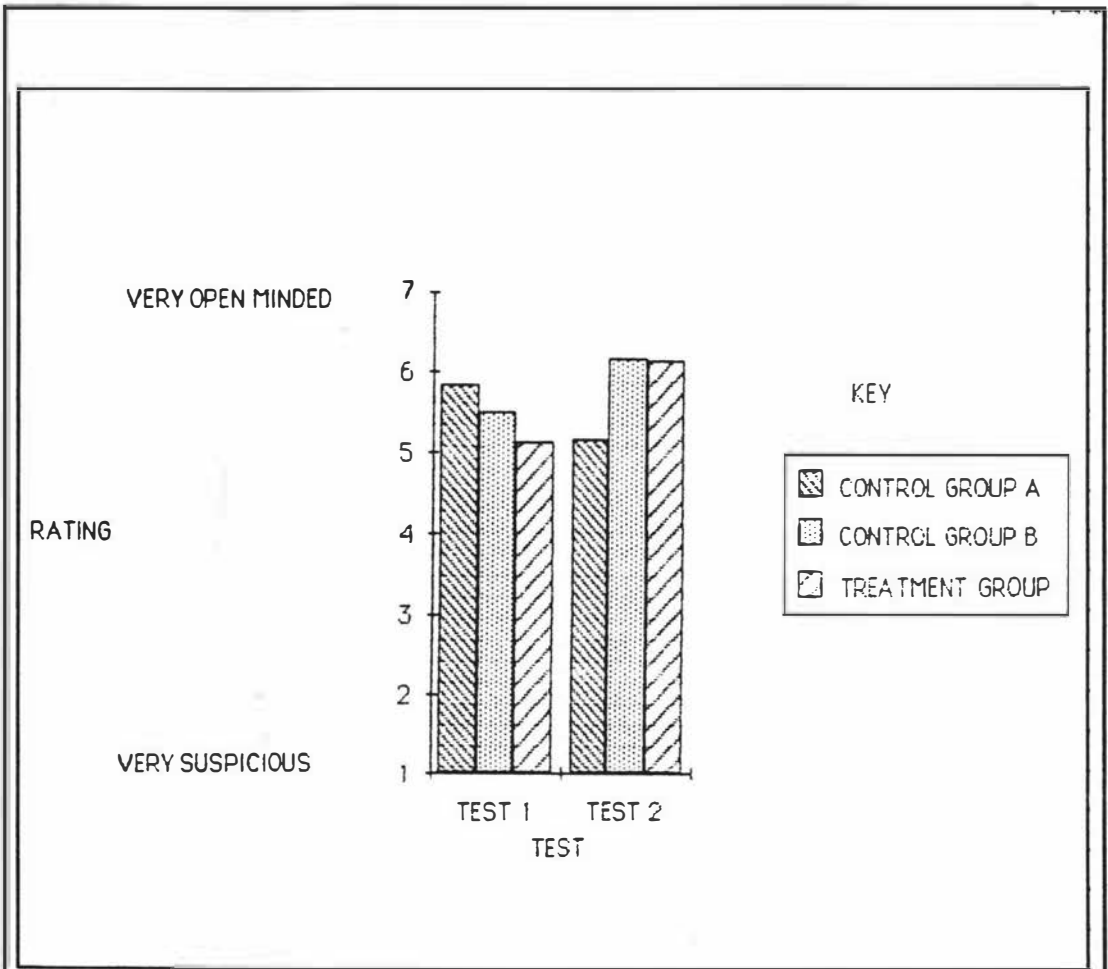


FIGURE 8.26 : TRUSTEES MEAN PRE-TEST (TEST 1) AND POST TEST (TEST 2) RATINGS OF THEIR PERCEPTION THAT THEIR BOARD WAS CHARACTERISED BY SUSPICION VS. OPEN MINDEDNESS ABOUT ONE ANOTHER.

There was a significant within group difference from pre-test to post-test for Control Group B.

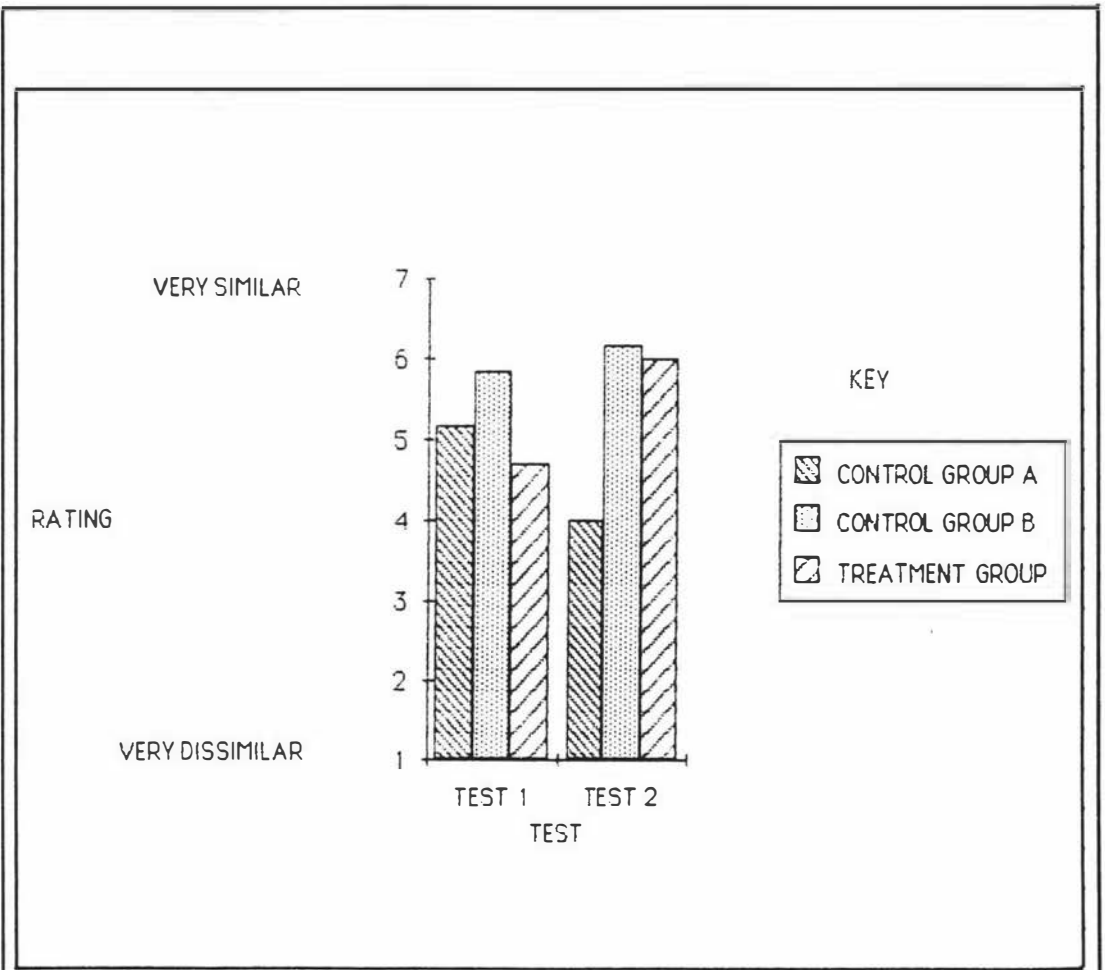


FIGURE 8.27: TRUSTEES MEAN PRE-TEST (TEST 1) AND POST TEST (TEST 2) RATINGS OF THEIR FEELINGS THAT MEMBERS HOLD SIMILAR VALUES AND BELIEFS TO ONE ANOTHER.

There was a significant within group difference from pre-test to post-test for the Treatment Group, and a significant between groups difference at the post-test.

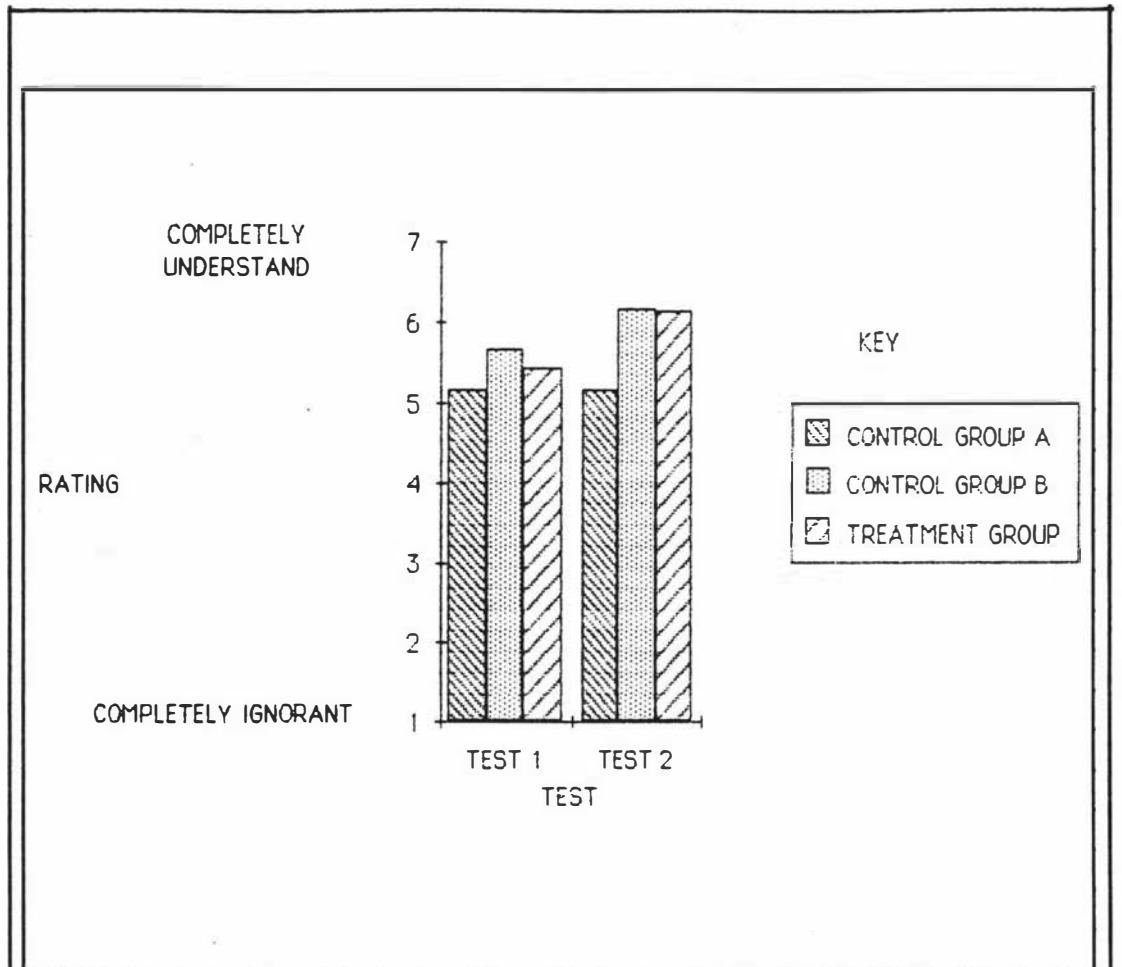


FIGURE 8.28 : TRUSTEES MEAN PRE-TEST (TEST 1) AND POST TEST (TEST 2) RATINGS OF THEIR KNOWLEDGE OF SCHOOL PROBLEMS.

There was a significant within group difference in pre-test to post-test ratings for the Treatment Group.

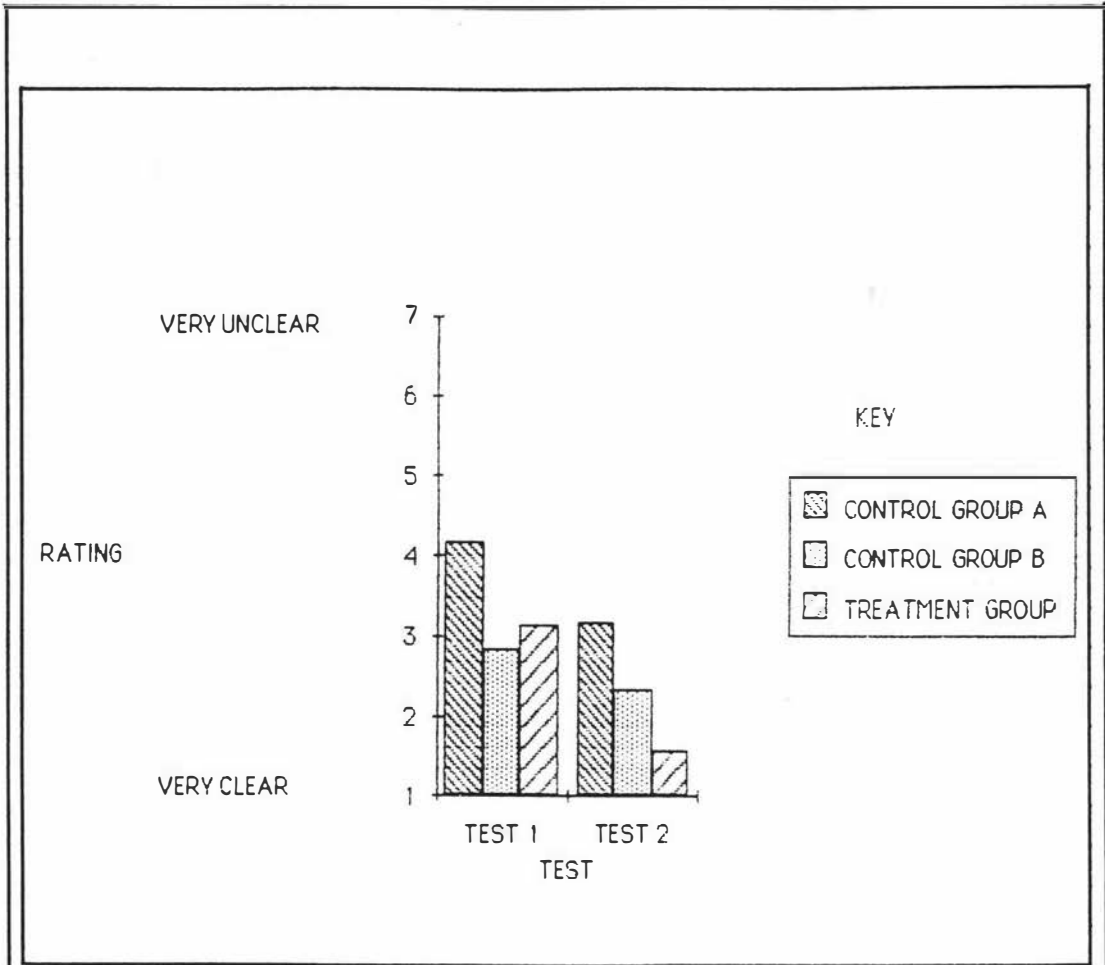


FIGURE 8.29: TRUSTEES MEAN PRE-TEST (TEST 1) AND POST TEST (TEST 2) RATINGS OF CLARITY ABOUT THEIR ROLE.

There was a significant within group difference in pre-test to post-test ratings for the Treatment Group, and a significant between groups difference at the post-test.

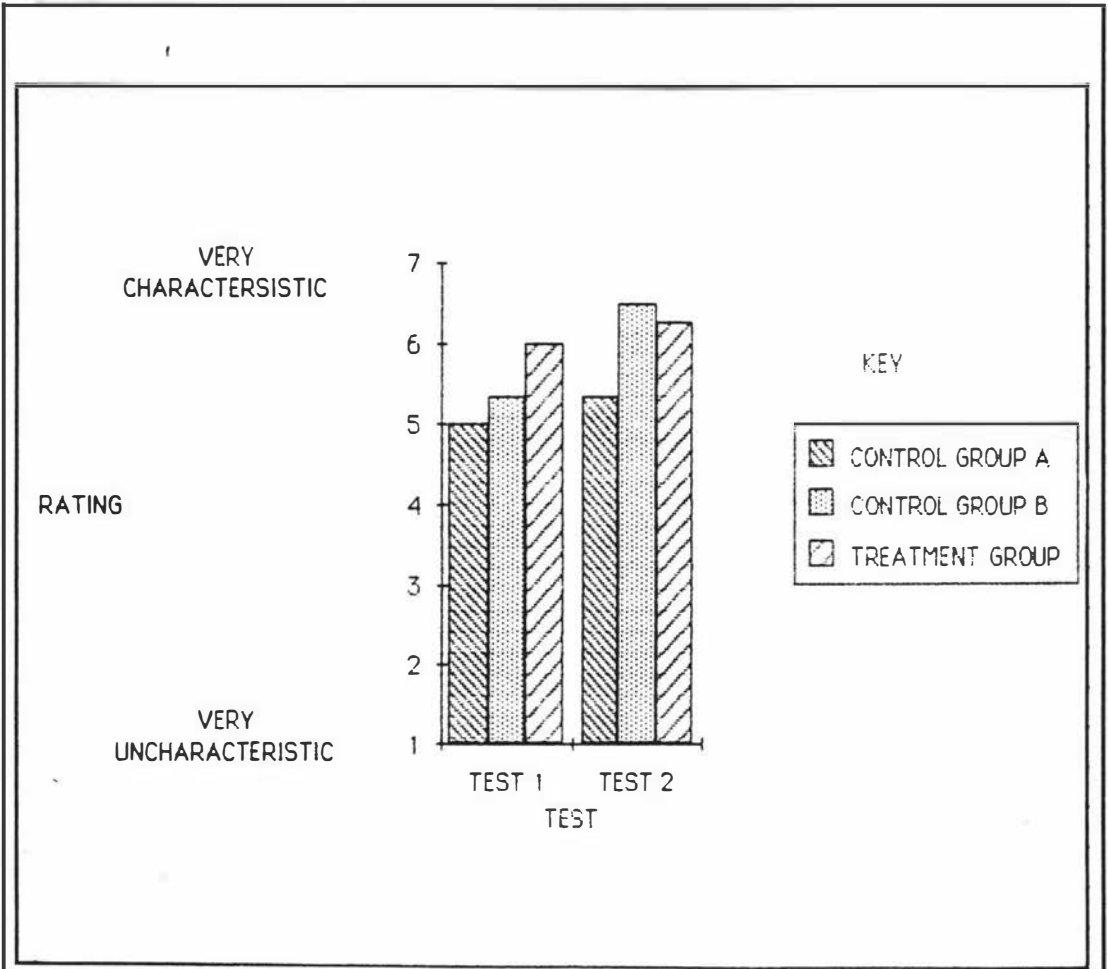


FIGURE 8.30 : TRUSTEES MEAN PRE-TEST (TEST 1) AND POST TEST (TEST 2) RATINGS OF THE EXTENT TO WHICH THEIR BOARD WAS CHARACTERISED BY COOPERATIVE TEAMWORK.

There was a significant within group difference in pre-test to post-test ratings for Control Group B.

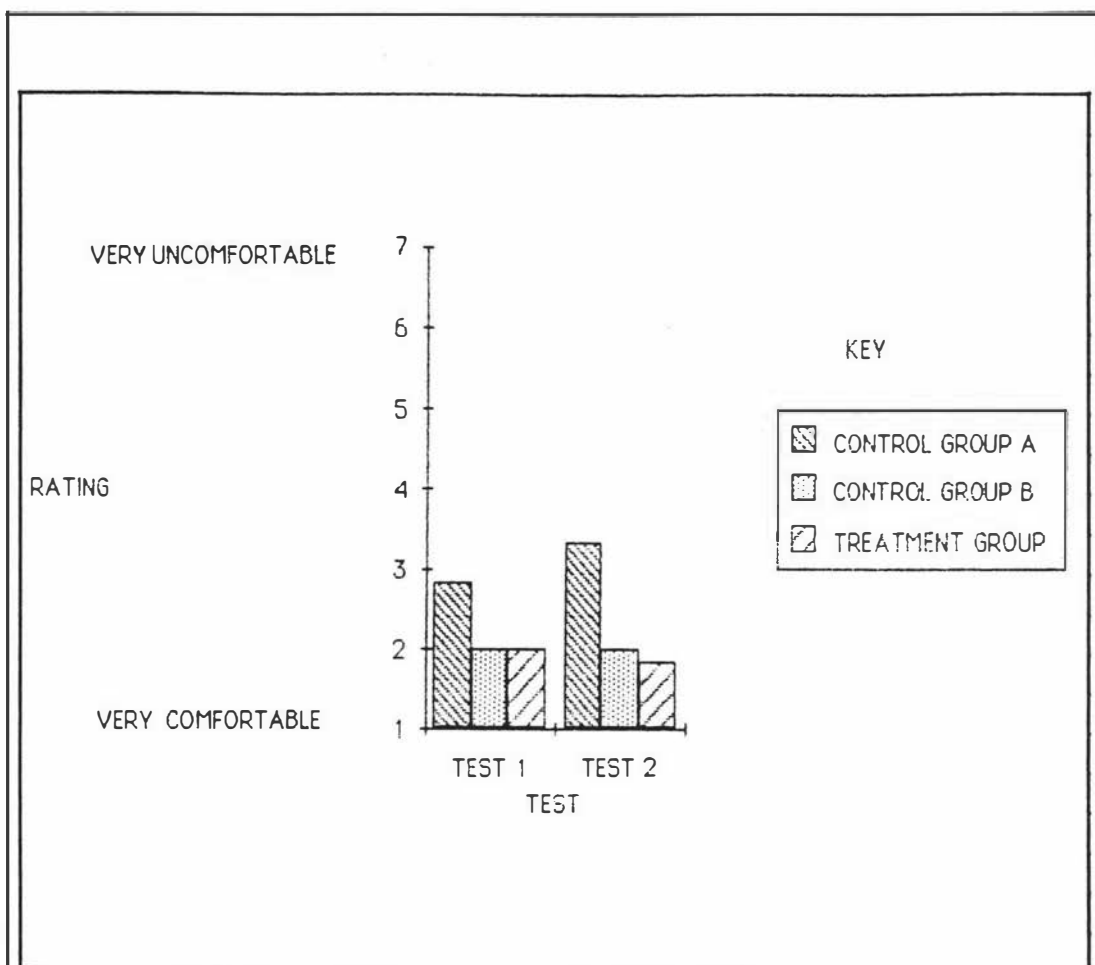


FIGURE 8.31 : TRUSTEES MEAN PRE-TEST (TEST 1) AND POST-TEST (TEST 2) RATINGS OF THEIR PERSONAL COMFORT ABOUT THEIR ROLE AS A TRUSTEE.

There was a significant between groups difference on the post-test.

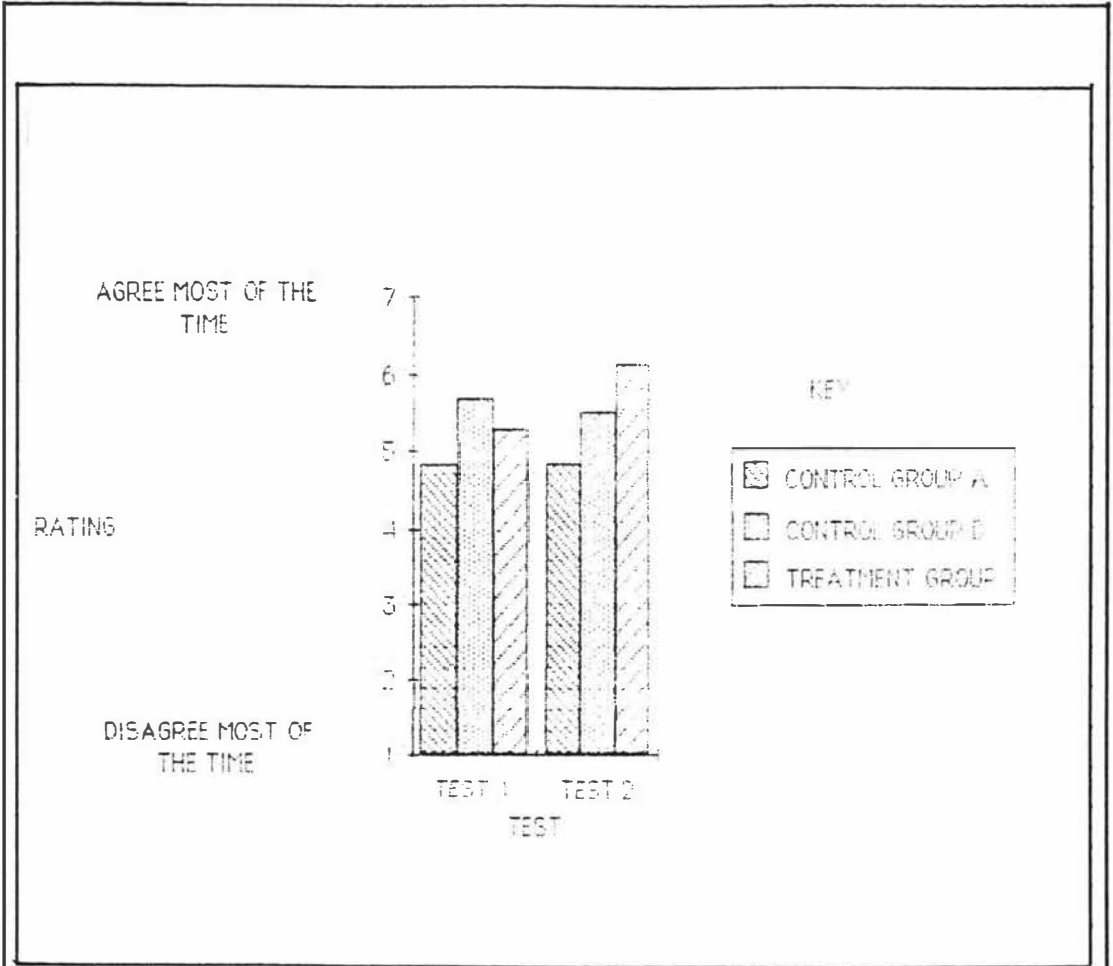


FIGURE 8.32 : TRUSTEES MEAN PRE-TEST (TEST 1) AND POST-TEST (TEST 2) RATINGS OF THE EXTENT TO WHICH THEY INDIVIDUALLY TENDED TO AGREE VS. DISAGREE WITH THEIR FELLOW TRUSTEES.

There was a significant within group difference in pre-test to post-test ratings for the Treatment Group.

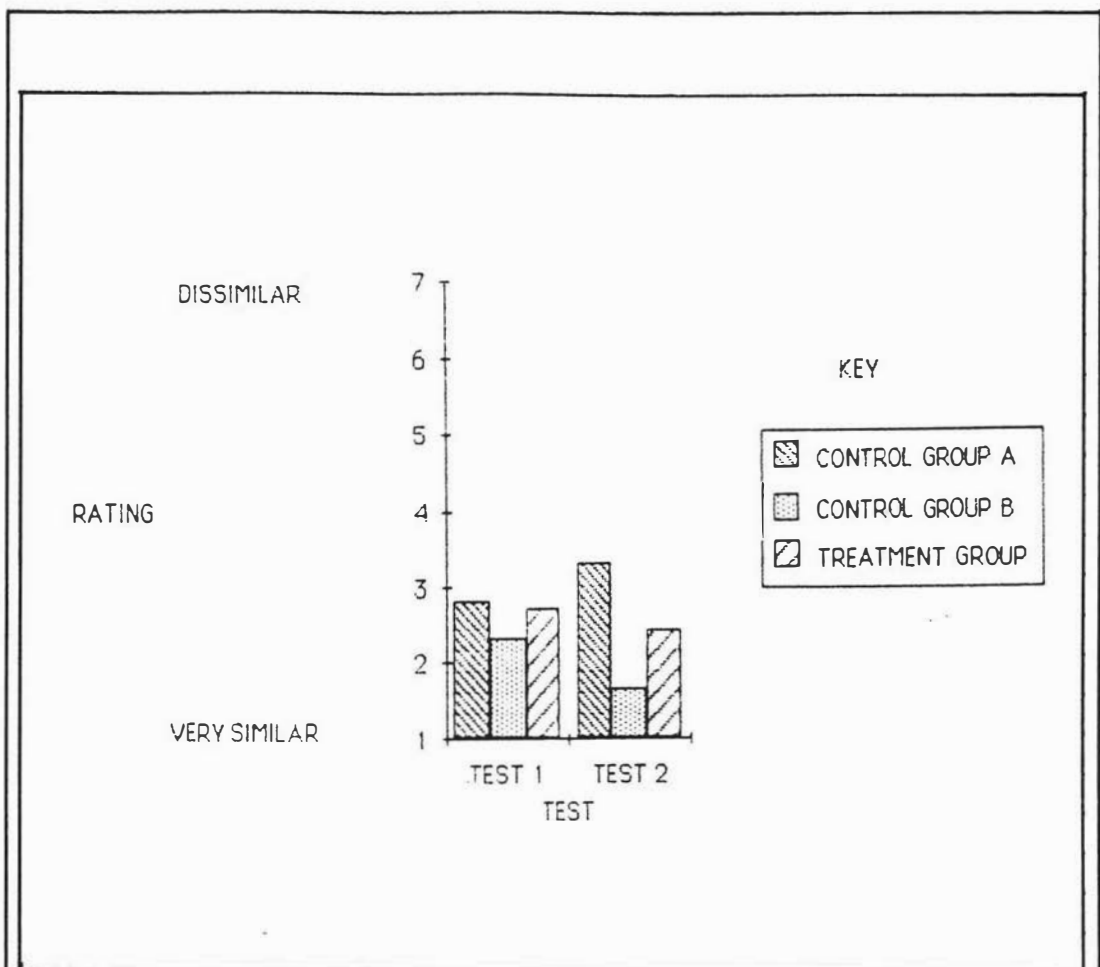


FIGURE 8.33 : TRUSTEES MEAN PRE-TEST (TEST 1) AND POST TEST (TEST 2) RATINGS OF THE EXTENT TO WHICH THEY INDIVIDUALLY FELT THEIR BELIEFS AND VALUES WERE SIMILAR TO THE OTHER TRUSTEES ON THEIR BOARD.

There was a significant between group difference at post-test.

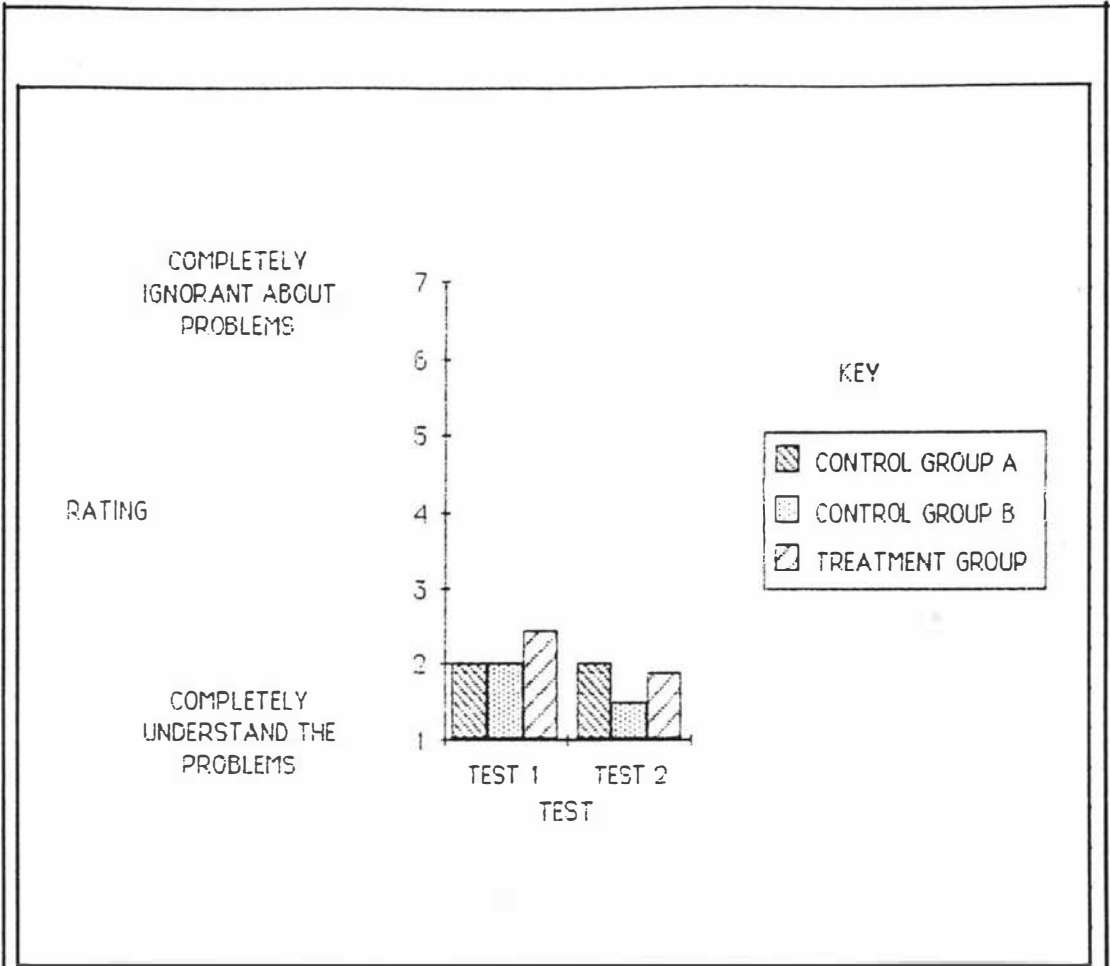


FIGURE 8.34 : TRUSTEES MEAN PRE-TEST (TEST 1) AND POST-TEST (TEST 2) RATINGS OF THE EXTENT TO WHICH THEY INDIVIDUALLY FELT THEY UNDERSTOOD THE PROBLEMS THAT THE SCHOOL FACES.

There was a significant within group difference in pre-test to post-test ratings for the Treatment Group.

8.5 Discussion

Applied research, especially within the Personal Construct domain, is never perfect. Sample sizes are often small, if not inadequate, and randomisation of sample participants is often not practicable. Given these circumstances, results producing significant statistics may well be less "psychologically" significant than they appear. Conversely, results of low statistical significance may understate the actual situation.

In the case of the present study however a specific aim was to introduce as rigorous control and as objective methodology as practicable. It was also intended to avoid, as far as possible, ad hoc criteria for analysis. The statistics used, were considered to provide an objective set of rules by which the investigator could report differences and similarities. In other words the statistics were used as a tool for pre-imposing rules on the investigation and upon the investigator. They were a deliberate attempt to eliminate subjectivity from the process of deciding what should be reported and what should not. For these reasons achievement of statistical differences at the $p < 0.05$ level, was chosen as the minimum criterion by which the investigator could describe the existence of psychological differences.

8.5.1. DISCUSSION OF BETWEEN GROUPS RESULTS

The results indicate that at the outset of their task, there was statistically little difference between the three BOT's under scrutiny in terms of their responses on the pre-test questionnaire. Nor were there any differences in the demographic structure of the three groups. The only observed difference related to the extent to which Control Group A felt that they were less directed towards clear goals than was felt by the other two groups.

This could have been because the Group A School Principal, a mandatory Trustee, was absent at the time of the formation of the BOT. It is feasible that the Group A trustees lacked that initial leadership and repository of knowledge about the "Tomorrow's Schools" program and implementation of the "self managing school". Hence, Control Group A may indeed have

been less directed towards defined goals and may have been using their own devices to discover their aims and objectives in the absence of formal guidance from the School Principal.

Six months later, at post-test, a number of differences had emerged between the groups. These differences seemed to be the result of some sort of interaction whereby the Treatment Group displayed significant improvement in their responses while Control Group A displayed either a static level of rating, or in some cases a slight deterioration.

The Treatment Group showed improvement on more scales of measurement than either of the control groups, indeed, on more scales than both control groups combined. While this effect was anticipated the nature of the effect requires some discussion as to whether or not it should be attributed to the Role and Values clarification project experienced by the Treatment Group. The Treatment Group achieved 7 significant improvements while Control Group B achieved 4. These 11 differences involved 9 different scales. This suggests that in addition to the intervention with the Treatment Group, there was some sort of growth and development (maturation) experienced by all groups.

This was not unexpected since all Trustees from all schools experienced extensive Ministry of Education training and familiarity throughout this period. It was also to be expected that all Boards of Trustees would move to a level of relative certainty and understanding about their role compared to the level at their initiation onto the Board. It was argued however that the Treatment Group would be expected to move further and more quickly; that is move the same distance in a shorter time frame and/or move further in the same time frame. It is probably noteworthy to report, therefore, that the Treatment group not only moved on more scales than either control group but also the magnitude of their movements, at or approaching the $p < 0.01$ level, were greater than those for the control groups, which were exclusively at the $p < 0.05$ level.

It is interesting to note that one control group performed more positively than the other. Control Group B had, at Pre-test, tended to score more positively than either the Treatment Group or Control Group A, although the differences did not reach significance. The Treatment Group and Control

Group A tended to score more similarly on the Pre-test compared to Control Group B. Control Group B tended to be more positive from the outset, whereas the Treatment Group and Control Group A displayed similar levels of uncertainty.

One might argue therefore, that left to their own devices, without an intervention, the Treatment group and Control Group A groups may have developed at a similar rate with the result at Post-test, that the Treatment Group could be expected to have responded more like Control Group A than Control Group B. In the final analysis, it was however, the extent to which the Treatment Group and Control Group A differed at Post-test, that produced the significant results.

In the applied setting it is well nigh impossible to control all extraneous variables. One can only tentatively claim, therefore that the significant differences between groups were due to the intervention, especially in view of the small sample sizes and non-random selection. However, it is asserted that these differences should be noted. They lend support to the validity and viability of the intervention method used and lend objective support to the Treatment Group's self report that they did benefit from it.

8.5.2. USEFULNESS OF PERSONAL CONSTRUCT BASED INTERVENTIONS FOR POLICY MAKING.

The results demonstrate the usefulness of Personal Construct Psychology and associated procedures in the formation of policies for action. Establishment of policies was to be a major task for the BOT's in their first year of office and while the policy for action described here was concerned with the BOT's own conduct, the process facilitated subsequent policy formation practices. For instance the very first formal policy that the BOT were required to make was the "Policy on Community Consultation". From the policy for action derived through the current study, the Treatment school were able to very quickly produce a draft Policy on Community Consultation to circulate among that community for comment and feedback.

That Policy for Community Consultation falls slightly outside the realms of the present study, however it is not surprising that in its final, ratified form, it included the same definitions of "the school" and "the community" as appear in the BOT Policy for Action. It is also not surprising that key words in the purposes of the policy include "partnership", "community participation" and a reference to development of "mutual understanding" and enhanced "informedness". Again, it was no surprise to find that proposals within the policy included the Act laddered responses relating to regular newsletters and meetings, and that the final proposal extended Act Laddering to state that it would be school policy "to continually ask 'How' can we improve the school - community relationship ?".

It was mentioned earlier that Caldwell and Spinks (1988) stressed the importance for the school's policy making group to establish their own policy for policy making. The BOT policy for action, produced in full in the Results section of this chapter, does precisely that and demonstrates the utility of the procedures applied in the present study for the purpose of developing such guide-line or blueprint policy.

It is concluded that the present study has produced evidence that the application of Personal Construct procedures, developed and refined in the action research studies reported in earlier chapters of this dissertation, are valuable in both the establishment of guide-line policies for action and also in the clarification of group and individual role. It is also claimed that the outcome or product of the present study does indeed describe a community's planning, decision making and policy making group, with the intent that that group of people has a policy for action which enables them to more appropriately act on behalf of the wider school community.

8.5.3. TREATMENT GROUP : DISCUSSION OF THE WITHIN GROUP RESULTS.

The Treatment Group responses to the Post-test questionnaire indicate that following the intervention the role within the group had been clarified and that the intervention had been of benefit to both the Board as a whole and to the Trustees as individuals. It was stated at the outset that the intervention would have achieved some assessment of usefulness for the Treatment Group if it enhanced a variety of variables associated with team building. In this respect there was significant improvement for the extent to which the BOT, as a group, felt clear about their role, and also significant improvement for the extent to which Trustees, individually, felt that they tended to be in agreement with their colleague Trustees. Enhancement of supportiveness for one another approached significance ($t= 1.99$, $df=6$, $p=.0.092$).

The Treatment group felt that they were more organised and better directed towards clearly defined goals after 6 months in office. They had made significant improvement in assessing that their beliefs and values were similar to one another. In other words, they were more aware of one another's values and beliefs and could, therefore, explicitly acknowledge the extent to which these were or were not similar .

The finding that significant enhancement had occurred in the extent to which the BOT as a whole, and Trustees as individuals, felt that they more completely understood the school's problems, could be attributable to the passage of 6 months experience in office (a type of maturation effect) rather than to the intervention reported here. The noteworthy factor is, however, that neither control group displayed improvement in this variable. It is not claimed however that differences on this dimension were entirely due to the intervention. Specific differences and improvements probably have a good deal to do with specific problems or characteristics of each BOT and school under analysis. It is contended here, however, that the specific items on which movement occurred are not as noteworthy as the fact that the Treatment Group reported improvements of greater magnitude than the control groups, and on a larger number of scales.

In addition to the results reported above, anecdotal and case study evidence lends tentative support to the usefulness of the current procedure in the current context. As stated earlier the model adopted for the "Tomorrow's Schools" program was that of Caldwell & Spinks (1988). While writing this Chapter the investigator contacted the Treatment School Principal in order to borrow his copy of Caldwell & Spinks (1988). The School Principal declared to the investigator that the book was irrelevant now; it described last years model ! The BOT were ignoring that and following entirely, the model illustrated in their Policy for action.

Further non-statistical evidence lies in media publicity given to School BOT's at the time of writing the first draft of the present chapter. This publicity related to the difficulties that many BOT's throughout the country were experiencing. A general low morale was reported and there had been a large number of publicised resignations of Trustees. All this at a time when the Treatment Group were declaring in questionnaire responses, that all was healthy in their Board.

Simultaneously, the investigator happened to be present when a Treatment Group Trustee reported to his colleagues about a meeting (hui) that had been held for Maori Trustees. He stated in his report that either the Treatment Group school "were keeping some very good secrets or were an exception compared to other school Boards". This statement was made in response to a claim that nearly all the Trustees who attended that meeting had indicated that all was not healthy in their BOT's, that they were struggling to cope and were having difficulties with communications and information.

The process of aggregating cognitive maps revealed that, although participants did share constructs, no more than two participants shared linkages between constructs. Such a finding was not unexpected, since it is a clear demonstration of the individuality corollary. The commonality corollary suggests that people do share some constructs, but the individuality corollary states that we each arrange our construct systems and views of the world in completely unique ways. The intention of the current procedure, was to discover what, if anything, was shared by group members. It was not intended to be an exercise in demonstrating to the group members that they shared alot of constructs. If no shared constructs

and linkages had been found, then that would have been a valuable result for the group members to ponder.

The process was very useful as a tool for enabling this group of people to learn about one another, and to learn about what they did and did not share. The value of the exchange of cognitive maps at the group workshop should be noted. Each member, having experienced Repertory Test, Laddering Technique and a feedback session to negotiate and interpret cognitive maps, was able to read, interpret and understand the cognitive maps of others, and thereby gain great insight into the way their colleagues thought about the context.

It was reported earlier that some participants produced more value ladder responses than act ladder responses and vice versa. It was also reported that occasionally the same construct occurred at apparently different levels of superordination in different individual cognitive maps.

This observation could possibly reflect the extent to which individuals operate at different levels of superordinacy such that some are "doers" versus "thinkers", (or some construct similar to this). Considering cognitive map data and directly observed behaviour, the investigator had reached a subjective construal that T4 and T6 stood out from the rest of the group as "idealists" and T5 stood out as a "practical doer" or "pragmatist". It was interesting to note, that the first three principal components for T4 and T6 accounted for a greater degree of variance compared to other participants. In the case of all other participants the mean variance accounted for in the first three components was 76%, ranging from 72.5% for T5 to 78% for T1 (see Table 8.4). In contrast T4 and T6 both achieved variance levels in excess of 90% on the first three components (T4=90.4% and T6=91.8%). The whole group mean percent variance for the first three components was 80.29% with a standard deviation of 7.04. It is interesting to observe that the three participants who stood out subjectively (T4, T5, & T6) also stood out statistically as the three whose percent variance on the first three components was greater than 1 standard deviation from the mean ; the "idealists" scoring highest and the "pragmatist" scoring lowest.

The above observations in turn led to an interest in using the statistical output gained, to examine cognitive complexity of participant's construal of the context. A discussion of cognitive complexity can be found in Chapter 3. Using criteria referred to in that chapter, it could be construed that participant T4 was more cognitively simple in construing this context than the other participants, since the percent variance accounted for by the first principal component was higher than for any other participant. Indeed, this figure for T4 (64.9%), was the only instance of percent variance on component 1 being in excess of one standard deviation from the group mean, and was in fact in excess of two standard deviations (group mean variance on component 1 = 45%; standard deviation = 9.2).

The relative cognitive simplicity apparent in T4, possibly contributed to the procedural difficulties encountered with this participant (as reported in case study form in the results section). This cognitive simplicity is not identifiable in T4's cognitive map, and that is probably a result of the procedural effort put into elicitation of this map by the investigator, rather than an expression of cognitive complexity - simplicity.

Another criterion for assessing relative cognitive complexity, suggested by Smith & Stewart (1977), (see Chapter 3 of the current dissertation), involved counting the number of roots or eigenvalues greater than 2, (and as per the Circumgrids III analysis this is the same as counting the number of components with percent variance greater than 20%). Table 8.4 shows that 4 participants produced more than one eigenvalue greater than 2. Three of these (T5, T6 & T7) were members of the teaching staff. Because of their specific training, experience and daily contact with education, it would come as little surprise that these individuals would construe this context on a larger number of dimensions than would parent representatives.

The other participant to produce more than one eigenvalue greater than 2 was T1. He had a traditional point of view and had deliberately made himself available for BOT selection as he believed the School Principal was too progressive. He put himself forward as a Board candidate explicitly to counterbalance this progressiveness (although there was no intention for conflict, only an intention to counterbalance). T1 was also conscious of his role as a businessman and, for example, saw himself as the logical choice

to assume the position of BOT Treasurer. It could be concluded from this that to some extent T1 had a greater number of motives for being a Trustee than other Parent Representatives. He viewed his contribution as not only that of a willing parent, but also as a businessman and as the traditionalist foil for the Principal's supposedly progressive views of education. The assumptions suggested here once again provide food for thought as a topic for future investigation : do indices of cognitive complexity relate to the number of motives for action.

In contrast to Smith & Stewart (1977), Hudson (1974) and Adams-Webber (1979) make reference to eigenvalues greater than unity as indices of cognitive complexity. In view of the data collected here, this criterion for cognitive complexity does not conform to Smith & Stewart's (1977) reference to eigenvalues greater than 2. Table 8.4 indicates that some of those considered relatively cognitively simple because they had but one eigenvalue greater than two, might be construed as cognitively complex by virtue of all of their first three principal components being greater than 1. Nor does such a criterion conform well to size of eigenvalue on the first component as an indicator of complexity with this small sample of participants.

Ryle & Breen (1974) used percentage of total variance in grids, accounted for by the first two principal components as an indicator of cognitive complexity; the larger the variation the more cognitively simple. Use of similar criteria in this case suggest that the two "idealists" involved in the study were cognitively more simple in their construal of the context. However, in that one of these participants, T6, was described as one of the cognitively more complex participants using the eigenvalues greater than 2 criterion, it is very difficult to draw definite conclusions. Reasoning can be provided to support both the notion that T6 was cognitively simple regarding this context and the notion that he was cognitively complex. It is reasonable to think that T6, the School Principal and local fountain of knowledge on the subject, would be cognitively complex in construal of a context that represented a large portion of his life. However in support of the assumption that he was cognitively simple in construal of this context, T6 was almost too familiar with the subject matter, and hence both determined and focussed in his construal. As such the implicit narrowness of that focussing may indeed have rendered his construal as simple.

With regard to cognitive complexity and the current cases, all criteria for assessing cognitive complexity, agree in suggesting that participant T4 was the most cognitively simple participant in construal of the BOT context. She had the highest eigenvalue on component 1, and a very high percent variance accounted for by the first 2 and also the first 3 principal components. She also had only one component with an eigenvalue greater than 2, and only two with eigenvalues greater than unity.

This discussion suggests a number of avenues for investigation of the various indices of cognitive complexity, especially if comparisons are made with larger sample sizes. It appears to the current investigator, admittedly based on data from a small sample size, that indices related to size of eigenvalue on the first component and percentage variance accounted for by the first few principal components give a more discriminating assessment of cognitive complexity. They enable the rank ordering of participants for complexity. Frequency of eigenvalues greater than unity or two, by contrast allows only the assessment of complexity versus simplicity, without indicating degree of relative complexity. In other words, the latter allows only categorisation as either "simple" or "complex", while the former allows some assessment of comparative complexity or simplicity.

8.5.4. DISCUSSION OF CONTENT ANALYSIS OUTCOMES

The procedure described in the current study appears to go some way towards Sypher & Zorn's (1988) notion of telling us about the specific kinds of constructs people use in assessing particular contexts. Namely, it has told us a great deal about the specific kinds of constructs that seven school Trustees used to assess the context of education and their role as trustees.

The study appears also to have fulfilled the chosen criterion of validation. Namely, content accuracy by referral back to the source of the data for confirmation. At feedback sessions, the participants negotiated their cognitive maps with a view to making additions and alterations. There were very few requests to amend wording or to add and subtract either content or linkages. There were a limited number of endorsements made by individual

participants who wished to acknowledge concepts produced by other group members, which they themselves had not produced. For the main part, however, the cognitive maps received overwhelming confirmation from participants for their semantic accuracy. Report of the Treatment group workshop adds anecdotal confirmation to this notion, whereby one participant stated that he was unable to "dispute" the individual cognitive map placed in front of him; it describe his view of the context, precisely. This statement was endorsed by the other group members.

On a couple of occasions, lack of representativeness of individual construct systems was exposed. This occurred when participants viewed the group cognitive map and recognised the presence of a construct that had not been elicited on their own individual model, but which they wished to endorse. They recognised that it probably should also have been present on their own cognitive map.

One contribution of this study, and others reported earlier in this dissertation, has been the provision of a method for interpreting cognitive maps. That is a method for reading the graphic model and putting it into words or text. This method was derived from Personal Construct theory. It involved definition of a construct by stating that constructs superordinate to it were achievable by the execution of the constructs subordinate to it. Or alternatively, by stating that a relatively superordinate construct was achievable by fulfilment of its subordinate constructs, which in turn were characterised by execution of their subordinate constructs. This process is described in Table 8.2; the example of a 3-step ladder.

For reasons outlined in the Introduction to this chapter, much attention was paid to the procedure of content analysis of construct systems. Despite this the investigator still feels some discomforts about the procedure. The process created an almost unwieldy amount of data ; indeed for just seven respondents their occurred 150 KWIC list cards following Value laddering and a further 140 cards following Act Laddering, resulting ultimately in a 290 to 300 card-sort exercise. Arrangement of this data involved a large amount of time and placed an undesirable delay on the process of feedback or knowledge of results to participants.

Following this procedure the investigator found himself questioning the validity of the data reduction process and also questioning the validity of the card-sort categories derived. He also wondered about the extent to which respondents had used different terminology to express similar meaning, and vice versa, the extent to which they had used the same terminology to express different meanings.

For example it was difficult to tell whether a respondent who stated "enhance parental understanding" meant the same as one who stated "enhance community understanding" since there was a strong implication, in this context, that Trustees were referring to the "parent community". Also the enhancement or development of understanding was usually advocated in relationship to a third party that was either stated or implied. Therefore a clause such as "enhance parental understanding" tended to mean variously, "enhance their understanding of the school's aims", "enhance their understanding of their own children's points of view", "enhance their understanding of the Trustees' roles and obligations" and so on.

The problem with this process is the extent to which totally objective procedures fail to account for nuances of meaning, so that investigators feel the need to make subjective assumptions about meaning. A totally objective method such as frequency count of subject and predicate association, would have failed to identify many aspects of construct commonality, while an overly subjective method may have introduced, assumed but possibly nonexistent, commonality based on the investigator's own construct system.

Accounting for this latter problem was to some extent, the purpose for holding feedback sessions with respondents : in order to confirm that the interpretations derived by the investigator, did in fact express respondents' meanings. It was an opportunity to reword content if it had not been accurately interpreted.

Hindsight is a valuable and legitimate part of the action research process and in this respect, the investigator believes that the procedure could be improved in future studies in the following ways :

Firstly, it is advocated that the investigator should not carry out the post-laddering data reduction procedure alone, back at the office or laboratory. It would be better in future studies, to return to the respondents themselves to carry out this task. After explaining ground rules and criteria to them, they would then carry out the data reduction themselves, with guidance and facilitation from the practitioner.

Secondly, the premise that since the meaning of a construct is defined by that which is both superordinate to it and subordinate to it, should be usable as an objective means for accounting for nuances of meaning. Application of such a procedure is of such a complexity and enormity in itself to be unmanageable and hence would defeat the purpose of the data reduction exercise, unless somehow applied through computerisation. Development of a program to categorise subject - predicate data, and to account for subordinate - superordinate definition of meaning is well beyond the scope of this project. It would be a very welcome, if not essential, addition to future streamlining of the current procedure into an efficient and thorough one, especially when trying to identify commonality among and hence describe a large group of people.

8.5.5. SUMMARY

In conclusion, the present study appears to have made a contribution to the process of content analysing and verbally describing construct systems and cognitive maps for aggregated use. The viability of the procedure in the applied, intervention field has been demonstrated, especially as a method for developing policy.

Chapter 9

GENERAL CONCLUSIONS AND DISCUSSION

The summarised findings of the three reported studies are as follows :

Chapter 6 reported a vocational counselling intervention with a middle-aged mechanical engineer, who was facing termination of employment for reasons of redundancy. He had presented for counselling as a confused, bitter, depressed and apparently unwell individual. He completed two Repertory Tests; the first using occupational and lifestyle role titles as elements, and the second using personal projects as elements. The elicited constructs were then Value and Act Laddered to produce a cognitive map, which identified those things that he valued, and the alternative actions he might approach which were directly compatible with those values.

The cognitive map gave the client a "policy for action" that he could take with him, and which he reported, had clarified why he should pursue particular career alternatives. The process and the cognitive map were instrumental in the client leaving the organisation feeling good about himself once again, and feeling that the company were not as callous as he had at first thought.

This study also suggested some of the reasons for shock, bitterness and depression experienced by those being made redundant. In particular these included lack of control over one's anticipated future and the need to re-anticipate (or re-construe) that future.

The use of personal projects as elements was demonstrated to be viable, and seemed no better and no worse for the purpose than role titles. Indeed, use of different types of elements, for example, role titles and personal projects, may be beneficial in cases where the respondent has developed a

psychological mind set. Pask et alia (1975) alluded to a similar use of personal construct methodology.

In addition, a clear display was given in this study, of the notion that a construct is defined by that which is both superordinate and subordinate to it. In particular, this enabled the client to clarify and define what his religious beliefs meant to him.

This notion of construct definition was instrumental, in the two subsequent studies, in forming the basis of a means for content analysing cognitive maps, describing them verbally and for aggregating them into a group or team cognitive map.

Chapter 7 reported the use of personal construct methodology as an organisational development intervention tool with a work group who were experiencing dysfunctional relationships. Each group member used work related projects as elements for Repertory Test elicitation of constructs. These were then value laddered and act laddered to produce cognitive maps for each individual. Each cognitive map was content analysed and an aggregated cognitive map formed, which represented a graphic description of the group's functions and purposes. This was translated verbally into a statement of purpose and policy for future actions, which group members were encouraged to use to guide their work related behaviours and responses to customers and colleagues.

The collective cognitive map exposed those aspects of individuals that they shared with other group members and also exposed those aspects that were idiosyncratic, personal agendas, that may require suppression in the interests of cohesive, goal directed group action. As such the intervention method enhanced both self-awareness and individual awareness of the organisation to which they belonged.

A sub-group of participants lived and worked at a location, geographically remote from the rest of the group. With this sub-group a collective Repertory Test and Laddering Technique approach was used, as if they were a collective single mind. This approach was shown to be viable, and indeed seemed especially useful for focussed attention on the most essential

aspects of the group's construing. It also enabled both quick identification of contrasting views of group members, and amicable discussion and acceptance of those view-points. Collective repertory test should not be ignored as a potentially very valuable tool for conducting small-scale team-building workshops.

In the final reported study with a primary school's inaugural Board of Trustees, a quasi experimental untreated control group design with pre-test and post-test was used. A personal construct based intervention was applied to the Treatment Group. They used personal projects as elements. These personal projects were context specific to local educational issues. Full repertory grid was completed following elicitation of constructs, and constructs were subjected to value laddering and act laddering. From this procedure, cognitive maps were drawn for each individual. These were content analysed and aggregated to form a group cognitive map. At a workshop session, the group redesigned the group cognitive map and produced for themselves a policy for action. This was to be, in effect, the school's guiding policy and was used as the basis from which to formulate other policies required by statute. One of these was the school's "Policy on Community Consultation". Much of the Board's policy for action was translated directly into the community consultation policy.

When pre-test results and post-test results were compared it was found that the Treatment Group showed improvement on more scales of measurement than did the control groups who had not experienced an intervention. Furthermore, the magnitudes of the Treatment Group's improvements were larger than for the improvements gained by the control groups. These findings lend support to the viability and validity of the intervention method used, and lend objective support to the Treatment Group's self-reported benefits from the intervention.

This intervention demonstrated the usefulness of Personal Construct Psychology and its associated procedures for both establishing guide-line policies for action and for clarifying group and individual role. It also produced a description of a community's planning, decision making and policy making group in order that they in turn had a policy for action that

Eden, Jones and Sims (1983), Chapter 6, address an issue similar to that encountered in the present study, whereby a project may be faced with time and resource constraints which prevent a more comprehensive data collection method. In such circumstances a group rather than individual data elicitation approach may be required. Eden et al. offer one method for carrying out a group or team workshop approach to elicitation of cognitive maps. Their procedure could loosely be described as a round-robin brainstorming technique, whereby participants are asked to generate a list of statements or concepts, and also to generate an opposite pole statement. These responses are recorded on a flip-chart, and participants are invited to respond to each statement by answering "Why ?" questions. The facilitator allows for the elicitation of opposing views from respondents, and with the use of arrows, carries out a procedure akin to Value Laddering.

Eden et al. then describe their procedure for merging these concepts into an aggregated team map and for merging chains of concepts. As was the case in the present study, Eden et al. emphasise the value in dealing with individual maps first, if at all possible, before engaging in the merging process. This chapter by Eden et al. provides insight and additional skills which the Personal Construct practitioner can add to his or her repertoire.

In the present study, when faced with time and resource constraints that necessitated a group elicitation procedure, the investigator sought a method that was consistent with the treatment being received by other participants who experienced individual interviews. Although the procedure described by Eden et al. (1983) could have been used with the geographically remote group, every effort was made to keep the traditional-style element elicitation, construct elicitation, and laddering procedures as uniform as possible across all participants.

enabled them to more appropriately act on behalf of the wider school community.

In view of the results of each of the three reported studies, the intervention method derived for describing individual and group cognitive maps and for linking these to policies for action appears to be viable. The method, as reported here, has been demonstrated in three different contexts : vocational-redundancy counselling, an organisational team-building intervention with a group experiencing dysfunctional internal relationships, and as a team-building exercise for a school's inaugural Board of Trustees.

This methodology has developed primarily from the earlier work of Eden and Associates (Eden 1977, 1978; Armstrong & Eden 1979; Jones, Eden & Sims 1979; Eden, Jones & Sims 1979; Eden 1980). Refinements to this methodology, introduced in the present study, include a systematic approach to the structuring of cognitive maps both hierarchically and laterally, and refinements in content analysing construct systems for purposes of group aggregation and coherent verbal description.

The current work follows a specific line of development or "lineage" within construct psychology. It begins with the founder, Kelly (1955) followed by the developments of Hinkle (1965). Eden (1978) pushed some aspects of the theory a stage further and made applied use of the theory in an organisational setting. Eden's applied research orientation has been replicated and built upon throughout the series of studies reported here.

The principal contribution of Hinkle (1965) to the current studies involved his interest in superordinacy and the implicative links between constructs. Also, Hinkle developed a direct but simple method for identifying superordinacy of constructs and the links between them : namely, laddering technique.

Full Repertory Grid analysis, Time logs and questionnaires have been used in the current studies, but in each study, laddering has been the tool that has been of most benefit to clients and participants. Its products, (cognitive maps and policies for action), have been at the heart of the counselling or

intervention outcomes. Because laddering is a direct method (that is, data are elicited directly from respondents rather than inferred), it facilitates accuracy in interpreting individual construal of contexts and provides the practitioner with confidence that he or she is not making unwarranted assumption or inference.

Through laddering technique the current series of studies are linked very closely with Eden's (1988) emphasis on cognitive mapping as a principal procedure in operational or applied, action research. According to Eden (1988) cognitive mapping builds upon three key assertions within Personal Construct Psychology. Firstly, that people make sense or meaning of their world through the relativistic process of similarity and contrast. Secondly people seek to explain their world and thirdly they seek to understand its significance by hierarchical organisation of constructs so that some are superordinate to others.

It has been stated earlier that important notions within this dissertation relate to Kelly's (1955) sociality and commonality corollaries. Taken alone, cognitive mapping relates to the organisational corollary. It is an illustration of superordinacy/subordinacy and the hierarchical linkages between constructs at differing levels of abstraction and at differing levels of importance for the individual. It was in aggregation of the data into a group cognitive map and description of community and culture that the sociality and commonality corollaries came into play.

With these notions in mind it is pertinent to relate the current studies to the formal aspects of Kelly's theory.

In keeping with the fundamental postulate, the method used in these studies has had future orientation. By this it is meant that participants were involved in making sense of their role in order that they might better perform that role in the future; in other words, anticipate how to perform that role most appropriately. The groups in question came to understand their own nature, and the nature of the immediate environment of people and things in which they acted, and then used the outcome as a tool for guiding their actions and thoughts in the future. It is interesting to note that future orientation was a fundamental value identified by the school Board of Trustees in the final study.

In relationship to this corollary, the vocational-redundancy counselling reported above, suggested that lack of control over one's anticipated future and the need to re-anticipate it may be related to feelings of shock, bitterness and depression among those being severed from employment by reason of redundancy. The use of a personal construct approach to explore the meaning of redundancy for people being severed from employment, may be a valuable future topic of study.

The construction corollary has played a methodological role in this research, on two counts. Firstly, having observed and noted that the procedure has been replicated successfully in three separate contexts, as reported above, future investigators can anticipate value in using the same procedure in similar contexts.. Secondly, the act of aggregation following KWIC list content analysis, relies on the investigator's ability to identify replications of themes and concepts. It was these replications that were then formulated into a policy for anticipating future events; indeed a policy for planning future events.

Within the spirit of the individuality corollary, the current procedures acknowledge that each person construes in their own unique way. Indeed, this was part of the problem encountered along the way. Groups consist of individuals, each with their unique construction of reality. The procedure commenced with individuality and moved forward from there. It acknowledged that the planner, designer, policy maker owns a personal construct system that differs from and which may, therefore, be inappropriately applied in relationship to the group for whom the plan, design or policy is intended. The process of producing a group cognitive map demonstrated both the individuality and the sociality corollary. It showed that each individual used a unique set of constructs and arrangement of those constructs. It also demonstrated, however, that some constructs and even some implicative linkages were shared by two or more individuals.

The cognitive maps that were produced via value and act laddering technique, were a direct reflection of the organisation corollary, linking tangible subordinate constructs of people, environments and things to more superordinate and abstract notions as values and beliefs. The School

Board of Trustees "Policy for Action" took this further, as a 3-dimensional pyramid structure. The organisation corollary also relates to the notion that both superordinate and subordinate relationships define a construct.

The laddering technique relies on the dichotomy and choice corollaries. The first response in laddering is one of choice between the two poles of an elicited dichotomous construct. When a participant made a ladder response, wherever possible the investigator also took note of the dichotomous pole to that response. This was done as an aid to content analysis in aggregating cognitive maps, so as to enrich the possibility of more accurately identifying similar content across participants. Some participants might have responded with a negative such as "Avoid alienation", or "avoid conflict" while other participants, expressing the same meaning, may have responded with the positive pole, such as "enhance sense of belonging" or "enhance harmony".

When there existed criteria for the map to have both upward and downward use (both Value and Act laddering) it was necessary to consider the dichotomous pole of ladder responses. In the data reduction procedure for content analysis, ladders were collapsed to three rungs. The criterion for accepting a collapsed ladder, was that the middle order construct adequately answered the question "How ?" in relationship to the most superordinate construct, and that the most subordinate construct adequately answered the question "How ?" in relationship to the middle order construct. For example in value laddering, a participant may have responded that one "should foster harmony at work". When asked "Why ?", they may have responded : "So that people can enjoy their work". When asked "Why ?" that was important, the reply may have been : " So that the workers produce better results". When this is translated in the Act laddering direction, it may be stated that this respondent believed that better results could be produced by workers, by enhancing their enjoyment at work, which in turn involved fostering harmony at work. In such a case, and depending on the client/participant, it may be of most use to translated the the final link of this chain to its dichotomy : "avoid conflict" rather than "foster harmony". In the face of a "How ?" question, the dichotomous expression was often more behavioural and something which the participant had a little more control over than the response that was originally elicited by a "Why ?" question. For instance, respondents may feel that they can actively do

things to avoid conflict, but feel relatively powerless and ill equipped to directly foster harmony.

It is also interesting to note an apparent relationship between the choice and dichotomy corollaries and the existence of some sort of approach-avoidance dichotomy (see Lewin, 1931, 1935 ; Miller, 1944 ; Epstein & Fenz, 1965). Alternative actions were frequently expressed as behaviours, environments or objects to either approach or avoid. For example the vocational counselling client wished to continue or approach a career as an engineer. He wished to approach an organisation relatively absent of office politics, and by implication wished to avoid an organisation that was characterised by office politics. In this respect the choice corollary can be construed as a type of slot-change cum approach avoidance arrangement. Slot change is movement from one pole of a construct towards the other pole of the same construct. To say that a person moves towards that pole of a construct that provides the greatest possibility for elaboration of the construct system, is similar to saying that a person approaches that pole in preference to its dichotomous pole.

In that "approach-avoidance" is a documented area of studying psychological conflict the relationship between these two notions may be an interesting source of future study. It may be found for example that "approach-approach" conflict is related to slot change where a person wishes to approach both poles of the same construct simultaneously. For example, a person in business may wish to be seen as a warm person to enhance public relations and professional image, but may at the same time see a need to be seen as a cold person in order to place competitors at a psychological disadvantage at the negotiation table. In the case where a child wishes to approach a dog, so as to be seen to be a brave person, while simultaneously wishing to run away to avoid being bitten, approach-avoidance conflict may be a function of shift change : the dilemma of shifting from one construct dimension to another dimension altogether. For example, moving from a "brave vs. cowardly" construct to a "hurt vs. unhurt" construct. These hypotheses are very tentative at this stage, but do suggest that examination of the relationships between slot-change, shift-change and approach-avoidance conflicts would be an interesting avenue for future research.

The range corollary was reflected in the context specific application of the method. It was reflected in the choice of projects versus roles as elements, in the choice of preference in vocational guidance versus the choice of appropriateness or priority in organisational intervention. In other words these elements and constructs, (projects, roles, preferences and priorities) were convenient for some contexts but not for others.

In relationship to the Experience corollary, Bannister and Fransella (1986, p. 14) describe a construct system as a " repository of what people have learned, a statement of their intents, the values whereby they live and the banner under which they fight". This is a good description of the group derived policy for action sought throughout the current studies. One needs only to read the above quotation again referring to "people" in the plural rather than singular to gain insight into the desired outcomes of the interventions reported above.

The presence of the experience, modulation and fragmentation corollaries, is implicit rather than explicit. It is anticipated that the school Board of Trustee's, or perhaps a group of executive managers, would monitor the effectiveness of their policies for action, put them to the test of experience and moderate or fine tune them as their strengths and weaknesses emerged. Indeed, this is a fundamental aspect of the action research cycle. It was intended that there should be the opportunity for variation in the group model, and that it should be both a source of personal or group "growth" and development, rather than a formal statement or set of rules designed to constrain the future actions of the group.

In the face of the fragmentation corollary, however, it is to be anticipated that individuals in the group would apply varying sub-systems in different contexts (such as those of work and non-work). For example, in one's own home the construct smoker versus non-smoker may take precedence in forming an impression of a person. However in the recruitment process, in a work situation, the importance of that construct may be moderated as other constructs relating to commercial benefit and good business sense, play a greater role in one's assessments or decisions about other people. This relates also to the optimal suppression of individuality (Argyris, 1976) whereby individuals give up aspects of themselves in the best interests of

the organisation but which, hopefully, do not result in harm to the self in other life contexts.

As stated a number of times throughout this dissertation, the commonality corollary is central to these studies. The process exposes the extent to which individuals in a group employ both similar and dissimilar constructs to one another. Indeed, it is those constructs that are shared that are formulated into a group cognitive map and policy for action. The group cognitive map was construed by the investigator as a description of the community or culture comprised of that group. Exposure of those constructs that are not shared with the rest of the group are expected to act as a basis either for attempting to persuade the rest of the group to change, or for suppressing individuality in the interests of group cohesiveness.

A sub-group of interest throughout these studies, have been those individuals who must play a planning, design or policy making role on behalf of, or in union with another group of people (community). The sociality corollary is fundamental to this procedure. Indeed, in such a context, the very purpose of the intervention procedures described above were to enable policy makers to construe the construction processes of others in order that they might more appropriately play a role in a process involving those other people. The very purpose is to reduce or suppress any inappropriate and unwelcome individualism of the policy maker or planner.

A recurrent theme throughout this study involves reference to the practical, applied, action research nature of the work carried out. It is characteristic of the applied setting to adopt a quasi experimental design approach, and this frequently leads to various compromises that tend to reduce scientific rigour.

The present studies fell very heavily within the action research, applied psychology domain rather than within psychology's more traditional experimental research paradigm. As a consequence a number of associated issues emerged throughout these studies which the investigator battled with.

One such battle involved the degree to which the practitioner imposes a construct system on those with whom he or she is working. In other words, the extent to which the practitioner uses his or her personal construct system to draw inferences from observed behaviour was questioned. To overcome this there was a very strong self-imposed requirement throughout these studies that the information come from within the client group and that the investigator be value free. The investigator's role was one of facilitating clients to mold their own responses into strategy rather than one of making inferences and telling the clients what they ought to be doing. In terms of the sociality corollary, the investigator attempted to construe the construction processes of the participants so that he could most appropriately perform a facilitative intervention role on their behalf. Some minor discomforts in this respect in the earlier studies, led to diligent adherence to this rule in the final study with the Board of Trustees.

The current studies also used the organising and guiding power of theory, namely Personal Construct theory, and also out of necessity indulged in naturalistic, descriptive observation. In fact the reader may recall that in the organisation intervention reported in Chapter 7, some of the most important information (dysfunctional communication patterns) came to light through participant-observation practices. It is tempting in the applied setting to be methodologically eclectic, to abandon theory, and to use a battery of techniques to gather a comprehensive data base of information. However, adherence to theory not only gave these projects structure and coherency but also the theory itself was central to the aims, outcomes and types of products sought from the interventions.

Throughout the current studies the investigator was concerned that the interventions should be executed ethically and should display professional responsibility. The investigator's principal responsibility was to the people with whom he was interacting. Even if this meant that research rigour was occasionally weakened in the current studies, at least the psychological needs of the clients and participants were not abandoned. It is not appropriate to ignore the participants and to impose the interventionists own views of what ought to be happening in the organisation. Too often management literature and some management consultants, tell managers what they ought to be doing, without firstly carrying out an examination of why the organisation has developed as it has, and asking what strategies

are most appropriate to the unique set of individuals who make up that organisation. It is the experience of the current investigator that the value systems within organisations are sufficiently complex as to render the practice of telling the organisation "what they ought to be doing", as folly. Such a syndrome possibly eventuates from taking the application of generalisations obtained from rigorous experimental research too far, and to treat all organisations as if they are inherently similar. It cannot be emphasised too much, that the present approach treated clients and participants as unique individuals, attempted to understand their individuality and attempted to act on their behalf and with professionalism.

Argyris (1976) too, questioned the ethics of such practise. He stated that generalisations ought to work only if the situation under scrutiny is sufficiently analogous to the original experimental situation. In construct terms the individuality corollary suggests for example, that for every executive level manager an organisation has, there will be increased complexity in the values and beliefs inherent in that organisation. These cannot be ignored. Furthermore, organisations themselves exist within their own construct systems. They are each founded on a unique history of past experiences, and tend to perform a unique role within a unique market, involving local labour conditions, national and regional governmental constraints and legislation, and localised conditions regarding availability of resources. It is folly to believe that generalised results obtained in a micro-environment overseas, have direct applicability to the needs of the specific organisation under examination. All of this, to a large extent has to do with acting ethically and professionally when attempting to provide assistance to others.

The investigator's responsibility to the participants was to provide them with both individual and collective opportunities for development. With this in mind, one purpose of the current approach was to increase clients' or participants' knowledge of alternative actions, to increase their potential repertoire of actions, via the Act Laddering procedure, and to thereby increase their opportunities to choose how they might act. The scrutiny of individual cognitive maps and comparison of these with the group cognitive map served explicitly to identify not only shared aspects, but also to identify or expose discrepancies between individual goals and organisational goals. Exposure of discrepancies might lead to an attempt by the individual

to reformulate the organisation goals or to suppress individuality and accept the existing goals in the knowledge that he or she at least understands what those goals are. To facilitate this understanding of the organisation's goals, when a group cognitive map is viewed within the structure of short-term goals, medium-term objectives and long-term ideals as proposed by Eden (1977) it is apparent that the procedure assists the client participants to identify criteria on which they might assess their organisational performance. For example it identified criteria such as "Company survival", "increased revenue", "improved safety standards" and "appropriate response to the public" in one organisational intervention. In the case of the school Board of Trustees, criteria were identified by the group and placed into their policy for action. Aspects of that policy for action were then embodied within the school's formal policies (such as The Policy on Community Consultation), which entailed criteria that the group themselves chose to be measured and audited against by the Ministry of Education. The current approach also directly addressed the questions of "Why" these criteria are valid and "How" they might be achieved.

With reference back to the mechanistic versus organic research distinction made by Argyris (1976), the reader is reminded that mechanistic research is characterised by the interventionist taking a prominent role in defining program goals, maintaining the power of expertise and therefore maintaining psychological distance from clients and participants. Here, the interventionist controls the level of client participation, and depends on the client's need for help or cooperation to be the basis for their involvement. The client is expected to be an information giver and client participation is a shallow process designed to keep participants happy. The interventionist defines the costs and benefits of the change program and feedback to subjects is designed to inform them how much the researcher learned and how professionally competent he/she was.

The Treatment Group - Control group design used to compare groups in the final study was admittedly a little mechanistic. The researcher designed the criteria for assessment and maintained relative distance from control group subjects, although he did make himself available for enquiry and discussion by using a personal approach rather than a postal approach.

Control group participants were primarily used as information givers and indeed feedback to these participants took the form of displaying how much the researcher had learned as well as to demonstrate, for their own comfort, that the researcher had acted with professional and ethical competency. A delayed control group approach was taken however, which involved an invitation for control groups to engage the investigator in an intervention if they so desired at a later date.

The procedure at the heart of this series of studies was however strongly organic. Organic research is characterised, according to Argyris (1976) by subjects participating in defining goals, confirming and disconfirming, and modifying those goals. The interventionist's position as expert is neutralised by acknowledgement that he or she is a stranger to the system and by the provision of the invitation to question and discuss the program. The client plays as large a role in determining client participation as the researcher, and should feel just as responsible for the project as the researcher. This was implied in attempts of the current investigator to establish participant ownership of the program and its products. Participation is encouraged in organic research when designing methods, products and change strategy. Both client and interventionist define the costs and benefits of the program and feedback to participants is designed to help them to develop.

In the current studies, the term "participant" was deliberately used rather than "subject". The latter implies the mechanistic view that they are objects to be used (exploited) for the purpose of gathering data. The former implies the organic view that they are in partnership with the researcher and that they have equal if not greater ownership of the program. It is also noteworthy that a fundamental purpose of the procedure involved clients in defining their goals, objectives and ideals.

It is very difficult for applied investigators to divorce themselves from their procedure. The organic researcher must be involved. Hence compared to traditional laboratory-based experimental methodology it is difficult, indeed inappropriate, for the investigator to invoke distancing procedures such as double-blind designs and use of research assistants and independent raters. This is of course a source of potential Investigator effect or bias. It appears that in applied research of the type conducted here, these are risks

that must be taken, or be in peril of losing much of the sensitivity of the information derived and also of alienating the client from the program.

For these reasons, rather than conduct the research by remote control, as a Laboratory-based researcher may do with field assistants, or seek validation of content interpretations through independent raters, the present investigator chose to be completely and inextricably involved, returning to the participants themselves for validation of any interpretations or inferences made. Thus in the "hypothesising" mode expressed by Landfield and Epting (1987, p. 52), this meant that the interpretations were open to change and modification until they were acceptable to the individuals. The "Policy for Action" document presented in Chapter 8, which incorporates hierarchical portrayals of group construing and verbal policy statements was likewise returned to the group for validation and modification.

As alluded to earlier, an important feature of the current research has been the investigators, personal battle with the dilemma of sacrificing experimental rigour for client-centred, ethical and professional behaviour. As a psychologist, trained in an academic institution to carry out research, the problems of the quasi experimental approach, or practical application has represented internal turmoil, since it was almost contrary to the investigator's construct system to compromise rigour and to court threats to validity.

Argyris (1976, p.181) stated that "less rigorous methods may actually obtain more valid, publicly certifiable data than the presently accepted rigorous methods". Eden (1978, 1980) has reinforced this view. It is hoped in this respect that the current dissertation has added to the body of literature demonstrating the viability of less rigorous, organic methodology in the applied setting. This does not mean that rigour should be abandoned or neglected, but that the concept may need modification, as has occurred in the present series of studies. Possibly the most prudent approach is that used throughout the works reported here : to continually and deliberately battle with the compromise between presence or absence of rigour and thereby operate under the most appropriate synthesis of the two.

In conclusion, a very important feature of this work has been the attempt to integrate and effect compromises between diagnostic, applied, organic

approaches on the one hand, and rigorous, experimental approaches on the other hand. In essence the studies were situation or context specific. As such the investigator found himself demonstrating the choice corollary by applying more or less the appropriate pole of personal constructs that he carried regarding professional psychological practice. These included constructs such as "objective vs. subjective", "controlled vs. uncontrolled", "validity vs. threats to validity", "qualitative data vs. quantitative data", "descriptive weakness vs. explanatory power" and "rigorous vs. wishy-washy". To this extent the investigator was involved in a slot change process, vacillating between and trying to synthesize opposite poles of these constructs. This was a source of implicative dilemma for the investigator, since rigorous, quantitative, objective, explanatory research had previously implied "GOOD research", whereas the opposite poles had implied "poor research". However the situational specificity of the contexts under study compelled movement towards the less rigorous, descriptive, qualitative poles of these constructs since these also implied constructs such as "being active vs. being passive", "getting applied work done vs. not getting any work done", "getting acceptance to practice vs. being rejected the opportunity to practice" and "benefitting the client vs. ignoring the client".

The act of successfully integrating or synthesizing these approaches did not occur until the investigator discovered other researchers (cited below), particularly within applied Personal Construct Psychology, who shared the dilemma or who had moved away from strictly rigorous research; who were willing to publish descriptive accounts rather than experimental reports. In reading Landfield & Epting (1987) one can detect a discomfort with purely hard-nosed statistical approaches. Smith (1980), and Smith & Stewart (1977) displayed a willingness to publish essentially descriptive rather than explanatory work.

The applied psychology expressed and practised in the current studies is nothing new. Lewin strongly advocated movement towards such an approach as early as 1947. This has been reinforced by Argyris (1976), and again by Eden (1978, 1980, 1988). In the field of New Zealand academic psychology, however, one detects that it may still be something of a break from tradition, especially as a focus for doctoral research.

Eden (1988) referred to the nature of applied psychology and his struggle with the implicit requirement for mathematical precision and techniques, when in fact such practices rarely played an important role in projects that his clients regarded as successful. Those projects considered most successful and useful by his clients were those that involved a simple modelling technique, which was consequently transparent to the clients and which helped them organise their thinking. Eden (1988) discovered that Managers think and work with language and ideas and not with numbers and mathematics, and therefore he advocated that operational researchers should be involved in making models of the way managers work with ideas. The current studies have performed precisely this function.

The opening chapter of this dissertation, mentioned a management magazine article by Birchfield (1988) that served to assist the writer to make coherent sense of his studies. Birchfield's article reiterated the sociality corollary, suggesting that some attempt be made to construe the construction processes of others before playing a social role involving those others. To do this, examination of New Zealand's value systems and behavioural patterns was encouraged in the belief that that this would contribute towards a New Zealand approach to management and organisation, in contrast to recent tendencies to imitate Japanese approaches. The writer believes that the approach and methods reported in this dissertation, have enormous potential for such an examination of values, behaviours and description of New Zealand community and culture.

In the spirit of action research, each of the three studies reported above, have posed questions for investigation and refinement in subsequent studies. There are a number of remaining refinements to be made, particularly with respect to the content analysis and description of cognitive maps. It is hoped that these questions may be pursued in future action research in applied contexts, and that these future studies may contribute to the development of community and culture specific approaches to management and organisations.

In final summary, this dissertation has followed one stream of development of Personal Construct Psychology, from Kelly (1955), through Hinkle (1965) to Eden (1977, 1978, 1988). Kelly founded Personal Construct Psychology in the applied setting, and it is claimed here that it is in the applied setting that it has particular power. Much current literature on Personal Construct Psychology extols its practical, applied virtues. The current investigator was a practitioner in the field. In this dissertation the viability of an applied Personal Construct approach has been demonstrated and refined in a number of contexts.

APPENDICES

APPENDIX I

APPENDICES TO CHAPTER 6.

APPENDIX I.1

RAW MATERIAL FOR CLIENT-2

Client-2's elicited Elements as Occupational & Lifestyle Role Titles
and Personal Projects.

OCCUPATIONAL AND LIFESTYLE ROLE TITLES.

1. My Actual self in my present job with my present lifestyle
 2. My Ideal self, perhaps in the job & lifestyle that I'd like to have in 10 years time.
 3. Dr. K.
 4. General Manager
 5. Teacher
 6. Similar position in subsidiary undertaking
 7. Mountain activities (eg. Ski Instructor or climbing)
 8. Contract Law
 9. My own business
 10. Musician
-

PERSONAL PROJECTS.

1. Singing in choir
 2. M.G. ? (Investigator does not know the significance of these letters).
 3. Trinity College letters
 4. Making my own desk
 5. Get things organised
 6. Business Studies
 7. Himalayan trip
 8. Run half marathon in 1.5 hours
 9. Study philosophy of music
 - 10 Study philosophy
-

APPENDIX I.1 CONTINUED.

Client-2's originally elicited Constructs on Occupational Role Titles and
Personal Projects Repertory Tests.

CONSTRUCTS ELICITED FROM OCCUPATIONAL ROLE TITLES
REPERTORY TEST.

A.	More exposure to stress	vs.	Less exposure to stress
B.	More academic	vs.	Less academic
C.	Known	vs.	Nebulous
D.	Real world	vs.	Different world (of the arts)
E.	Work	vs.	Leisure
F.	I aspire to this	vs.	I would never do this
G.	The industry I know	vs.	Totally unfamiliar industry
H.	Concrete	vs.	Ethereal
I.	Deals with things	vs.	Deals with people
J.	Achievable goal	vs.	Idealist goal

CONSTRUCTS ELICITED FROM PERSONAL PROJECTS REPERTORY
TEST

A.	Practical	vs.	Academic
B.	Mental	vs.	Physical
C.	Enjoyable	vs.	Unenjoyable
D.	Still alot yet to achieve	vs.	Almost achieved
E.	Local	vs.	Overseas
F.	Working with one's physical self	vs.	Purely mental effort
G.	Only benefits me	vs.	Could benefit others
H.	Alot of reading	vs.	No reading involved
I.	Narrow, helps me in my job	vs.	Wider benefits
J.	Doesn't require outside recognition	vs.	Requires outside recognition from others.

APPENDIX II

APPENDICES TO CHAPTER 7

DEVELOPMENT INTERVENTION : AN APPLICATION WITH A WORK
GROUP ENCOUNTERING DYSFUNCTION.

APPENDIX II.1

MEASURING INSTRUMENTS

APPENDIX II.1.1.

EXAMPLE OF ORGANISATIONAL CLIMATE QUESTIONNAIRE

DEPARTMENT OF PSYCHOLOGY

Organization Climate Questionnaire

(GS/1986)

Introduction

For each of the organization climate dimensions described below place an (A) above the number that indicates your assessment of the organization's current position on that dimension and an (I) above the number that indicates your choice of where the organization should ideally be on this dimension.

1. Conformity. The feeling that there are many externally imposed constraints in the organization; the degree to which members feel that there are many rules, procedures, policies, and practices to which they have to conform rather than being able to do their work as they see fit.

Conformity is not
characteristic of
this organization

1 2 3 4 5 6 7

Conformity is very
characteristic of
this organization

2. Responsibility. Members of the organization are given personal responsibility to achieve their part of the organization's goals; the degree to which members feel that they can make decisions and solve problems without checking with superiors each step of the way.

No responsibility
is given in the
organization

1 2 3 4 5 6 7

There is a great
emphasis on personal
responsibility in the
organization

3. Standards. The emphasis the organization places on quality performance and outstanding production including the degree to which the member feels the organization is setting challenging goals for itself and communicating these goal commitments to members.

Standards are very
very low or non-
existent in the
organization

1 2 3 4 5 6 7

High challenging
standards are set in
the organization

Members are ignored,
punished or
criticized

5. Organizational clarity. The feeling among members that things are well organized and goals are clearly defined rather than being disorderly, confused, or chaotic

The organization is
disorderly, confused,
or chaotic

6. Warmth and support. The feeling that friendliness is a valued norm in the organization; that members trust one another and offer support to one another. The feeling that good relationships prevail in the work environment.

There is no warmth
and support in the
organization

Please rate the following specific aspects of the way in which the organization functions, in the same way as the previous six, with an (A) for your estimate of the organization's current position and an (I) above the number that indicates your choice of where the organization should ideally be on this factor.

7. Complete confidence is shown by managers and supervisors in their subordinates

8. Subordinates ideas
are always sought
and used if worthy

9. A great deal of co-operative team work exists	1	2	3	4	5	6	7	No co-operative team work exists
10. Downward communication is accepted with a great deal of suspicion	1	2	3	4	5	6	7	Downward communication is accepted with an open mind
11. Supervisors know very well the problems faced by their subordinates	1	2	3	4	5	6	7	Supervisors know little of the problems faced by their subordinates
12. Decisions are made mostly at the top	1	2	3	4	5	6	7	Decisions are made throughout and are mostly well integrated
13. Subordinates are fully involved in decisions related to their work	1	2	3	4	5	6	7	Subordinates are not included at all in decisions related to their work
14. Organizational goals are established by group action (except in crisis)	1	2	3	4	5	6	7	Organizational goals are issued by orders from the top
15. There is a strong resistance present to the formal goals which are established	1	2	3	4	5	6	7	There is little or no resistance to the formal goals which are established

APPENDIX II.1.2

EXAMPLES OF TIMELOG FORMS.

TIME LOG

NAME: _____

ACTIVITY CATEGORIES

	PROPOSED ALLOCATION (percentage)
A	
B	
C	
D	
E	
F	
G	
H	
I	
J	
K	
L WASTED TIME	

1. Write above, main categories of work you are engaged in at present. Allocate for each, the percentage of time you propose to spend on each.
2. Daily Log : Part I: Each afternoon, just before leaving work, list the principal items to be accomplished the following day, and set their priority "A", "B", "C" etc. ("A" being high priority, "D" being low priority).
3. Part II: Keep a record of time. Do not leave this until the end of the day. Memory is deceptive and you will deceive yourself. Fill in each quarter hour period as you go along.
4. At the end of each day summarise your daily data on the page headed DAILY & WEEKLY SUMMARY. Record time spent in minutes.
5. At the end of the week complete the weekly summary (far right hand side of the DAILY & WEEKLY SUMMARY). Compare your daily and weekly percentages with the proposed allocations (on this page). How effective have you been?

DATE

DAILY OBJECTIVES:

	ACTIVITY	CATEGORY	PRIORITY (A,B,C or D)
1.			
2.			
3.			
4.			
5.			

DAILY LOG

[illegible]

Now to to daily summary (see page headed DAILY & WEEKLY SUMMARY)

DAILY & WEEKLY SUMMARY

Week Monday _____ to Sunday _____

CATEGORY	MON		TUE		WED		THUR		FRI		WEEKLY	
	Time	%	Time	%	Time	%	Time	%	Time	%	Total Time	% of Week
A												
B												
C												
D												
E												
F												
G												
H												
I												
J												
K												
L												
TOTAL	420	100	420	100	420	100	420	100	420	100	2100	100

Compare your daily and weekly percentages with your proposed allocation (see front page).

How effective have you been?

APPENDIX II.1.3.

EXAMPLE OF POST WORKSHOP EVALUATION QUESTIONNAIRE

Note : Figures in italics represent actual frequency of responses. Text in italics represents participants' responses. N = 9.

NAME :

INSTRUCTIONS

Please complete the evaluation sheet and return it to Personnel Department as soon as possible. Please put a tick () in the box that best expresses your feelings about the following questions, and make comments as requested.

1. Do you now have a clearer idea of what the whole Department does ?
 - ☐ No ; because I had a clear idea already (2)
 - ☐ No ; this exercise hasn't clarified the operation for me (2)
 - ☐ Yes ; I have a clearer idea of the function (5)

2. Is the purpose of the Department's Operation clearer to you now?
 - ☐ Yes ; much clearer (2)
 - ☐ Yes ; a little clearer (6)
 - ☐ No ; this exercise has not clarified the purpose for me (0)
 - ☐ No ; I was already fully aware of the purpose (1)

3. What have been the most beneficial outcomes of this exercise and workshop ? Make a brief list.

- 1 *Insight into the operation (n=2)*
- 2 *Sore & sticky points given room to develop (n=2)*
- 3 *Good chance to get to know others' roles (n=2)*
- 4 *Clarified my position (n=2)*
- 5 *Demonstrated how I can implement my ideas (n=1)*
- 6 *The commitment shown by everyone (n=1)*
- 7 *Demonstrated that rational discussion can ensue (n=1)*
- 8 *I now relate better to other staff (n=1)*
- 9 *Hopeful that management will take notice (n=1)*
- 10 *Realisation that opinion can vary so widely on the same topic (n=1)*
- 11 *Learned how communication can break down (n=1)*
- 12 *Demonstrated how much time we spend on things (n=1)*
- 13 *Good participation by all (n=1)*
- 14 *Subjects were dealt with positively to achieve an outcome (n=1)*
- 15 *Learned I'm not alone in not knowing what I should be doing (n=1)*

4. Has anything arisen out of this exercise and workshop that you feel unhappy about ?

1 Nil comment (n=5)
 2 We must not let this lapse now (n=1)
 3 I feel some people are still not hearing what is being said (n=1)
 4 We have a lack of staff in some areas (n=1)
 5 The specific things we discussed at the end of the day have been largely ignored (n=1)

5. Is your role and contribution to the department's operation and its purpose clearer to you now ?

☐ No ; no clearer at all. (3)
☐ Yes ; a bit clearer. (4)
☐ Yes ; alot clearer. (3)

6. Do you look forward to better relationships and a Department that functions better, provides a better service ?

☐ Yes ; I look forward to better times (7)
☐ I am undecided at the moment (2)
☐ No ; I don't think there will be any improvement (0)

7. What did you think of the workshop ? Tick as many boxes as you like.

☐ It was most beneficial (4)
☐ It was a disaster (0)
☐ It was more beneficial than otherwise (5)
☐ I could not get my opinion across (1)
☐ Everybody listened and tried hard (4)
☐ The facilitator handled it well (8)
☐ The facilitator handled it poorly (0)
☐ Some people dominated too much (4)
☐ Only some people listened and tried hard (2)
☐ I could not understand what was going on (0)
☐ It has made me sit up and think about my role in the department (2)
☐ I am feeling quite good about it (6)
☐ I am feeling quite unhappy about it (0)
☐ I would happily attend another workshop (7)
☐ I would be unwilling to attend another workshop (0)

8. Was your personal model useful ?

☐ No ; I could not understand it (0)
☐ No ; It stated the obvious (0)
☐ Yes ; it is a good depiction of my thoughts (4)
☐ Yes ; it clarified some things for me (3)

Not applicable, n=2.

APPENDIX II.1.4.

PERSONAL PROJECTS. : INSTRUCTIONS

We will consider personal projects related to your work.

Personal projects are those things that we think about, plan for, carry out and sometimes (though not always) complete that are related to our work.

Here are some examples of personal projects:

- Completing my monthly report
- Trying to help John and Jack to get along better
- Overcoming my difficulties with(some aspect of your work).
- Arranging that trip to the other office
- Submitting a request to purchase(a piece of equipment).
- Arranging staff training for.....
- Getting my files up to date

On the cards provided, place a name or label to represent a project that you (a) are engaged in, (b) have been engaged in recently or (c) may be engaged in in the future. Note that your projects must be work related.

You may wish to refer to the activities listed earlier in this job analysis interview, your time logs, or the following list may help you:

- AN ENJOYABLE PROJECT
- AN IMPORTANT PROJECT
- A DIFFICULT PROJECT
- AN IDEALISTIC PROJECT
- A STRESSFUL PROJECT
- A CHALLENGING PROJECT
- A NECESSARY PROJECT THAT I WOULD RATHER
AVOID
- AN ACADEMIC PROJECT
- AN INTERPERSONAL OR SOCIAL PROJECT
- A "TRAVEL" PROJECT
- A ROUTINE PROJECT
- A PROCEDURES PROJECT
- A "PUBLIC RELATIONS" PROJECT
- A TIME-SAVING OR EFFICIENCY PROJECT
- A TIME CONSUMING PROJECT
- A PERSONAL BENEFIT PROJECT

(THE FOLLOWING PAGE OF NOTES ARE FOR YOUR INTERVIEWER'S USE).

A Elicit constructs. Elicit each construct on a separate index card.

B Execute ACT LADDERING for each side of each construct.

How could a person achieve this?

What kind of person would you need to be to achieve this? What special abilities or skills are needed?

List some tasks that might reflect this.

C Execute VALUE LADDERING for each construct.

Imagine you have the choice between two tasks or projects to carry out as part of your work in this Distribution group. Both of them are identical except that one is characterised by this side of the construct, while the other is characterised by the other side. Which of the two projects or tasks would be **most appropriate** to the operations and functions of this group.

Why did you make this choice?

Further "Why?" questions.

APPENDIX II.2

ELEMENTS AND CONSTRUCTS ELICITED FROM PARTICIPANTS

PARTICIPANT 1 : Male, Junior Manager, Office staff, Aged 29Elements

- 1 Complete monthly report
- 2 Seek Capital expenditure approval for hand tools
- 3 Establish distribution system in town X.
- 4 Get improved office accommodation
- 5 Monitor & improve level of debtors
- 6 Get data-base on P.C.
- 7 Preparation of annual budget
- 8 Get contracts out for tender
- 9 Get management approval for proposed new position
- 10 Improve management of cash flow projection figures
- 11 Get clerical staff to do filing regularly
- 12 Urge Engineer to prepare maintenance program

Constructs

- | | | | |
|----|---|-----|---|
| 1 | Need to remind and press staff to do this. | vs. | Gets done as a matter of course. |
| 2 | Administration matter needs broad thinking. | vs. | Engineering matter with simple guide-lines. |
| 3 | An operational matter. | vs. | A planning matter. |
| 4 | Affects staff. | vs. | Affects customers. |
| 5 | A need. Work will stop without it. | vs. | An ideal. We can struggle on without it |
| 6 | More accurate info. now. | vs. | Less monitoring in future. |
| 7 | Deadlines I must meet. | vs. | No deadlines set. |
| 8 | Public relations matter. | vs. | Financial matter. |
| 9 | Routine work | vs. | One-off project |
| 10 | A thing for the future | vs. | A nagging thing from the past |
| 11 | Work that is getting done eventually | vs. | Work that will make things better later |
| 12 | Requires research and change to achieve | vs. | Regular task |

PARTICIPANTS 2, 3, 4 & 5 : REMOTE FIELD GROUPElements

- 1 Organise Christmas Party
- 2 Canvassing to promote product usage
- 3 Provision of information to third parties affected by our system
- 4 Dealing with general public enquiries
- 5 Supply product to person X, despite everything!
- 6 Request tools and equipment
- 7 Establish special piece of equipment
- 8 Maintain safety and efficiency of supply network
- 9 Maintenance
- 10 Make records of completed supply network
- 11 Administer regulations and legislation
- 12 Deal with office staff and management

Individual ConstructsParticipant 2 : Male, Field workers' Supervisor, Age 29

1	Written down	vs	Not written down
2	Talking	vs.	An object (thing)
3	Non-specific, on-going	vs.	specific job
4	Current	vs	Future
5	Contentious issue	vs	Usual, run-of-the-mill issue
6	Office staff control	vs	Personal control
7	On-going project	vs.	new challenge
8	"Hands-on" work	vs	"Hands-off" work
9	Public	vs	In-house

Participant 3 : Male, Field worker, Age 39

1	Deals with safety	vs	Deals with job getting done
2	*Deals with public	vs	Deals with piece of equipment
3	Involved in getting product to customer	vs	Done after customer has the product
4	*Deals with equipment	vs	Deals with public
5	Unpleasant problem	vs	pleasant task
6	Deals with one whole unit	vs	Deals with different units
7	A "battle"	vs	A "party"
8	Needs to be accurate	vs	Doesn't need to be accurate
9	Individualism	vs	Mass hysterics

Participant 4 : Male, Field based Inspector, Age 42

1	Affects whole area	vs.	Only affects one customer & immediate area
2	Giving information & assistance	vs	Getting job done
3	Mass hysteria and wasted time	vs	Solo occupation
4	Done at odd intervals	vs	Continuous, day-to-day running
5	Satisfying part of job	vs	unsatisfying battle with management
6	Hassles and compromises	vs	Solo occupation (suit yourself)
7*	Not yet in place	vs	Already in place
8*	Completed projects in place	vs	Projects yet to be finalised
9	Involves ducking, diving & general knowledge (Practical)	vs	Theory

Participant 5 : Male, Field worker, Age 27

1	Safety matter	vs	Organising work matter
2	Every day work	vs	Special incident
3	Normal routine	vs	Not routine
4	"Hands-on" physical work	vs	verbal work
5	Dealing with the immediate operation	vs	Ensuring things keep going
6	Battle all the way	vs	Mundane work
7	No response		
8	No response		
9	Can see an end result	vs.	Can't see an end result

Remote group consensus constructs

1	General (Same rules for all)	vs	Specific (One-off job)
2	Dealing with public	vs	Dealing with equipment
3	Intangible, non-instant and hence not rewarding	vs	Tangible, concrete and hence rewarding
4	Current and constant	vs	Not currently done & not constant
5	Pleasant, satisfying	vs	Unpleasant, a contentious battle
6	Involves grindstone and compromising	vs	"Up to us", "We're in control"
7	Yet to be initiated	vs	Initiated, begun & on-going
8	Physical "hands-on" work	vs	"Waffle", not "hands-on" work
9	Public arena	vs	In-house arena

PARTICIPANT 6 : Female, Office worker, Age 29Elements

- 1 Progress and retention claims
- 2 Monthly report
- 3 Sundry debtors work
- 4 Attend promotional shows
- 5 Become familiar with Personal Computer (P.C.)
- 6 Arrange better communications between field & office staff
- 7 Improve filing system for customers
- 8 Try to establish a better atmosphere in the office
- 9 Try to get office procedures to run more smoothly
- 10 Learn about the Billing system, so I can be a back-up.
- 11 Get customer information onto the P.C.
- 12 Arrange for Office to move into new premises

Constructs

- | | | | |
|----|--|----|---|
| 1 | Working tools | vs | working environment |
| 2 | Programmed work | vs | Special project |
| 3 | Work done as time permits | vs | Deadline work |
| 4 | Better office management (on-going efficiency) | vs | One-off job |
| 5* | Involves better working relationships (people) | vs | Regulated work (operational work) |
| 6* | Smooth running of workload (operational work) | vs | Staff liaison (People) |
| 7 | Work done for office staff | vs | work done for contractors |
| 8* | Getting workers to interact (People) | vs | Routine monthly work (Operational work) |
| 9 | Work for the future benefit | vs | Work for the past |
| 10 | Office procedures | vs | Office atmosphere |
| 11 | Benefits staff | vs | Benefits customers |
| 12 | External to company | vs | Internal to company |

PARTICIPANT 7 : Female, Office worker, Age 21

- 1 Sorting out my days activities
- 2 Writing letters to people who enquire about product supply after reading our advertisement.
- 3 Arrange work into priority before I go on holiday
- 4 Frank envelopes for field staff
- 5 Arrange a format on the P.C. for the Manager's reports
- 6 Write a "Dear John" letter to a person to whom we cannot supply product
- 7 Check Vehicle reports to meet deadline
- 8 File information received from newly acquired distribution region
- 9 Get all our drawings from draughting filed
- 10 Get acceptances through our system so people who have paid, receive product as soon as possible
- 11 Try to get to work on time in the morning
- 12 Notify Local authorities so that specific customers get product supply hassle free

Constructs

- | | | | |
|----|--------------------------------|----|--|
| 1 | Makes work easier | vs | makes relationships easier |
| 2 | Do things to suit other people | vs | Do things to suit myself |
| 3 | Supplying product to customer | vs | An enquiry about possibility of supply |
| 4 | Satisfying | vs | Not satisfying |
| 5 | Pleased customer | vs | Disappointed customer |
| 6 | Using computer | vs | Using a pen |
| 7 | Getting things done on time | vs | Helping me get things done on time |
| 8 | Makes me happy | vs | Makes customer happy |
| 9 | Have all day to do this | vs | Have to do this immediately |
| 10 | Filing | vs | Checking |
| 11 | Job tasks | vs | Personal tasks |
| 12 | Arranging work | vs | Doing work |

PARTICIPANT 8 Male, Office based Inspector, Age 60Elements

- 1 Ensure product supply conforms with regulations
- 2 Customer liaison
- 3 Promotion of the company image
- 4 Ensure our records are good and up to date
- 5 Keep yearly planner up to date
- 6 Keep all my appointments
- 7 Let the right-hand of the operation know what the left-hand is doing
- 8 Encourage supervisor to listen to suggestions, complaints, moans and groans
- 9 Encourage response to moans from supervisor, if successful in getting him/her to listen
- 10 Demand high standards of contractors who do work for the company
- 11 Play "cowboy" contractors at their own game
- 12 Enhance customer relations

Constructs

- | | | | |
|----|---|-----|---|
| 1 | Drifting along | vs. | Trying hard to run a "good ship" |
| 2 | An open person | vs. | a "Smart-ass" |
| 3 | Relates to people | vs. | Relates to codes of practice |
| 4 | Show up an offender by good personal work | vs. | Let offenders get away with poor work |
| 5 | People issue | vs. | Mechanical issue |
| 6 | Personal issue. | vs. | Contractor's issue |
| 7 | Department Standard | vs. | Personal standard |
| 8 | Management deficiency. | vs. | Personal pride which might rub off on manager |
| 9 | Keeping on the ball | vs. | letting things lapse |
| 10 | A management matter only | vs. | Something to share with co-workers |
| 11 | Personal goal | vs. | Sideline issue |
| 12 | Department attitude enjoyed by others | vs. | Department attitude not enjoyed by others |

PATICIPANT 9 : Male, Office based, semi-professional Engineer, Age 33

(Participant 9 produced 12 projects very easily and requested 3 more cards to produce a total of 15)

Elements

- 1 Arrange stores issue vouchers
- 2 Ensure sufficient stock in stores
- 3 Correspondence with prospective customers
- 4 Economic evaluation of commercial & industrial customers
- 5 Prepare supply price agreement for Commercial & industrial customers
- 6 Requisition for equipment and materials not in stores
- 7 Evaluate amount of extension required in supply network
- 8 Analyse parameters of supply system
- 9 Issue work permits
- 10 Arrange to get typing done
- 11 Do technical investigations
- 12 Write up contract documents
- 13 Receive and respond to complaints from field staff
- 14 System maintenance
- 15 Costing out my time to other departments etc.

Constructs

1	Requires contract to be entered in to	vs	Does not require contract to be entered
2	Issuing work to be done	vs.	Receiving work to be done
3	Expenditure	vs.	Receipt of payment
4	Existing works	vs	New works
5	Requires new materials & equipment	vs	Doesn't require new material & equipment
6	Requires purchase of materials	vs	Doesn't require purchase of materials
7	Ensures adherence to rules	vs.	Doesn't ensure adherence to rules
8	Requires engineering knowledge	vs	Doesn't require engineering knowledge
9	Requires travelling out from office	vs	Doesn't require travelling out from office
10	On-going work	vs	Specific one-off project
11	Requires knowledge of existing system	vs	Doesn't require knowledge of existing system
12	Relates to people	vs	relates to engineering operations

PARTICIPANT 10 : Male, Field worker, Age 33Elements

- 1 Actual establishment of supply network
- 2 Supervision of contractors & third parties
- 3 Maintenance
- 4 Obtaining data necessary for those making quotations to prospective customers
- 5 Measuring product use
- 6 Paperwork
- 7 Unanticipated call-outs
- 8 Travelling in vehicle
- 9 Check reinstatement of customers
- 10 Patrols and checks/audits
- 11 Programming for future works
- 12 Design and draw up a monthly work program

Constructs

1	Doing work	vs	Travelling to do work
2	Disrupted supply	vs	Normal supply
3	Relates to prevention of incidents	vs	relates to normal operation
4	Future work	vs	Past work
5	Recording supply	vs	maintaining supply
6	Non-urgent (Can be delayed)	vs	Routine (Must be done)
7	Constructive	vs	Destructive
8	A main check/audit	vs	A spot check/audit
9	Expense	vs	Income
10	Retaining/maintaining the system	vs	Allowing system to fail
11	On-going work	vs	Completed work
12	Consumer satisfaction	vs	Consumer dissatisfaction

PARTICIPANT 11 : Male, Office worker, Age 25Elements

- 1 Set up new customer accounts
- 2 Terminations of product supply
- 3 Invoicing
- 4 Changing swap owner routine
- 5 Cease Billing work for another Department
- 6 Do changes to Billing system
- 7 Do monthly corrections
- 8 Learn banking system
- 9 Monitor debtors
- 10 Keep my colleague occupied and interested in her work
- 11 Send letters to field Billing staff
- 12 Try to foresee future difficulties with the Billing system

Constructs

- | | | | |
|----|--------------------------------|----|---|
| 1 | Outside department | vs | Oriented to our department |
| 2 | programmed work | vs | Instantaneous work |
| 3 | System related | vs | People related |
| 4 | Future fiction, may not happen | vs | Factual |
| 5 | Learning | vs | Known |
| 6 | Effects me directly | vs | Effects others outside the department |
| 7 | Gathering factual information | vs | Requires insight |
| 8 | Thought | vs | Automatic |
| 9 | Same every month | vs | Changing variables |
| 10 | Management responsibility | vs | Doesn't require management responsibility |
| 11 | Doesn't involve change | vs | Involves change |
| 12 | Non-payment | vs | Anticipated payment |

PARTICIPANT 12 : Female, Office worker, Age 18Elements

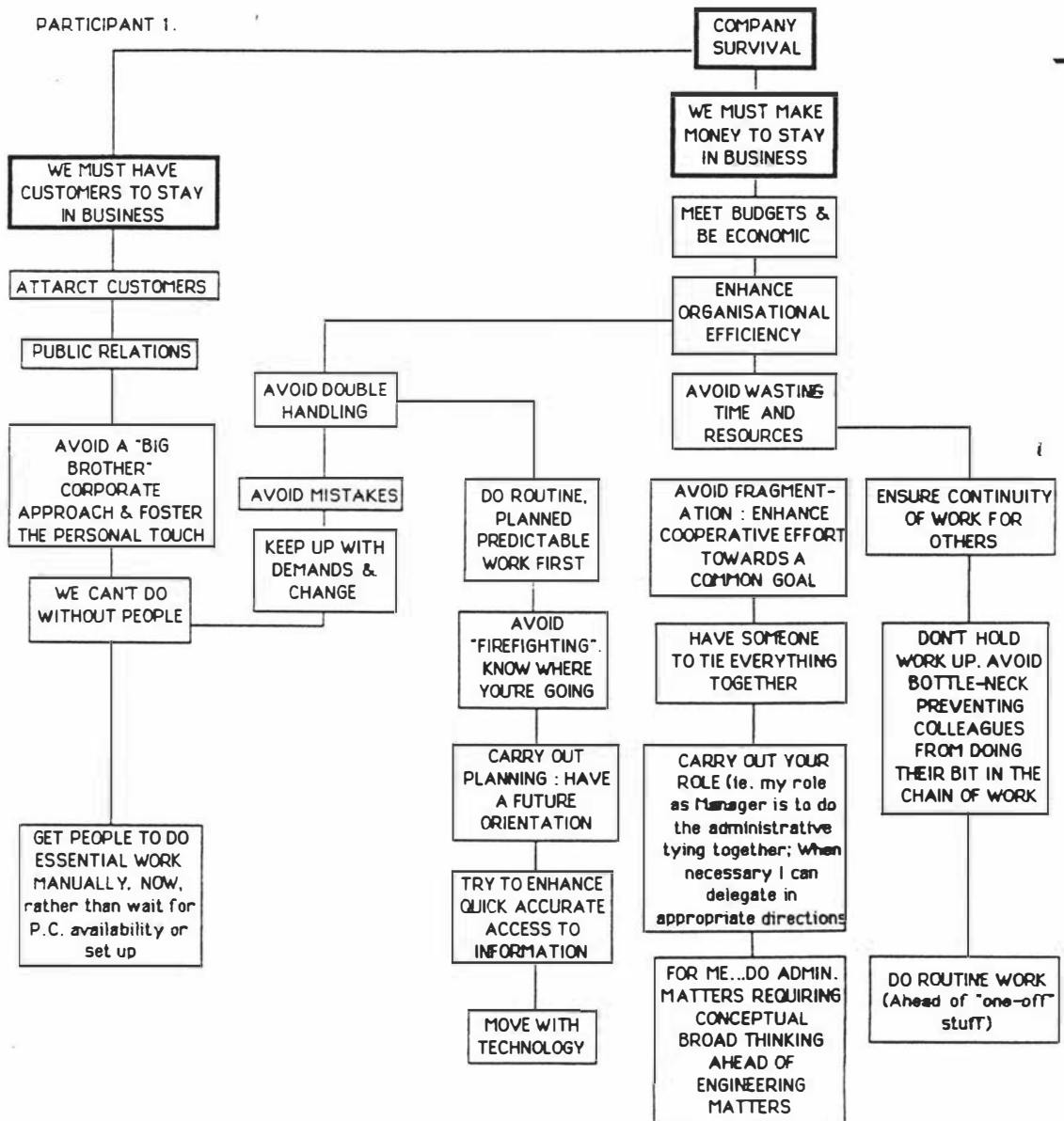
- 1 Banking
- 2 Send letter to customer whose cheque was made out for the wrong amount
- 3 Our filing
- 4 Person X's filing
- 5 Code and input new customers
- 6 Customer number statistics, by region, per month
- 7 Make changes to customer details
- 8 Learn to do Person Y's job, so I can do it when he is away
- 9 Write letters in answer to difficult enquiries
- 10 Catch up on EC and FR
- 11 Change remittances
- 12 Balance petty cash and receipt book

Constructs

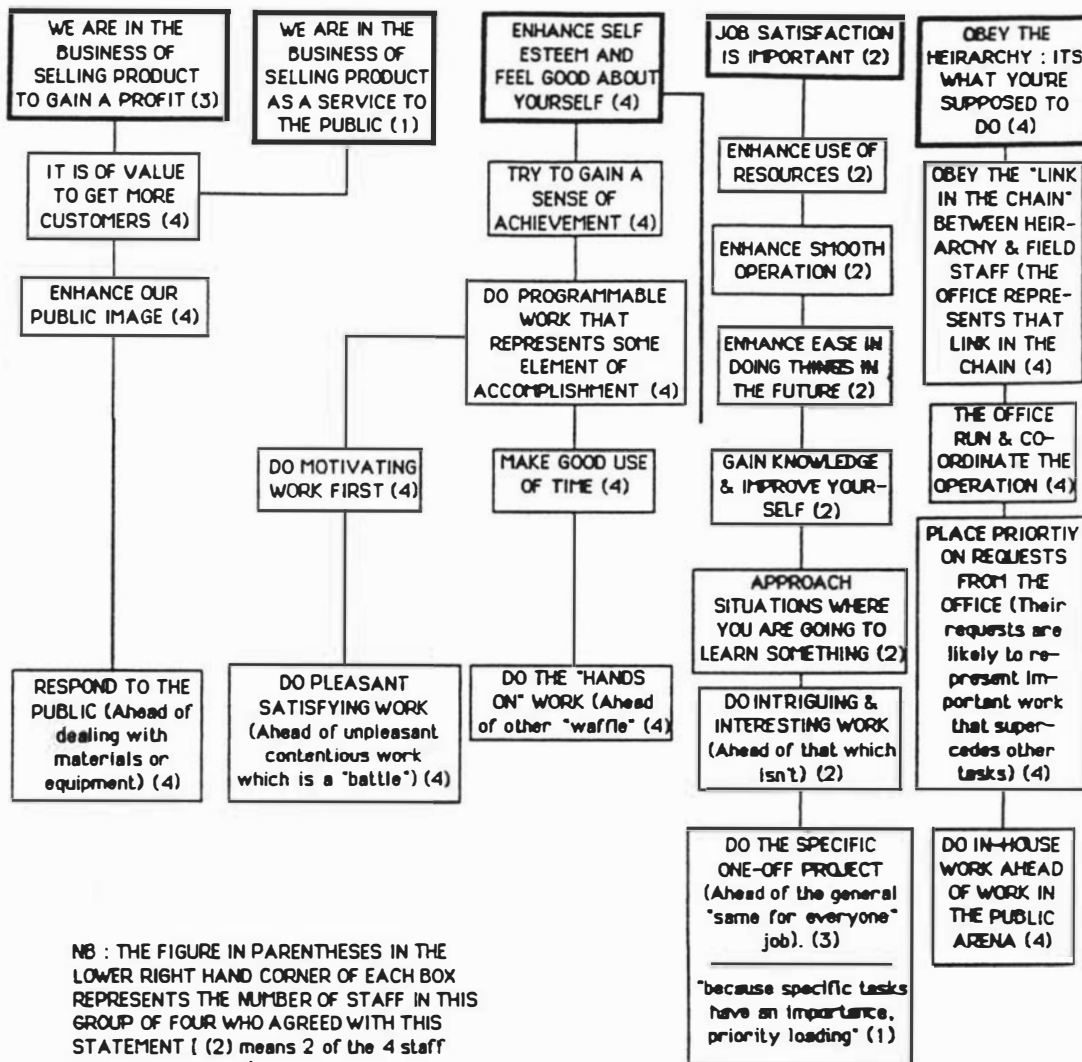
1	Information supplied	vs	Must find information
2	Our department	vs	external to our department
3	Involves money/banking	vs	Doesn't involve money/banking
4	Easy ; requires little thinking	vs	Requires thinking
5	Regular	vs	Irregular
6	Inputing information	vs	Manual paperwork
7	Variety of little jobs	vs	One big job
8	Internal to the company	vs	External : Customers
9	Public moaning	vs	Internal moaning
10	Still learning	vs	Learned
11	Would like to have	vs	Already have
12	Correcting customer's mistakes	vs	Correcting my own mistakes

APPENDIX II.3

COGNITIVE MAPS FOR ALL PARTICIPANTS OF TEAM BUILDING
INTERVENTION

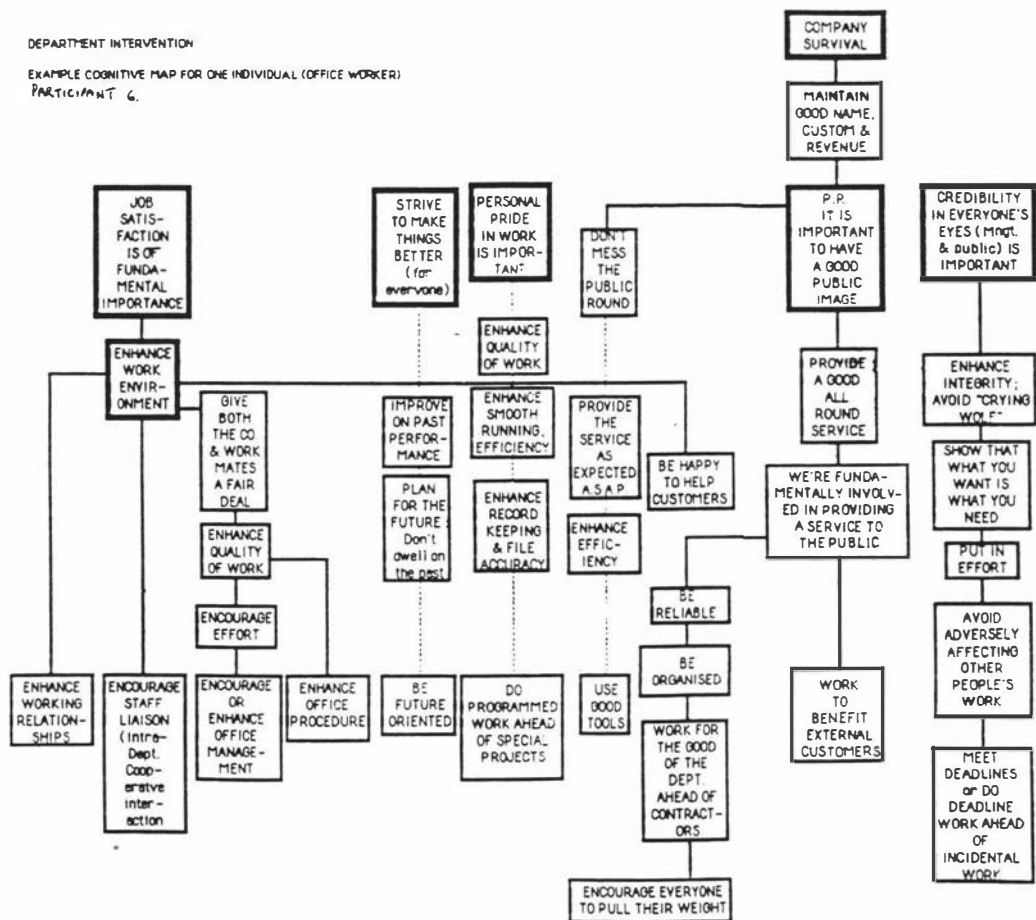


REMOTE FIELD GROUP : PARTICIPANTS 2, 3, 4 & 5.

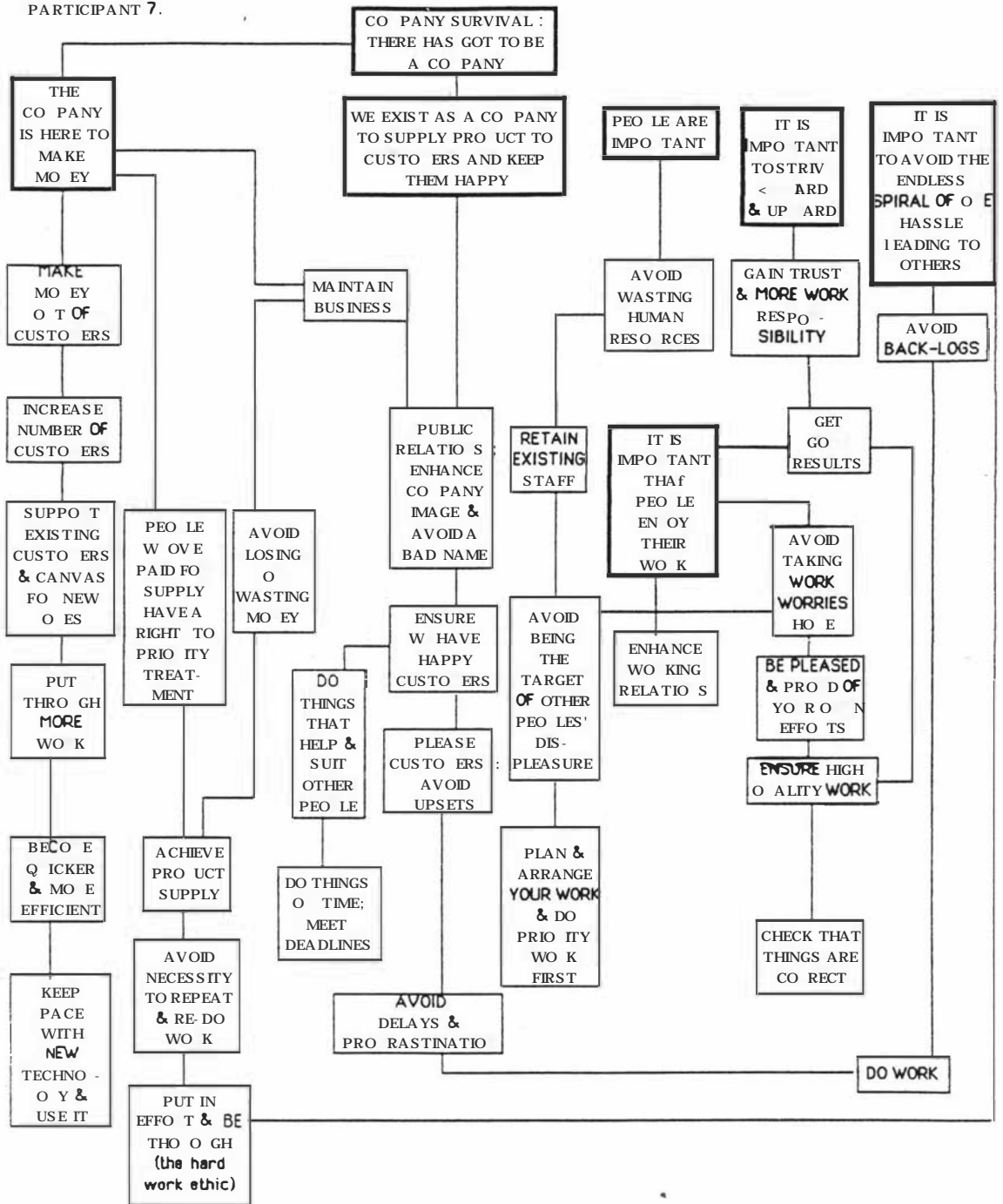


NB : THE FIGURE IN PARENTHESES IN THE LOWER RIGHT HAND CORNER OF EACH BOX REPRESENTS THE NUMBER OF STAFF IN THIS GROUP OF FOUR WHO AGREED WITH THIS STATEMENT (2) means 2 of the 4 staff were in agreement).

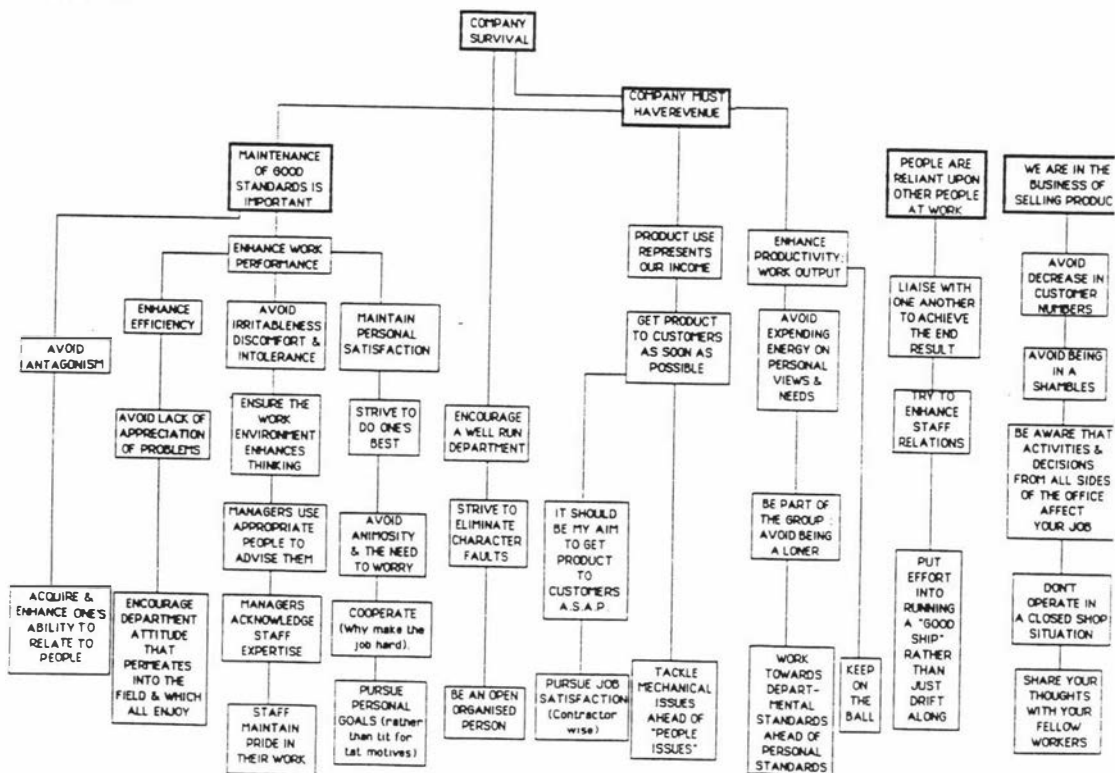
EXAMPLE COGNITIVE MAP FOR ONE INDIVIDUAL (OFFICE WORKER)
PARTICIPANT 6.



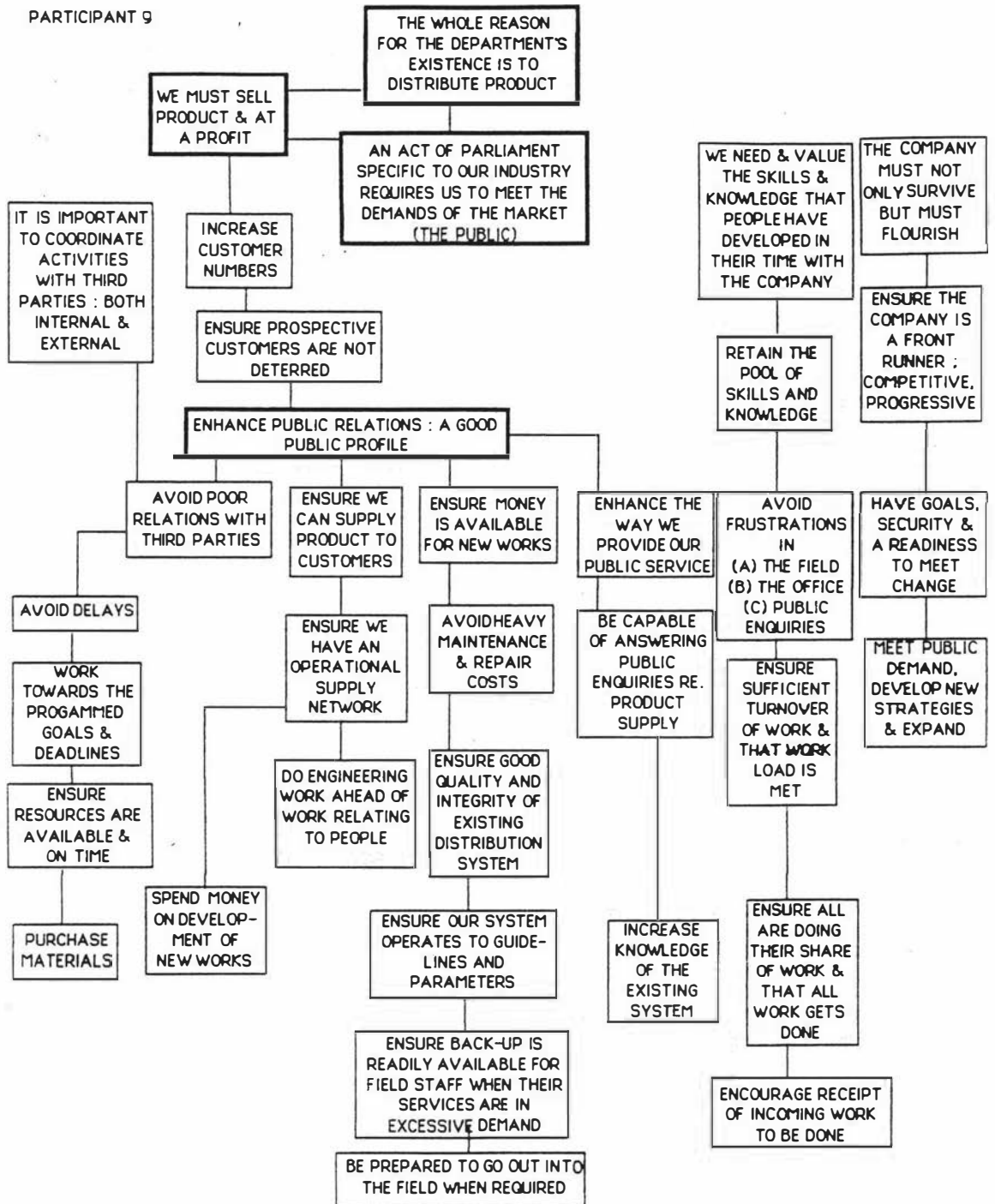
PARTICIPANT 7.

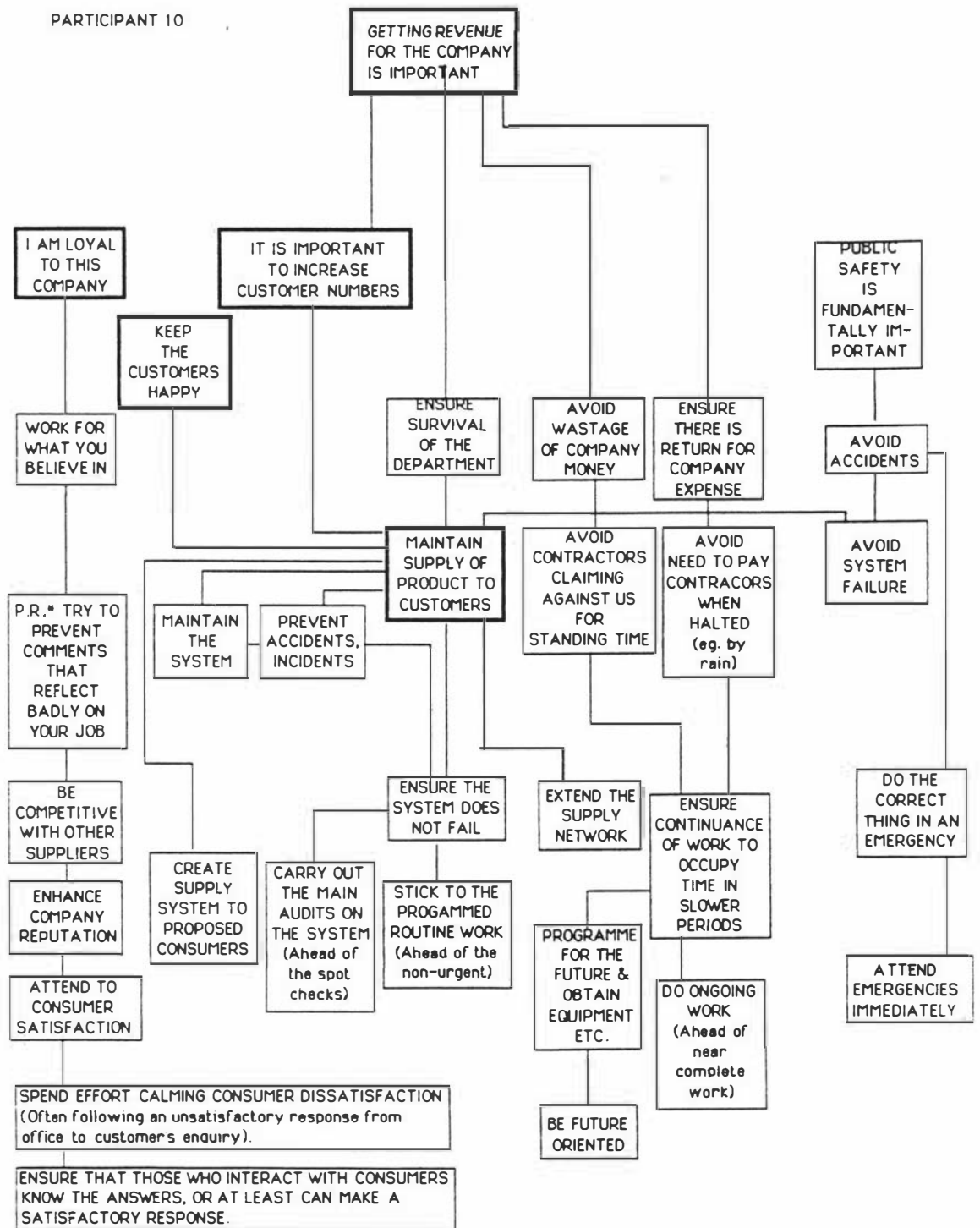


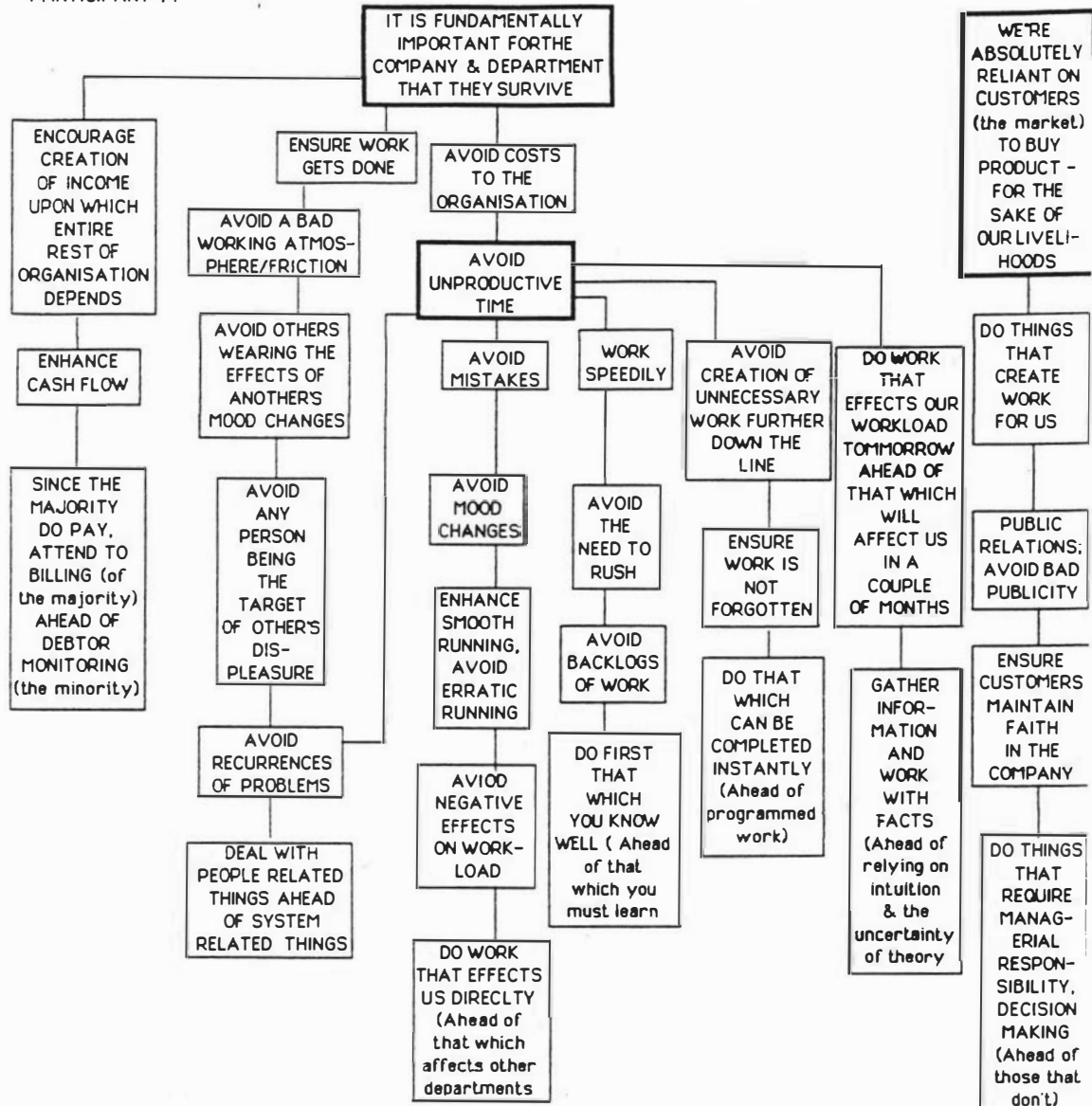
PARTICIPANT 8



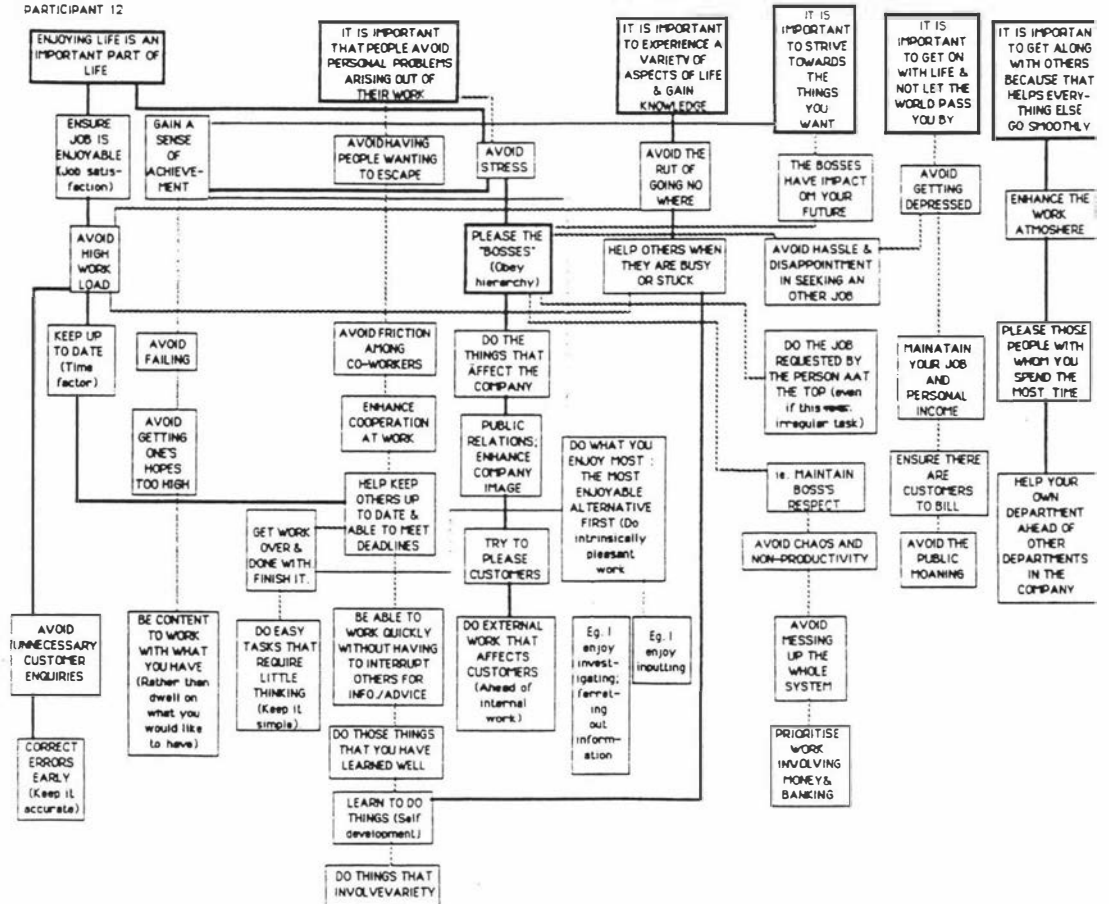
PARTICIPANT 9



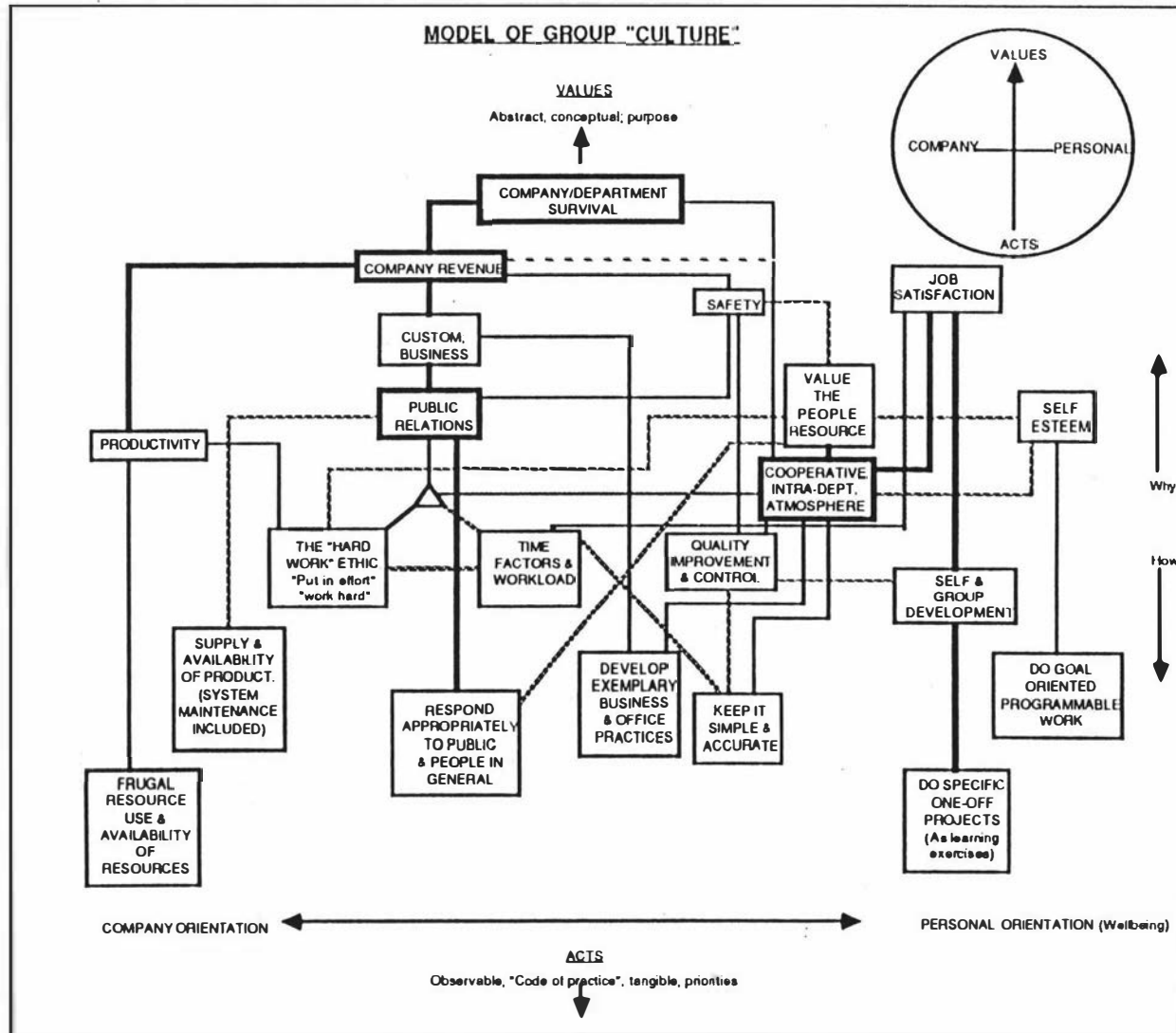




PARTICIPANT 12



MODEL OF GROUP "CULTURE"



APPENDIX II.4

TEXT OF POST-PROJECT COMMUNICATION TO PARTICIPANTS TO
ACCOMPANY RELEASE OF VERSION 2 OF TEAM COGNITIVE MODEL

As you negotiate and try to interpret both your individual model and the group model, please take note of the following :

1. Consider the lines that link the boxes.

We move upwards from box to box by answering the question
"Why?"

We move downwards from box to box by answering the question
"How?"

2. Movement upwards is towards VALUES. Notice that the upper levels of the model represent ABSTRACT, CONCEPTUAL VALUES. These are purposes ; something to do with the "philosophy" of either the person, or the group.

Movement downwards is towards more tangible things. Hence the lower levels of the model represent behaviours, actions ; tangible, observable things : - priorities - maybe even a "Code of practice".

3. Each persons' INDIVIDUAL models were taken and common aspects of each were extracted to formulate "THE MODEL OF GROUP CULTURE".

The thicker lines represent the greatest extent of AGREEMENT within the group.

4. On the individual models you received at the workshop, the parts that were represented on the group model had been highlighted. This represented your CONTRIBUTION to the group model. These were the aspects that you shared with the rest of the group, on their individual models.

You were therefore able to see both how your model contained concepts quite private to yourself (ie. not shared), and the extent to which your model was SHARED by others.

5. For two years I have heard people within this department saying :
"WE don't have any direction", "We don't know what we are supposed to be doing."

And yet, each person came to work every day and worked 7.5 to 8 hours in some sort of DIRECTION. The "Model of Group Culture" is a reflection of that direction.

APPENDIX III

CHAPTER 8 APPENDICES

APPENDIX III.1

MATERIALS

APPENDIX III.1.1

SAMPLES OF BOARD OF TRUSTEES' ROLE QUESTIONNAIRE,
INCLUDING DEMOGRAPHIC DATA AND TREATMENT GROUP POST-
TREATMENT EVALUATION QUESTIONNAIRES.

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BOARD OF TRUSTEES' ROLE QUESTIONNAIRE

: RESPONDENT NUMBER.

This questionnaire is specifically directed at members of the newly appointed schools' Boards of Trustees. Its purpose is to follow Trustee's feelings about their role as members of the Board. The questionnaire addresses Trustees current feelings about their role and will be administered twice. Firstly, very early in the life of the Board, and again at a point in the future. The researcher is interested in the shifts in Trustee's feelings about their roles as the Boards functionings progress in time.

All information contained in this questionnaire will be kept completely confidential. Respondents have been assigned a numerical identifier in order to ensure the maintenance of confidentiality. Please answer all questions honestly and to the best of your ability. We want your own responses. Please do not discuss your answers to this questionnaire with any other people.

If you have problems with the questionnaire, please do not hesitate to contact the researcher, whose name, address and contact phone numbers are printed above.

BOARD OF TRUSTEES' ROLE QUESTIONNAIRE

Introduction.

For each of the dimensions described below, place a circle around the number that indicates your assessment of your current position on that dimension. A score of one (1) indicates that you agree strongly with the statement on the left, while a score of (7) indicates that you agree strongly with the statement on the right. A score of (3) indicates that you feel more strongly for the statement on the left than the one on the right or that the statement on the left is just a fair indication of your position. A score of (4) indicates that you believe that your position is stated just as strongly by the statement on the right as the one on the left.

Example

The new Trustees
received very poor
information to
help them adapt
to their new role.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

The new Trustees
received very good
information to help
them adapt to their
new role.

In this example the respondent felt that the new Trustees received fairly good and useful information.

THE QUESTIONNAIRE

PART A : Part A refers to your feelings about the Board as a whole. These items refer to your Board alone.

1.

I feel that the Board
are very disorganised

1	2	3	4	5	6	7
---	---	---	---	---	---	---

I feel that the Board
are very organised

2.

I believe that the
Board are directed
towards a set of
very clearly
defined goals

1	2	3	4	5	6	7
---	---	---	---	---	---	---

I believe that the
Board are **not**
directed towards
clearly defined goals

3.
I believe our Board
is characterised by
alot of support for
one another. 1 2 3 4 5 6 7
- I believe our Board
is characterised by
a lack of support for
one another.
4.
The trustees seem to
be in total
disagreement, most
of the time. 1 2 3 4 5 6 7
- The trustees are in
total agreement on
virtually every
issue.
5.
Relationships within
our Board are very
warm. 1 2 3 4 5 6 7
- Relationships within
our Board are very
cold.
6.
The Board are in
control, with no
undue influence
from external
agents. 1 2 3 4 5 6 7
- There is undue
influence exerted
on our Board by
external agents.
7.
The Trustees are
very suspicious of
one another. 1 2 3 4 5 6 7
- The Trustees are
very open minded
about one another.
8.
The beliefs and
values of the Trustees
are very dissimilar
to one another 1 2 3 4 5 6 7
- The beliefs and
values of the
Trustees are very
similar to one
another
9.
Board members find
it very easy to
communicate with
one another. 1 2 3 4 5 6 7
- Board members find
it very hard to
communicate with
one another.

10.

The Board are
completely ignorant
about the problems
that the school
faces.

1 2 3 4 5 6 7
|_|_|_|_|_|_|_|

The Board
completely
understand the
problems that the
school faces.

11.

The Board are very
clear about their
role.

1 2 3 4 5 6 7
|_|_|_|_|_|_|_|

The Board are very
unclear about their
role..

12.

Cooperative team
work is very
uncharacteristic of
our Board.

1 2 3 4 5 6 7
|_|_|_|_|_|_|_|

Our Board is
characterised by
very cooperative
teamwork.

PART B : Part B refers to **your** feelings about your role as a Trustee. These items refer to you alone.

1.

I feel very
comfortable
about my role as a
Trustee.

1 2 3 4 5 6 7
|_|_|_|_|_|_|_|

I feel very
uncomfortable about
my role as a Trustee.

2.

I tend to disagree
with the other
Trustees most of
the time.

1 2 3 4 5 6 7
|_|_|_|_|_|_|_|

I tend to agree
with the other
Trustees most
of the time.

3.

I do not under-
stand the views and
opinions of the
rest of the Board.

1 2 3 4 5 6 7
|_|_|_|_|_|_|_|

I fully understand
the views and
opinions of the
rest of the Board.

4.

I feel somewhat
suspicious about
the other Trustees.

1 2 3 4 5 6 7
|_|_|_|_|_|_|_|

I feel very open
minded about the
other Trustees.

5.

My beliefs and values are very similar to those of the other Trustees

1	2	3	4	5	6	7
---	---	---	---	---	---	---

I have dissimilar beliefs and values to the other Trustees.

6.

I completely understand the problems that the school faces.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

I am completely ignorant about the problems that the school faces.

7.

I am very unclear about my role as a Trustee.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

I am very clear about my role as a Trustee.

8.

I feel that my views are not respected by the rest of the Board.

1	2	3	4	5	6	7
---	---	---	---	---	---	---

I feel that my views are respected by the rest of the Board.

DEMOGRAPHIC DATA

To be able to make sense of any questionnaire it is necessary to gather information concerning respondents' personal details. Please complete the following either by writing in the space provided or by drawing a circle around the appropriate letter on the right hand side of the page.

1. IN WHICH AGE CATEGORY DO YOU BELONG ?

- | | |
|--------------------------|---|
| Less than 25 years _____ | A |
| 25 to 30 years _____ | B |
| 30 to 35 years _____ | C |
| 35 to 40 years _____ | D |
| 40 to 45 years _____ | E |
| Over 45 years _____ | F |

2. SEX : Female _____ F
 Male _____ M

3. HOW LONG HAVE YOU LIVED IN THIS EDUCATION BOARD DISTRICT ? _____

4. HOW MANY CHILDREN DO YOU HAVE IN EACH OF THE FOLLOWING CATEGORIES ?

- | | |
|---|---|
| Pre-school children _____ () | A |
| Primary school children _____ () | B |
| Intermediate school children _____ () | C |
| Secondary school children _____ () | D |
| Children attending Tertiary education _____ () | E |
| Children who have otherwise left school _____ () | F |

5. YOUR EDUCATIONAL QUALIFICATIONS :

- | | |
|--|---|
| No formal qualifications _____ | A |
| Senior High School Qualifications (SC., UE., 6FC., Bursary etc.) _____ | B |
| Tertiary Qualifications (Degree, Diploma, Tchg Cert. etc.) _____ | C |
| Trade or specialist qualifications (eg. Music) _____ | D |

6. YOUR OCCUPATION : _____
If you are not currently in paid employment, then for which occupation or profession are you trained, qualified and/or experienced. _____

7. YOUR PAST HISTORY OF INVOLVEMENT WITH SCHOOLS :

I have never been on a school Council, Home and School
Committee, Parent Teacher body etc._____ A

I have been on a school Council, Home and School
Committee, Parent Teacher body , but not at this school_____ B

I have been a Committee member at this school_____ C

21. WHAT FACTORS IN YOUR BACKGROUND AND EXPERIENCE DO
YOU BELIEVE WILL HELP YOU IN YOUR ROLE AS A TRUSTEE ?

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE.

Over the past 5 months you have been involved in a Values and Role Clarification exercise, which is referred to below as "the exercise". This exercise involved identifying your values and ways of behaving, forming these into a "cognitive map" and drawing up a combined depiction of these cognitive maps which were finally incorporated into a "Policy for Action" document.

The following questions relate to this exercise.

1. How satisfied are you with the outcome of the exercise ?

Very unsatisfied 1 2 3 4 5 6 7 Very satisfied
|-----|

2. To what extent do you accept the "Policy for Action" document that resulted from the exercise ?

I accept it totally 1 2 3 4 5 6 7 I do not accept it at
|-----| all

3. How valuable was the exercise for you personally ?

Very valuable 1 2 3 4 5 6 7 Not valuable at all.
|-----|

4. How valuable do you think the exercise has been for the group as a whole ?

Very valuable 1 2 3 4 5 6 7 Not valuable at all.
|-----|

5. To what extent did you enjoy the exercise ?

Not enjoyable at all 1 2 3 4 5 6 7 Very enjoyable
|-----|

6. How successful has the exercise been ?

Very unsuccessful 1 2 3 4 5 6 7 Very successful
|-----|

7. How valid is the "policy for Action" in expressing your views ?

It is a very accurate 1 2 3 4 5 6 7 It is not an
expression of my |-----| accurate expression
views of my views

8. How valid was your personal cognitive map in expressing your views ?

It is a very accurate 1 2 3 4 5 6 7 It is not an
expression of my |-----| accurate expression
views. of my views

8. Please use the space below to make any comments about the exercise, the procedures used, or the outcomes of the exercise.

APPENDIX III.1.2

REPERTORY GRID FORM

Way in which the third is different "contrast pole"										
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩
1 2 3 4 5 6 7 Prickly	3	6	0	5	7	5	2	11	2	2
1 2 3 4 5 6 7		○		○					○	
1 2 3 4 5 6 7			○		○			○		
1 2 3 4 5 6 7	○	○				○				
1 2 3 4 5 6 7			○	○						○
1 2 3 4 5 6 7							○	○	○	
1 2 3 4 5 6 7		○			○					○
1 2 3 4 5 6 7	○			○				○		
1 2 3 4 5 6 7						○	○			○
1 2 3 4 5 6 7					○	○			○	
1 2 3 4 5 6 7	○		○				○			

APPENDIX III.1.3

VALUE LADDERING AND ACT LADDERING FORM

NAME : _____ LADDERING

VALUE
LADD-
ERING

↑

↑

↑

↑

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#

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↓

↓

ACT
LADD-
ERING

↓

↓

↓

APPENDIX III.2

BETWEEN GROUPS ANOVA SUMMARY TABLES

TABLE III.2.1

ANOVA SUMMARY TABLE OF BETWEEN GROUPS DIFFERENCES IN
PRE-TEST RATINGS OF BOARD OF TRUSTEES LEVEL OF
DIRECTEDNESS TOWARDS CLEARLY DEFINED GOALS.

StatWorks Data ANOVA Table Mon, Feb 19, 1990 8:13 PM

Data File: UntitledData

Source	Sum of Squares	Deg. of Freedom	Mean Squares	F-Ratio	Prob>F
Between GROUP	15.04	2	7.52	5.10	0.019
Error	23.60	16	1.47		
Total	38.63	18			

TABLE III.2.2

ANOVA SUMMARY TABLE OF BETWEEN GROUPS DIFFERENCES IN
POST-TEST RATINGS OF BOARD OF TRUSTEES LEVEL OF
DIRECTEDNESS TOWARDS CLEARLY DEFINED GOALS.

StatWorks Data ANOVA Table Mon, Feb 19, 1990 8:23 PM

Data File: UntitledData

Source	Sum of Squares	Deg. of Freedom	Mean Squares	F-Ratio	Prob>F
Between GROUP	18.37	2	9.18	9.04	0.003
Error	16.26	16	1.02		
Total	34.63	18			

TABLE III.2.3

**ANOVA SUMMARY TABLE OF BETWEEN GROUPS POST-TEST
RATINGS OF BOARD OF TRUSTEES LEVEL OF PERCEIVED
AGREEMENT.**

StatWorks Data ANOVA Table Mon, Feb 19, 1990 8:26 PM

Data File: UntitledData

Source	Sum of Squares	Deg. of Freedom	Mean Squares	F-Ratio	Prob>F
Between GROUP	4.66	2	2.33	5.31	0.017
Error	7.62	16	0.44		
Total	11.68	18			

TABLE III.2.4

**ANOVA SUMMARY TABLE OF BETWEEN GROUPS POST-TEST
RATINGS OF BOARD OF TRUSTEES FEELINGS THAT THEIR BOARD
MEMBERS HELD SIMILAR BELIEFS AND VALUES TO ONE ANOTHER.**

StatWorks Data ANOVA Table Mon, Feb 19, 1990 8:33 PM

Data File: UntitledData

Source	Sum of Squares	Deg. of Freedom	Mean Squares	F-Ratio	Prob>F
Between GROUP	20.47	2	10.24	8.08	0.004
Error	20.26	16	1.27		
Total	40.74	18			

TABLE III.2.5

ANOVA SUMMARY TABLE OF BETWEEN GROUPS POST-TEST
RATINGS OF BOARD OF TRUSTEES CLARITY ABOUT THEIR ROLE AS A
BOARD.

StatWorks Data ANOVA Table Mon, Feb 19, 1990 8:38 PM

Data File: UntitledData

Source	Sum of Squares	Deg. of Freedom	Mean Squares	F-Ratio	Prob>F
Between GROUP	3.22	2	4.11	4.14	0.035
Error	15.88	16	0.99		
Total	24.11	18			

TABLE III.2.6

ANOVA SUMMARY TABLE OF BETWEEN GROUPS POST-TEST
RATINGS OF INDIVIDUAL BOARD MEMBERS CLARITY ABOUT THEIR
ROLE AS A TRUSTEE

StatWorks Data ANOVA Table Mon, Feb 19, 1990 8:42 PM

Data File: UntitledData

Source	Sum of Squares	Deg. of Freedom	Mean Squares	F-Ratio	Prob>F
Between GROUP	3.23	2	4.12	4.64	0.025
Error	14.19	16	0.89		
Total	22.42	18			

TABLE III.2.7

ANOVA SUMMARY TABLE OF BETWEEN GROUPS POST-TEST RATINGS OF BOARD OF THE EXTENT TO WHICH TRUSTEES INDIVIDUALLY FELT THEIR BELIEFS AND VALUES WERE SIMILAR TO THOSE OF OTHER TRUSTEES ON THIER BOARD.

StatWorks Data ANOVA Table Mon, Feb 19, 1990 8:50 PM

Data File: UntitledData

Source	Sum of Squares	Deg. of Freedom	Mean Squares	F-Ratio	Prob>F
Between GROUP	8.36	2	4.18	3.64	0.049
Error	18.38	16	1.15		
Total	26.74	18			

APPENDIX III.3

COMMONALITY OF CONSTRUCTS.

"COMMONALITY SCORE" IS THE NUMBER OF GROUP MEMBERS WHO PRODUCED THE CONSTRUCT. "HEIRARCHY LEVEL" DEPICTS THE PREDOMINANT LEVEL OF SUPERORDINACY OF THE CONSTRUCT ON COGNITIVE MAPS, WHEREBY, "VALUE " MEANS LADDER APEX OR SUPERORDINATE CONSTRUCT, "CONSTRUCT" MEANS REP. TEST AND VALUE LADDER ELICITED CONSTRUCT AND "ACT" MEANS ACT LADDER ELICITED CONSTRUCT.

RANK	CONSTRUCT	COMMONALITY SCORE	HEIRARCHY LEVEL
1	GOAL ORIENTATION	7	VALUE/CONSTRUCT
2	INVOLVEMENT	7	CONSTRUCT/ACT
3	FUTURE ORIENTATION	6	VALUE/CONSTRUCT
4	"PARAMOUNT IMPORTANCE OF CHILDREN'S NEEDS"	4	VALUE
5	BENEFIT CHILDREN	4	CONSTRUCT
6	COMMITTMENT	4	CONSTRUCT
7	SCHOOL ORIENTATION	4	CONSTRUCT
8	MUTUAL UNDERSTANDING	4	CONSTRUCT
9	KNOW THE CHILDREN (INTERACTION)	4	CONSTRUCT/ACT
10	CARING	3	VALUE
11	ACHIEVEMENT	3	CONSTRUCT
12	ACTION	3	CONSTRUCT
13	CHANGE ORIENTATION	3	CONSTRUCT
14	CHILDREN ORIENTATION	3	CONSTRUCT
15	COMMUNITY ORIENTATION	3	CONSTRUCT
16	PEOPLE DEVELOPMENT	3	CONSTRUCT
17	IMPORTANCE	3	CONSTRUCT
18	DEVELOPING STRENGTHS	3	CONSTRUCT
19	SUPPORTIVENESS	3	CONSTRUCT
20	FINANCIAL MANAGEMENT	3	ACT
21	FUNDRAISING	3	ACT
22	MEETINGS	3	ACT
23	ACQUAINTANCE WITH PARENTS	3	ACT
24	RESOURCE & FACILITY MANAGEMENT	3	ACT
25	TRUST & RELIABILITY	3	VALUE
26	SELF ESTEEM	2	VALUE
27	RESOURCE AVAILABILITY	2	CONSTRUCT
28	BENEFIT OTHERS	2	CONSTRUCT
29	BOT AFFAIRS	2	CONSTRUCT
30	CLASSROOM ACTIVITY	2	CONSTRUCT/ACT
31	COMPLETEDNESS	2	CONSTRUCT
32	SENSE OF DIRECTION	2	CONSTRUCT
33	EFFICIENCY	2	CONSTRUCT
34	ORGANISE OTHERS	2	CONSTRUCT
35	ROLE MODELS	2	CONSTRUCT
36	STRESS/PRESSURE	2	CONSTRUCT
37	THOROUGHNESS	2	CONSTRUCT
38	UNITY	2	CONSTRUCT
39	GENERALITY	2	CONSTRUCT

APPENDIX III.3 continued.

RANK	CONSTRUCT	COMMONALITY SCORE	HEIRARCHY LEVEL
40	IMMEDIACY	2	CONSTRUCT
41	PUBLIC RELATIONS	2	CONSTRUCT
42	SHARING	2	VALUE/CONSTRUCT
43	BROADEN CHILDREN	2	CONSTRUCT
44	BOT PRECURSOR MATERIAL	2	ACT
45	BUDGET CONTROL	2	ACT
46	PARENT COMMUNICATION	2	ACT
47	CONTRIBUTIONS/CONTACTS	2	ACT
48	GATHERING IDEAS	2	ACT
49	OUTWARD INFORMATION	2	ACT
50	INWARD INFORMATION	2	ACT
51	INTERESTS	2	ACT
52	LISTEN TO PEOPLE	2	ACT
53	MORNING TEAS	2	ACT
54	NEWSLETTERS	2	ACT
55	OPINIONS OF TRUSTEES	2	ACT
56	PARENTS PRESENCE AT SCHOOL	2	ACT
57	TEACHING "TEAM"	2	ACT
58	TEACHER TRAINING	2	ACT
59	SCHOOL TRIPS	2	ACT

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