Chapter Seven: Management Training Sessions with the Royal Hong Kong Police Force (Case Three)

7.1 Introduction

The third case has been undertaken with the Training Division of the Royal Hong Kong Police Force[1] (RHKPF). The first meeting took place in November 1996 and was followed by four more meetings in December 1996, March 1997, April 1997 and May, 1997. Each meeting lasted between 90 and 150 minutes and the composition of the group members was always completely different. The case forms part of a larger scheme of management training which police officers are required to undergo.

The RHKPF conducts a number of courses for its police officers throughout the year. These courses are at various levels (Junior, Intermediate, Senior), though the one we describe here is targeted at Junior Inspectors[2] in various branches of the RHKPF who have four to seven years experience at Inspector level. Approximately half of the officers on the course have a degree, whereas the others have either O-level or A-level academic qualifications. The Junior Command Course (JCC), of which this case is a part, covers a wide range of activities - both specific to the police and more general. 70% of the course is devoted to police-focused activities and 30% to more general management activities involving quality control, group dynamics, interpersonal skills and crisis management. A key objective of the JCC is to increase the officers' self-confidence. The specific purpose of this case within the larger framework of the training course is to provide hands-on experience with computer-based information systems as they can be related to police operations. Although the officers would not normally be involved in *decision making* in situations of the type we employed here, the issues are nonetheless familiar to them and relevant to their work.

A unique feature of this case is the impermanence of the meeting participants. It is usually the case with action research that the team members remain more or less constant over the duration of a series of meetings. Owing to the nature of the JCC, however, such constancy of membership would be impossible. This has

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[1] Since July 1st 1997 with the change of Hong Kong's sovereignty, the force has been renamed the Hong Kong Police Force.

obvious implications for data measurement, i.e. any improvements or deteriorations in meeting processes from meeting to meeting will not depend on the participants learning how to use the GSS or developing as a group. However, the facilitation style adopted can be informed by the data collected and consequently revised. Thus, this data feeds forwards into the planning and execution of the next action research cycle, while the knowledge gained by the facilitator on each occasion permits him to understand the context of the JCC meetings better and therefore improve his facilitation process support. Furthermore, data collected can be collated into feedback for the RHKPF, as input to its own training programmes in the future.

It is necessary to remind ourselves that one of the purposes of action research is to improve practice. Our clients in this case are the RHKPF and so our primary duty is to facilitate the meetings (action), observe and reflect upon the action, learn lessons from those observations and reflections, and apply the lessons in subsequent meetings. The knowledge gained through the case, nonetheless, is valuable to parties other than our clients - for example other police forces which may be considering using GSS for training purposes.

The RHKPF is currently in the process of implementing a far-reaching strategic plan that will invest $300M on IT over a five year period. The objective of this plan is to bring the force into the information age with all officers having a networked PC on their desk and appropriate systems to support the various functions necessary for police work. The initial contact with the police training division was made through a Detective Senior Inspector in the Computer Security Unit at an IT exhibition in the Hong Kong Convention and Exhibition Centre. This officer attended a hands-on demonstration of the GSS software with three of his colleagues. Although he was unable to introduce GSS to his own working environment due to the reticence of some workgroup members, he was able to recommend its usage to the training division.

All the meetings of the training teams took place on a Wednesday afternoon in the computer laboratories of the Department of Information Systems, City University of Hong Kong. With the exception of the fourth RHKPF team (see 7.6) which consisted of just one group, all the other teams consisted of two groups of officers. The group size varied between five and eight officers. These two groups

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[2] Although Junior Inspector is the formal title of the officers, we refer to them in this case as 'officers'

tackled separate problems (described in 7.2 below) for which they had not prepared, but they remained in one room. Each group had to analyse and discuss issues relevant to the problem, and try to produce a solution such as a plan of action. The officers were free to use any of the GSS tools available and they were supported in this by the researcher who explained how different tools could be used. However, in order to establish some basic similarity between the groups, all groups started off using the Categoriser tool before proceeding to use other tools such as the Group Outliner and Vote.

Not all of the officers had significant previous experience in using PCs, nor were they required to do so as a key element of their jobs. Three weeks before the first training session was to be held, the training officer visited the Information Systems Department to see the environment where the training would take place for a 'guided tour' of the software. At this time the forthcoming training session was discussed in detail. Operational details, such as how much time would be allocated to each stage of the discussion process and how the discussion would be managed were discussed but not finalised at this point. The training officer preferred such details to be *ad hoc*, i.e. they should be decided upon at the time and not in advance. Different groups would naturally have differing characteristics and should therefore not be force-fitted into a pre-set mould. The training officer was, furthermore, fully prepared to leave operational matters in the hands of the researcher.

7.2 Problems Used in the Case

The background to and relevance of the problems are introduced here. How they were actually used will be described in later sections. The researcher initially proposed two topics for discussion by the officers, which the training officer approved (see 7.2.2 and 7.2.3). The first of these problems (see 7.2.2) was used on one occasion only for reasons that will be explained in 7.3.3. A third topic (7.2.4) was developed later. The training officer intentionally backed away from problem development as he felt that the researcher, who knew the GSS software better and had more experience of facilitating meetings, would be in a better position to devise appropriate problems. Nonetheless, the researcher informed the training officer in advance of each meeting about the problems that would be used.

for the sake of simplicity. Their trainer is always referred to as a 'training officer'.

In addition to the main problem, a simple demonstration problem (see 7.2.1) was used as a warm-up exercise to familiarise the team members with the GSS technology. As we have noted, many of the officers did not have extensive PC experience and some reported that they actively avoided using a PC during their normal work. In the situations we describe here, they had no choice but to use the technology as it was a prescribed part of their course.

7.2.1 Demonstration Problem

The demonstration problem that was used for all groups asked the officers to list the places where they most preferred to go on holiday. As a very general subject, it was thought that this would not present any difficulties associated with idea generation. The Categoriser tool was used for this and the various aspects of this tool were progressively introduced - idea generation, commenting, categorising, comment numbering, inserting of ideas/comments before/after other ideas/comments. The demonstration session typically lasted ten to twenty minutes.

7.2.2 March for Democracy

This problem was developed because it was believed that it was topical, realistic and relevant. Democracy is a relatively new concept in Hong Kong, yet people have become used to the idea of marches and demonstrations on the street calling for various actions from various parties. At the time when the problem was devised, the issue of democracy was a popular topic for discussion as the Provisional Legislature (to replace the Legislative Council on the resumption of sovereignty by China) was in the process of being 'elected'. The relevance of the problem to the officers lay in the fact that the police have the responsibility of escorting marches and ensuring their orderly progress. They also have the authority to stop a march, particularly if it either gets out of hand or has not been cleared in advance. The text of the problem, as given to the officers, was as follows:

> The April 5th Group wants to hold a march for democracy
> on July 2nd 1997. How will the Police/HK Government
> handle the march if it goes ahead?.

7.2.3 Vietnamese Refugees

The second problem concerned the Vietnamese refugees (VNRs) who have migrated to Hong Kong since the end of the Vietnam war in 1975. Although the number of refugees present in Hong Kong in 1996-97 was far below the record levels experienced in the late 1980s when there were close to 60,000 in the territory, public concern about the issue has always been strong. Occasional breakouts of the refugees from the camps where they are housed are well publicised in the local mass media and attract considerable attention. Although the refugee camps were managed by the Correctional Services Department (CSD) of the Hong Kong Government, the RHKPF was called in from time to time to assist the CSD, particularly when refugees were transferred to different camps or during repatriation operations. The issue was further complicated by the fact that the process of repatriating the refugees to Vietnam had been fraught with difficulties, not the least of which was the fact that China insisted that all refugees should leave Hong Kong before Hong Kong reverted to Chinese sovereignty. China lay the responsibility for the refugee problem squarely with the British Administration of Hong Kong which operated a 'port of first asylum' policy, i.e. permitting refugees to seek temporary refuge while applications for political asylum were processed. Yet another complication arose in the identity of the refugees, some of whom Vietnam claimed to be actually Chinese, but of Vietnamese descent, or vice-versa. The nationalities of these refugees was further complicated by the refugees themselves claiming variously to be of Chinese, Vietnamese, American and Taiwanese nationality. These then were the relevant issues that confronted the police officers who had to tackle this problem. In the first team (November, 1996), the text, as presented to the officers, ran as follows:

> The Hong Kong Government has to repatriate 12,000
> Vietnamese refugees by February 1st, 1997. Agreement
> has been reached with the Vietnamese government for
> this action. How should the police handle this action?

In the second team, for reasons that are explained in 7.4.1 below, the text was amended to:

> 12,000 Vietnamese Refugees have to be returned to Vietnam by February 1st, 1997. Agreement has been reached with the Government of Vietnam for this to happen.
>
> Your task is to discuss how this process should operate in reality, what constraints or implications for manpower or resources are involved and so on. You should attempt to come up with a plan of action.

In the third, fourth and fifth teams, the text was modified again, (as explained in 7.5.1 below) to read:

> 10,000 Vietnamese Refugees have to be returned to Vietnam by June 30th, 1997. Agreement has been reached with the Government of Vietnam for this to happen.
>
> Your task is to discuss how this process should operate in reality, what constraints or implications for manpower or resources are involved and so on. You should attempt to come up with a plan of action.

7.2.4 CD Piracy

The third problem that was used concerns the issue of CD piracy. The infringement of Intellectual Property Rights (IPR) has, in recent years, dogged the trade relations between the USA and China. The vast majority of these infringements relate to pirated musical and computer software compact disks (CDs). Generally these violations of IPR are perceived to take place in China at specialised CD pressing plants. The finished disks are then transported to various markets - both inside and outside China. A recent study of this trade observed that, according to statistics produced by the Business Software Alliance (BSA) (an affiliation of software

producers fighting to protect their IPR), 98% of all software used in China was pirated (with an estimated loss in revenue of US$500M), whereas in Hong Kong the figure was 62% (loss in revenue estimated at US$100M)(Ho, 1995). The pirated disks generally sell for prices considerably lower than legal copies - indeed it is reputed that it is possible to buy all the computer software that Microsoft has ever produced on a few CDs for the cost of the CDs and a profit mark-up.

The attitude of the public towards music and software piracy is not, generally speaking, one that the BSA would like. The prevailing attitude in Hong Kong (as well as in China) is of widespread resistance to proper adherence to the copyright laws. This relates in part to historical and cultural characteristics. Confucian thought has had a very strong impact on the 'learning through copying' paradigm of education that is still popular today and is reinforced through a spoon-feeding primary and secondary education system: school pupils are required, from an early age, to know the 'right' and 'wrong' answers, rather than thinking creatively about possible solutions to a problem (Ho, 1995). This copying applied to many aspects of life and so "the copying of works of almost any kind has for centuries been regarded as honourable and necessary" (Wingrove, 1995, p.6). Altback (1988, p.62), meanwhile, observes that some non-western nations traditionally believe that copyright "is a Western concept which was created to maintain a monopoly over the distribution and production of knowledge and knowledge-based products". Furthermore, whereas IPR seems to relate to individual benefits and the protection of individuals, group protection is more of the norm in Confucian cultures, hence laws that primarily recognise the importance of the individual, whether of creativity or originality, may be seen as foreign in some quarters.

Yet another factor relates to the actual cost of software and the quality of after sales service available in Hong Kong. The computer software buying public in particular complain that the prices of software in Hong Kong are higher than in other countries, for example the USA, and the quality of after sales services is significantly poorer - a toll free number in the USA is not free for a Hong Kong user. This attitude is prevalent and hence does not endear the software producers to the software users. Although no attempt was made to establish the veracity of the matter, it is not unlikely that police officers themselves, if they are PC owners, may have copies of copyright-violating software. Thus, the pattern of using pirated software is not confined to a small, rebellious section of the population but is widespread.

The sole responsibility for combating software piracy in Hong Kong lies with the Customs & Excise Department of the Hong Kong Government since the matter relates to the illegal importation of goods. However, the Customs & Excise Department and the RHKPF can be considered sister organisations in their fight against crime and hence can be expected to co-operate. Moreover, some Customs & Excise officers are seconded to the RHKPF, some attending the courses with the officers in this case. The CD piracy problem, as given to the officers, was as follows:

> Hong Kong has recently experienced an upsurge in the smuggling of illegally copied CDs from China. The Hong Kong Government, under pressure from business groups and overseas governments has vowed to crack down on this trade and bring the smugglers to court.

> Devise a policy for attacking this illegal trade - both in terms of cross-border smuggling and the retailing of the CDs on the streets. You should aim to come up with a plan of action as a solution. You should consider all resource implications likely to arise, as well as any other complications.

7.3 The First RHKPF Team

7.3.1 Execution of the Case and Researcher Observations

Both groups of officers were initially given minimal *content* instruction beyond the task itself as described in 7.2. They were also left alone to get on with the discussion process. Both groups started their discussions at the same time. They were given a ten minute hands-on demonstration of how to use the GSS software before the main problems were introduced.

7.3.1.1 Group 1 - *Vietnamese Refugees*

This group consisted of four males and two females. The officers were left alone for twenty minutes of free idea generation using the Categoriser and minimal

instructions beyond those contained in the case itself. Then the training officer used the GSS to provide extra information as follows:

> Government policy has changed: The government has decided to adopt a more radical policy of forced repatriation in future. Flights will occur on a daily basis and 300 VNRs will be flown back on each flight. Force will be used if necessary. Sufficient aeroplanes have been acquired for this purpose from Continental Airlines.

The purpose of this extra information was to inject new and complicating factors into the discussion, while also attempting to guide the discussion process. At the end of forty minutes, some 24 ideas and 87 comments had been produced by Group 1. At this time, the training officer stopped the electronic discussion and used a whiteboard to go over the information and ideas they had generated so far. He indicated that they needed to come up with a solution, not just discuss the issues. He suggested that they use the Categoriser tool in a more focused way so as to generate components for a Plan of Action. They first talked among themselves for fifteen minutes, then returned to their PCs and used the Categoriser tool for a further fifteen minutes to generate twenty items and seven comments on components for the Plan of Action. Then the researcher transferred these twenty items to the Vote tool so that they could be evaluated. The officers were instructed to assess the items using a 1-10 scale, considering for each item how important a component of the overall plan it should be. A score of one indicated that the item was of little importance whereas a ten was of maximum importance. At the end of this evaluation, the training officer announced that the session was finished. He explained that the final solution was necessarily a matter for further fine tuning work and the production of a document that would draw upon the various ideas and comments generated, as well as the evaluation of those ideas. However, time precluded this activity. The final activity for the Group was to complete a debriefing questionnaire, also electronically[3], which asked them about their perceptions of the

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[3] All questionnaire data was collected using GroupSystems' Survey tool in this case.

meeting process. We discuss their responses to this questionnaire in detail in 7.3.4 below.

7.3.1.2 Group 2 - *March for Democracy.*

This group consisted of three males and two females. The officers in this group were also left alone for twenty minutes of free idea generation and no instructions beyond what was contained in the task itself. Then the training officer used the GSS to provide extra information as follows:

> The Government has now decided that the previous
> policy of permitting marches is no longer viable. All future
> marches that are not pro-China will be banned.
> Newspaper Editors have been briefed by the NCNA[4] to
> the effect that compliance with this policy is mandatory.

Unlike Group 1 which experienced no major difficulties in discussing their task, Group 2 seemed to experience considerable problems and so was given a full hour to discuss the ideas before they were stopped, i.e. while the training officer was talking with Group 1, Group 2 was continuing to thrash out the ideas. In that hour they produced 25 ideas and 47 comments. We discuss their difficulties in 7.3.4 below.

After one hour, the training officer conducted the same procedure as with Group 1. He helped them to analyse the problems using a whiteboard and so came to realise the difficulty of the problem. In order to ease the difficulties of Group 2, he then came up with a partial solution himself, in the form of extra information:

> The Commissioner of Police has received permission
> from Beijing for the march to go ahead with certain
> conditions attached and with the personal responsibility
> for its orderly and not anti-Chinese progress.

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[4] The NCNA (New China News Agency - XinHua), was China's *de facto* embassy in Hong Kong prior to July 1st, 1997.

In addition, certain rules for conduct would need to be drawn up and it was these rules that Group 2 now had to decide upon. Group 2 was given a further fifteen minutes to discuss these rules and they came up with eight, as well as twenty five supporting comments. They evaluated these eight rules using the same procedure as Group 1, i.e. a 1-10 scale indicating the relative importance of each rule. At the end of the evaluation, Group 2 was complete and the training officer wound up their discussion. Group 2 then also completed a debriefing questionnaire.

7.3.2 Feedback from the Officers

Many comments that the officers made related to their use of the software. Some officers were impressed with the ability of the software to permit all of them to participate simultaneously. They felt that the discussions were more interesting as more ideas could be generated in a short space of time. However, more opportunities to practise using the software in their workplace would produce better results. On the other hand, a number of complaints were also received, mostly focusing on the unfamiliar interface. It appeared that these officers do not habitually use PCs during their work and hence some found using the mouse clumsy. It was also observed that officers whose typing skills are quicker than those of others will be able to input more information and so exert a greater influence on the direction of the discussion. One officer commented that some others appeared not to understand the difference between ideas and comments. This meant that comments were put in as ideas, which confused the process and made it difficult for others to respond.

7.3.3 Feedback from the Training Officer

The training officer was very pleased with the amount of interaction he had been able to stimulate. He suggested, however, that the complexity of the *March for Democracy* task was probably too great. Despite this, he thought that the thinking (and perhaps soul searching) that it would have required were very valuable activities in their own right. Overall, he was very well satisfied with the process and was confident that significant lessons could be learned from this case that could be applied to future sessions. He also committed himself to a future session several weeks later with a different group of officers.

7.3.4 Lessons Learned and Reflections

Several important lessons come from this case, relating to training, task selection and facilitation management, amongst others. Clearly some participants had difficulty using the software, if for various reasons. Such difficulties can only hinder the group collaboration process and impoverish the usefulness of the sessions. It is therefore incumbent on the researcher(s) to ensure that all the group members have sufficient knowledge of how to use the software in order to be able to derive the maximum benefit from it. Equally, we must ensure that the participants are aware that they can ask for help from the researcher, either to understand how the software works, or so as to request the researcher to enable an extra process so as to help the group. This could minimise the occurrence of many interface-related difficulties.

In 7.1, we noted that the tasks developed were relevant in so far as typical police work was concerned. This relevance is important, but it does have implications for the personal involvement of the officers. The Hong Kong community would generally approve of returning all refugees to Vietnam, hence this is clearly an operational task which does not create many personal problems for the officers. However, the issue of democratic rights in a country that would shortly return to the sovereignty of a one-party state was politically and emotionally charged. The training officer speculated that the vested interests of the officers (as members of the community) in Group 2 might have influenced their discussion to a greater extent than in Group 1. Analysis of the ideas and comments generated by Group 2 would suggest that this is true - some comments are restricted to pure operational details of the plan. Other comments reflect issues that are peripheral to the *operational* nature of the task, e.g. the political sensitivities of the people who would like to march. As police officers, however, their job would be to obey orders from above whether or not those orders conflicted with their own sense of right and wrong.

At times, a task may be too complex to solve within the relatively short time available, for example if there are multiple and conflicting vested interests. If the intention of the training officer is simply to facilitate group, collaborative discussion, it may still be reasonable for a complex task to be set. If, on the other hand, some form of a solution is also required, then the task must be set at an appropriate level for the knowledge and ability of the participants.

From a facilitation management point of view, skills in crisis management are important. The progress of a group to solve a task may not run according to expectations, hence the value of ad hoc facilitation. The researcher and training officer must then be able to step in immediately with alternative processes and methods so as to ensure that the group stays on track and does not get sidelined.

The debriefing questionnaire completed by the officers provided useful information concerning their perceptions of the various processes and outcomes of the meeting. The summary data for Groups 1 and 2 is presented in Table 7.1.

Where the communication construct is concerned (items C1-C4), both groups disagreed that they experienced communication difficulties. Similarly, both groups expressed positive perceptions of the discussion quality construct, i.e. that the discussions had been meaningful, appropriate, open and imaginative. Where the efficiency construct is concerned, the data is less positive. Both groups held the result orientation of the meeting to be neutral, while they weakly agreed that the time had been efficiently used. Where the thorough discussion of ideas was concerned, Group 1 weakly disagreed and Group 2 weakly agreed - that it had been thorough. The percentage of time spent on serious discussion was rated at 60% and 45% for Groups 1 and 2 respectively.

For the status effects construct, both groups consistently disagreed that there were status related problems. Particularly strong was the disagreement with the notion that they had been intimidated by the other group members. Where the teamwork construct is concerned, both groups agreed that other team members were willing to answer questions, but only Group 1 felt that it had worked as a team and had sufficient information, Group 2 neither agreeing nor disagreeing with each item.

Both groups expressed comfort with the technology, but only Group 2 felt that the technology had facilitated their interaction. Both groups indicated that their members felt that they had played a useful role, but felt that only some consensus had been achieved, while Group 1 was weakly satisfied and Group 2 was neither satisfied or dissatisfied.

Table 7.1 Questions, Scales and Mean Scores for RHKPF Groups 1 and 2

Question	Ref	Scales	Group 1	Group 2
The language of the meeting prevented your participation	C1	1 Strongly Disagree; 5 Strongly Agree	2.2	2.0
You found it hard to understand others	C2	1 Strongly Disagree; 5 Strongly Agree	2.0	2.2
You experienced problems expressing yourself	C3	1 Strongly Disagree; 5 Strongly Agree	2.2	2.6
You were reluctant to put forward ideas	C4	1 Strongly Disagree; 5 Strongly Agree	2.5	1.4
The discussion was meaningful	D1	1 Very Meaningless; 5 Very Meaningful	3.8	3.6
The discussion was appropriate	D2	1 Very Inappropriate 5 Very Appropriate	4.0	3.4
The discussion was open or closed	D3	1 Very Closed; 5 Very Open	4.2	4.4
The discussion was imaginative or unimaginative	D4	1 Very Unimaginative; 5 Very Imaginative	3.7	3.8
To what extent was the meeting result oriented?	E1	1 Strongly Result Oriented; 5 Weakly RO	3.0	3.0
Time was used efficiently in the meeting	E2	1 Strongly Disagree; 5 Strongly Agree	3.3	3.2
The issues were discussed thoroughly in the meeting	E3	1 Strongly Disagree; 5 Strongly Agree	3.3	2.6
What percentage of time was devoted to serious discussion?	E4	0% - 100%	60	45
Other group members tried to intimidate you	S1	1 Strongly Disagree; 5 Strongly Agree	1.8	1.4
Other group members tried to influence you	S2	1 Strongly Disagree; 5 Strongly Agree	2.5	2.0
You felt inhibited by the behaviour of other group members	S3	1 Strongly Disagree; 5 Strongly Agree	2.7	2.0
You experienced pressure to conform	S4	1 Strongly Disagree; 5 Strongly Agree	2.7	2.2
Other group members were willing to answer questions	T1	1 Strongly Disagree; 5 Strongly Agree	3.8	3.6
Group members worked as a team	T2	1 Strongly Disagree; 5 Strongly Agree	3.5	3.0
You had access to the information you needed so as to participate	T3	1 Strongly Disagree; 5 Strongly Agree	3.8	3.0
You felt that you played a useful role	CR1	1 Strongly Disagree; 5 Strongly Agree	4.2	4.2
How would you rate your overall satisfaction?	CR2	1 Weakly Satisfied; 5 Strongly Satisfied	3.7	3.0
To what extent was consensus achieved?	CR3	1 Zero Consensus; 5 Total Consensus	3.7	3.2
Did you feel comfortable with the technology?	Tech 1	1 Very Uncomfortable; 5 Very Comfortable	3.7	3.8
Did the technology hinder or facilitate your participation?	Tech 2	1 Strongly Facilitated; 5 Strongly Hindered	3.0	2.2

The data described above is, for the most part, either neutral or positive. However, some issues needed to be addressed. The efficiency of the meeting could usefully be improved, particularly the degree of result orientation. This could be achieved by making the results or outcomes of the meeting more obvious - in the two groups described above, the end of the task was unsatisfactory in that there was no obvious solution or outcome achieved.

In terms of information provided, it would be possible to make a considerable amount of information available to the officers, but the training officer decided that he did not want them to read through a lot of information before attempting to tackle the problems. However, he was prepared to provide more on-line information to clarify issues. In order to enable the officers to gain greater benefits from the software, the attention paid to the training activity at the start of each meeting could be enhanced so as to ensure that they understood precisely how the software worked. Outcome measures such as satisfaction and consensus are believed impossible to affect directly, since they depend on the meeting processes. However, it was believed that better processes would result in improved outcomes as well.

7.4 The Second RHKPF Team

7.4.1 Planning for the Training Sessions

Planning for the second set of sessions was primarily the job of the researcher. The TO was satisfied with the conduct of the first set and therefore only wanted the second set to proceed in the same way. The researcher, however, learning lessons from the first set, identified a number of key areas for planning improvements, notably: training and selection of task. In consequence, more effort was paid to the training aspect - officers were informed explicitly of the differences between *idea* and *comment* in the Categoriser tool, as well as introduced to some of the finer points of idea and comment generation, such as spell checking and insertion locations - before or after a highlighted idea or comment; or appending to a list of ideas or comments.

In view of the difficulties encountered with the *March for Democracy* problem, the training officer asked the researcher to select an alternative topic that would be easier for the participants to discuss. Accordingly, the researcher developed a topic

related to CD piracy in Hong Kong (see 7.2.4). In addition, the *Vietnamese Refugees* task (see 7.2.3) was rephrased and extended to improve comprehension by the officers.

Another aspect of the planning concerns software reliability. In previous sessions it had been found that the software tended to become unstable after some time. Consultation with Ventana Corporation revealed two key software set-up problems (the size of the permanent swap file and the need for each PC to have a unique station name). Once identified, it was possible to fix these problems with no great difficulty.

7.4.2 Execution of the Case and Researcher Observations

The officers were randomly divided into one group of six and one group of five participants. They were given a ten minute training session on how to use the GSS software, especially the Categoriser tool, paying special attention to the purpose of the different features of the tool. The officers were questioned that they understood how the tool worked and were also requested to ask questions of the researcher at any time if they got stuck, accidentally logged out, etc. They were also informed that it was not compulsory for them to use the GSS as a sole means of communication, i.e. they could talk to each other, or use a whiteboard, as well.

Unlike the previous session, the training officer took a much more active role in the discussions. Rather than leaving the officers to generate ideas unimpeded, he actively monitored the discussions. Two terminals were set up for him so that he could easily observe the two sets of discussion processes side by side. He could also use these terminals so as to enter information. He quickly explained, verbally, to both groups, that he would type in uppercase when submitting his input so that they would know that it was him. This was not so as to influence the group, since he would not be submitting opinions. His job was to represent the views of the Hong Kong, Vietnamese and PRC governments, as appropriate to the two problems, i.e. as if he was an information officer. He used this information provision tactic frequently in the early stages of the meeting, clarifying points for the groups. He also provided additional information relating to changes in government policy, actions being taken by protest groups, and information provided by other governments, such as the PRC not permitting refugees to be transferred to Vietnam overland and the PRC government planning to execute CD pirates caught in China in future.

7.4.2.1 Group 3 - *Vietnamese Refugees*

This group consisted of six males. After one hour of discussion, 39 ideas and 74 supporting comments had been produced. At this time, the officers were stopped and the training officer sat down with them for a twenty-minute discussion on their progress so far. He used a whiteboard to look at the logistics of their discussions and attempted to draw them out on issues they had not yet discussed. They then verbally discussed the issues by themselves for a further twenty minutes, occasionally referring to their previous ideas and comments in the GSS.

Following this, the researcher transferred the 39 items they had generated previously to the Vote tool where they spent fifteen minutes assessing the relative importance of those ideas for the action plan. As in previous groups, they used a 1-10 scale for this evaluation. When the evaluation was complete, the results were displayed to the group. The top twelve issues (which achieved mean scores of 8.00 or above) were selected as those on which most agreement had been reached and therefore most likely to be key components of the action plan. Each member of the group was then allocated two of the twelve issues and instructed to summarise the discussion and comments relating to those two ideas using the Categoriser tool. This activity, which lasted twenty minutes, had the makings of an electronic group authoring process. However, the end of this activity saw the end of the session, the officers completing the debriefing questionnaire asking about their views on the meeting processes.

7.4.2.2 Group 4 - *CD Piracy*

This group consisted of three males and two females. They too used the Categoriser initially for one hour and in that time generated 41 ideas and 43 comments. Many of the ideas were 'empty', i.e. had no comments attached. After one hour, the group was stopped and the officers started discussing how to proceed with an action plan. This group had fewer ideas than Group 3 and also seemed less able to reach any conclusions. They queried how to use the software appropriately and wondered whether talking was permitted or not. They were reassured that talking was perfectly acceptable, and that they should use the software tool if it was beneficial to them. After fifteen minutes of verbal discussion, the researcher joined this group and helped them to develop an action plan. At this time the training officer was busy talking to Group 3 and he suggested that the researcher look after Group 4. The

researcher suggested that the members try to evaluate the relative importance to an action plan of the ideas they had generated thus far. They agreed to this and used the Vote tool to do so. This evaluation, and an examination of the results, took a further fifteen minutes. Finally they took the ten items that scored highest (mean scores of 7.5 and above) and spent fifteen minutes summarising two items each, using the Categoriser. Finally they completed the debriefing questionnaire.

7.4.3 Feedback from the Officers and the Training Officer

A detailed discussion was held with the officers after the end of the session. They appeared to be fascinated with the technology and its ability to enable information sharing and simultaneous participation. The large number of ideas generated quickly made the discussion more interesting. However, they also felt that there was a lack of focus in their discussions, especially in later stages of the session where they really needed to produce a solution. Furthermore, the fact that they had not been able to prepare for the task in advance, the small amount of time available, and their lack of experience in using the software prevented them from making a really good job of the task. A few officers expressed unhappiness with the interface observing that those with faster typing and assimilation skills could input more information and so exert a greater influence on the direction of the discussion. One officer noted that some others seemed not to understand the difference between ideas and comments in the Categoriser tool and this caused confusion at times, with information misplaced. Overall, however, they were able to identify scenarios in their own work where they could make good use of the GSS and expressed interest in participating in further sessions.

The training officer was again very satisfied with the progress made and with the new CD piracy task.

7.4.4 Lessons Learned and Reflections

In this session, the need for the researcher to act as more than just a software chauffeur became apparent. It was not appropriate for him to rely on the training officer being able to manage both groups simultaneously - if anything, the *ad hoc* meeting management style adopted by the training officer made this impractical. This development in role for the researcher was not planned for or expected, but is a valuable lesson - the researcher must be flexible and adaptable to changing

circumstances. We noted that the problem of not understanding the difference between idea and comment would need closer attention. The situation where there are as many ideas as comments, and many of those ideas are 'empty', is not a desirable one in so far as task solving is concerned - it means that the whole discussion is too shallow and more oriented towards breadth rather than depth.

Analysis of the data shows that while some improvements over the first pair of meetings in key areas were achieved, there were also deteriorations. The summary data from Groups 3 and 4 is presented in Table 7.2 below.

Group 3 expressed no problems with communication processes and found the discussion quality to be good. Status related issues were not perceived to be problematic and teamwork issues received weakly positive scores. Group 4 had more equivocal scores for the communication construct, indicating agreement with "you experienced problems in expressing yourself" and ambivalence with "you experienced problems in understanding others". The discussion quality scores, however, show that the group perceived it had meaningful, appropriate, open and imaginative discussions.

As in Group 3, the items of the teamwork construct received weakly positive scores. Where the status effects construct is concerned, the scores for Group 4 are less good, indicating that some intimidation, inhibition and influence from other group members was perceived.

Where efficiency is concerned, both groups indicated that the meeting was reasonably result oriented, a noticeable improvement from Groups 1 and 2. However, for the efficient use of time and the thoroughness of discussions, the scores range from weakly positive to weakly negative. Both groups expressed weak comfort with the technology, but only Group 3 felt that the technology had facilitated its discussions. While the members of both groups felt that they had played a useful role, where consensus and satisfaction were concerned, some improvement over Groups 1 and 2 was recorded, both groups scoring 4 out of 5 for satisfaction, and 3.4-3.7 for consensus.

Table 7.2 Questions, Scales and Mean Scores for RHKPF Groups 3 and 4

Question	Ref	Scales	Group 3	Group 4
The language of the meeting prevented your participation	C1	1 Strongly Disagree; 5 Strongly Agree	1.8	2.4
You found it hard to understand others	C2	1 Strongly Disagree; 5 Strongly Agree	2.3	3.0
You experienced problems expressing yourself	C3	1 Strongly Disagree; 5 Strongly Agree	2.7	3.4
You were reluctant to put forward ideas	C4	1 Strongly Disagree; 5 Strongly Agree	1.8	2.2
The discussion was meaningful	D1	1 Very Meaningless; 5 Very Meaningful	4.0	4.0
The discussion was appropriate	D2	1 Very Inappropriate 5 Very Appropriate	4.0	4.2
The discussion was open or closed	D3	1 Very Closed; 5 Very Open	4.0	4.0
The discussion was imaginative or unimaginative	D4	1 Very Unimaginative; 5 Very Imaginative	3.7	4.0
To what extent was the meeting result oriented?	E1	1 Strongly Result Oriented; 5 Weakly RO	2.2	2.6
Time was used efficiently in the meeting	E2	1 Strongly Disagree; 5 Strongly Agree	3.7	3.0
The issues were discussed thoroughly in the meeting	E3	1 Strongly Disagree; 5 Strongly Agree	3.0	2.6
What percentage of time was devoted to serious discussion?	E4	0% - 100%	50	52
Other group members tried to intimidate you	S1	1 Strongly Disagree; 5 Strongly Agree	1.8	3.2
Other group members tried to influence you	S2	1 Strongly Disagree; 5 Strongly Agree	1.7	3.4
You felt inhibited by the behaviour of other group members	S3	1 Strongly Disagree; 5 Strongly Agree	2.5	3.2
You experienced pressure to conform	S4	1 Strongly Disagree; 5 Strongly Agree	2.5	2.6
Other group members were willing to answer questions	T1	1 Strongly Disagree; 5 Strongly Agree	3.5	3.2
Group members worked as a team	T2	1 Strongly Disagree; 5 Strongly Agree	3.5	3.6
You had access to the information you needed so as to participate	T3	1 Strongly Disagree; 5 Strongly Agree	3.3	3.2
You felt that you played a useful role	CR1	1 Strongly Disagree; 5 Strongly Agree	3.7	4.0
How would you rate your overall satisfaction?	CR2	1 Weakly Satisfied; 5 Strongly Satisfied	4.0	4.0
To what extent was consensus achieved?	CR3	1 Zero Consensus; 5 Total Consensus	3.7	3.4
Did you feel comfortable with the technology?	Tech 1	1 Very Uncomfortable; 5 Very Comfortable	3.8	3.6
Did the technology hinder or facilitate your participation?	Tech 2	1 Strongly Facilitated; 5 Strongly Hindered	2.3	3.0

The information summarised above indicates that some of the issues we identified as needing improvement in the previous session have improved, viz. overall satisfaction, working as a team and the degree of result orientation in the meeting. In many other cases, there is little change, though we observe that Group 4 experienced some communication and status related difficulties. Although those difficulties are noted, we suspect that they might be unique to the group and therefore hard to resolve, the more so given that future meetings would have different members. Nonetheless, it is wise for the researcher to be on the lookout for difficulties of any kind and to try to intervene and control them if they do occur.

In general, the data we have collected indicates that the style of facilitation that we have adopted so far is 'on the right lines' and the improvements we describe above confirm this. Clearly more attention can be paid to the efficient use of time, as well as on the training of the officers to ensure that they can gain the maximum benefit from the software.

7.5 The Third RHKPF Team

7.5.1 Planning for the Training Sessions

The third set of sessions was held on March 5th, 1997. The previous training officer had recently resigned, and therefore a new training officer had been appointed. He was aware of the use of the GSS in the previous meetings and wanted to see for himself how it worked, but as he was unfamiliar with the processes, he decided to let the researcher organise the first of his meetings.

The set up of the third meeting was identical to the second, i.e. Group 5 tackled the *Vietnamese Refugees* problem, though the number of refugees was revised to 10,000 and the date by when they had to be repatriated to June 30th 1997, since some refugees had actually been repatriated since the previous meeting and February 1st had passed. Group 6 tackled the *CD Piracy* problem.

7.5.2 Execution of the Case and Researcher Observations

The participants were randomly divided into two groups, Group 5 with six males, and Group 6 with three males and three females. The officers were introduced to the GSS software and then participated in the hands-on demonstration with the

Categoriser tool. On this occasion, the researcher intentionally introduced first the idea generation (topics), then the comment generation and finally how to categorise ideas. This measured introduction was devised in response to the previous meeting where we found that the details of the software were still poorly understood. The training lasted about twenty minutes. It appeared that there was one person who was computer-phobic. He had initial problems, but seemed to be able to understand what was going on after a short time. After this, both groups were started simultaneously on their main task.

7.5.2.1 Group 5 - *Vietnamese Refugees*

The officers were left much to themselves for the first fifty five minutes. At the thirty minute point, the researcher turned on the 'show categories' function, so that they could try to create their own categories. He also enabled the training officer to edit his own comments. However, he accidentally permitted the whole group to edit comments. This meant that they could also delete comments. They used this new-found ability to remove comments/topics that they felt were redundant as they copied ideas to categories. When the researcher noticed that they were editing/deleting comments, he decided to remove this functionality due to the risk of accidental loss of the data. During the course of the idea generation, the training officer and, to a lesser extent the researcher, threw in some extra explanations to answer their questions, for example:

> Tai A Chau Detention Centre is in fact still operational.
> 5000 Refugees are still detained there. The remainder
> are in High Island.

> 8000 are voluntary. 2000 are not. Of this group, at least
> 1000 have threatened violent resistance when the time
> comes to move.

> You must decide upon manpower requirements and
> deployments.

The Airport Authority has stated that there is only one slot each day for a repatriation flight.

It seemed that the group had a good understanding of the task and was able to generate a lot of ideas. However, it also appeared that there was a lack of task focus. After fifty five minutes, eight categories, sixteen ideas and fifty comments had been generated. To help correct the lack of task focus, the researcher submitted a new category called "Operational Plan" and then added one idea to it calling for the participants to try to bring about some task focus, for example by creating components of an operational plan.

The researcher then talked to the group to get a measure of their problems and to explain in more detail why the new category had been created. The training officer requested that this explanation be given to both groups, but the researcher decided to give each group a separate explanation. The group explained that they had generated too many ideas and were having difficulties disentangling them all so as to reach an integrated solution. The researcher suggested that each person should try to come up with a number of solution components that could then be prioritised. They agreed to think about this. Shortly afterwards, the training officer started talking to the group. After some discussion he got them to agree to try to work out an operational plan. The researcher suggested that they use the Group Outliner tool so that they could have a more structured, hierarchical diagram of plan components. They approved of that idea, so the researcher moved the nine ideas and eleven comments they had created as components of the solution to the Group Outliner. They were also shown how to create ideas and use the sub-levels feature.

After twenty minutes, the group had created sixty one ideas, sub-ideas and comments in the Group Outliner tool (ten top level ideas, twelve second level ideas and thirty nine comments). The training officer first deleted nine of these that he deemed to be redundant, then asked that the remaining fifty two be moved to the Vote tool where the officers could prioritise them, again using a 1-10 importance scale. Fifteen of these items scored means of 8.00 or above. When all fifty two items had been evaluated, the results were explained to the group and the training session ended. At this point the usual debriefing questionnaire was completed.

7.5.2.2 Group 6 - *CD Piracy*

The officers were left much to themselves for the first fifty five minutes. At the thirty minute point, the researcher turned on the 'show categories' function, so that they could try to create their own categories. It seemed that the group had a good understanding of the task and was able to generate a lot of ideas. They did not run into difficulties that required extra information from the researcher or training officer. However, it also appeared that initially there was a lack of task focus. After one hour, it was observed that Group 6 had generated an operational plan idea and they were discussing electronically how to appoint a leader to control their group. After talking to Group 5 about solution components, the researcher transferred his attention to Group 6 for a similar discussion, though this group seemed to be better organised. They had generated fifteen categories, nineteen ideas and 104 comments and were copying items to the categories so as to organise their data.

Ten minutes later the researcher returned to Group 6 which had created twenty five components in their operational plan. The researcher transferred these items to the Vote where they were assessed with the 1-10 scale of importance. The meaning of the results was explained, particularly in terms of the generation of consensus, and the difference between individual votes and the mean vote of the group (the Z values). At this point the training officer decided that time was running too short and the process had to come to a close. The officers then completed the debriefing questionnaire.

7.5.3 Feedback from the Officers and the Training Officer

The officers in this session commented that they needed to appoint a researcher to manage the groups more effectively, and to use time efficiently. They found it hard to manage and control their task. They also appeared to be less familiar with PCs than some previous groups. They were not very happy with the impersonal nature of computer-supported discussions and felt that their ability to express ideas through a computer was restricted, quite apart from reaching agreement. In general, they would prefer a face-to-face discussion - it would feel more comfortable for them. Although the software was good for brainstorming, it was of less use in the later stages of the task where they had to try to come up with a solution. A problem that

relates to the operational use of the software is that the officers failed to see how this software might relate to their everyday work.

The training officer expressed satisfaction at the end of the meeting, but had no more detailed comments to make. Nonetheless, he committed himself to two more meetings in April and May.

7.5.4 Lessons Learned and Reflections

The feedback from this session's groups suggests that it is advisable to recommend that a leader of each group be appointed at the outset. It would also seem sensible to warn the officers in advance of the meeting that they will be expected to use a PC for the exercise - this form of psychological preparation may help them to adapt. It was observed that the groups had difficulty in reaching consensus. In order to overcome this, good task focus is essential as well as ensuring that the group realises it should aim to reach consensus. In practice, this means that the group cannot simply be left to its own devices, particularly if it is poorly organised. Apart from improving the training provided to the officers before they start the main task, it was noted that they would like to edit their own comments after posting. Whilst understandable, this might have repercussions in that comments can easily get deleted. In practice, it would be better if one could enable local editing, not global editing - i.e. the ability to edit only your own comments. This point was communicated to Ventana Corporation who replied that they would consider it for future versions of the software.

In so far as the efficient use of time is concerned, it seems advisable not to let the officers have so much time for initial idea generation. By speeding up the initial processes, it will be possible to include a group authoring activity at the end of the meeting which will round off the meeting more conclusively. Better control will also help if the researcher has to handle both groups simultaneously. The length of time that the officers take for each activity is not normally a problem in that they can be stopped at any time, except when they are evaluating ideas. In practice, it may be advisable to permit them to bypass items when evaluating as finding a single unevaluated item out of 52 was time taking and, interestingly, those who had already voted became quite frustrated with those who were taking their time. This observation is similar to that described by Nemeth and Kwan (1987) (see 2.3.3.1),

i.e. where a minority of group members delay the majority from reaching their goal - in this case, going home.

Analysis of the data collected by questionnaire (see Table 7.3 for the data scores) shows that while Group 6 generally had more positive perceptions of the meeting processes and outcomes than Group 5, neither group experienced problems of communication, discussion quality or status effects. Where efficiency was concerned, Group 6 gave positive scores to result orientation, the efficient use of time and the thorough discussion of issues.

Both groups felt that the group members had been willing to answer questions and weakly agreed that they had worked as a team, but while Group 6 agreed it had adequate access to information, Group 5 was neutral on this point. Group 6 felt comfortable with the technology and felt that it had weakly facilitated the interaction, while Group 5 was weakly negative on both counts. The members of both groups felt that they had played a useful role in their respective meetings and were weakly satisfied overall. Only Group 6 thought that it achieved a weak consensus, Group 5 remaining neutral.

The data confirm the suspicion expressed in 7.4.4 that Group 4's poorer communication and problems with status effects were a unique occurrence. They also confirm that the meeting processes are gradually improving, as too are the outcomes, from session to session. In some respects, however, notably the achievement of consensus, the measures of efficiency and the degree to which the software can facilitate the discussion processes, there are still improvements to be made.

We observe that the improvements achieved have coincided with a greater degree of researcher involvement in meetings. This involvement was intended to improve the structure of meetings and to assist the officers in undertaking their tasks. Through such actions, it was hoped that processes and outcomes would in consequence be improved, and the evidence to date supports this. Therefore, it is clear that we should continue to facilitate in this style, even enhancing it in future.

Table 7.3 Questions, Scales and Mean Scores for RHKPF Groups 5 and 6

Question	Ref	Scales	Group 5	Group 6
The language of the meeting prevented your participation	C1	1 Strongly Disagree; 5 Strongly Agree	2.7	1.8
You found it hard to understand others	C2	1 Strongly Disagree; 5 Strongly Agree	2.2	2.3
You experienced problems expressing yourself	C3	1 Strongly Disagree; 5 Strongly Agree	2.5	1.8
You were reluctant to put forward ideas	C4	1 Strongly Disagree; 5 Strongly Agree	2.0	1.8
The discussion was meaningful	D1	1 Very Meaningless; 5 Very Meaningful	4.0	4.0
The discussion was appropriate	D2	1 Very Inappropriate 5 Very Appropriate	3.7	3.8
The discussion was open or closed	D3	1 Very Closed; 5 Very Open	4.0	4.7
The discussion was imaginative or unimaginative	D4	1 Very Unimaginative; 5 Very Imaginative	3.8	3.5
To what extent was the meeting result oriented?	E1	1 Strongly Result Oriented; 5 Weakly RO	2.8	2.3
Time was used efficiently in the meeting	E2	1 Strongly Disagree; 5 Strongly Agree	2.3	3.5
The issues were discussed thoroughly in the meeting	E3	1 Strongly Disagree; 5 Strongly Agree	3.0	3.2
What percentage of time was devoted to serious discussion?	E4	0% - 100%	49	51
Other group members tried to intimidate you	S1	1 Strongly Disagree; 5 Strongly Agree	2.0	2.2
Other group members tried to influence you	S2	1 Strongly Disagree; 5 Strongly Agree	2.2	2.0
You felt inhibited by the behaviour of other group members	S3	1 Strongly Disagree; 5 Strongly Agree	2.3	2.3
You experienced pressure to conform	S4	1 Strongly Disagree; 5 Strongly Agree	1.8	2.0
Other group members were willing to answer questions	T1	1 Strongly Disagree; 5 Strongly Agree	3.8	4.2
Group members worked as a team	T2	1 Strongly Disagree; 5 Strongly Agree	3.0	3.2
You had access to the information you needed so as to participate	T3	1 Strongly Disagree; 5 Strongly Agree	3.0	3.5
You felt that you played a useful role	CR1	1 Strongly Disagree; 5 Strongly Agree	3.5	3.8
How would you rate your overall satisfaction?	CR2	1 Weakly Satisfied; 5 Strongly Satisfied	3.3	3.5
To what extent was consensus achieved?	CR3	1 Zero Consensus; 5 Total Consensus	3.0	3.3
Did you feel comfortable with the technology?	Tech 1	1 Very Uncomfortable; 5 Very Comfortable	2.8	4.0
Did the technology hinder or facilitate your participation?	Tech 2	1 Strongly Facilitated; 5 Strongly Hindered	3.3	2.8

7.6 The Fourth RHKPF Team

7.6.1 Planning for the Training Sessions

The fourth meeting took place on April 9th, 1997. The training officer advised in advance that he would be unable to come and that there would be only eight officers present. One of these officers would be working with the Customs & Excise Department. For these three reasons, it was decided to run only one large group, using the *CD Piracy* topic. Group 7 consisted of three females and five males.

The officers arrived on time at 14:00 and said that owing to their morning lecture finishing late, they had had to rush from Hong Kong island and so had had no time for lunch. They requested that there should be a break in the middle of the session for lunch, but this did not seem to be such a good idea as it would break up the proceedings too much. The researcher suggested, therefore, and they accepted, that they took their lunch break immediately and return to the laboratory by 14:30 for a later start.

As usual, it was planned that the demonstration problem should be used first. Extra care was taken to ensure that the officers would be familiar with the software before they started the main task. Prior to the meeting, the training officer was contacted by phone and asked about the seemingly critical issue of a nominated leader to organise a group. It was agreed that while it would be inappropriate to require a group to have a leader, the officers could be reminded that if they wanted to appoint one at any time, they were free to do so. In order to attempt to structure the meeting more and thereby enable more activities to be completed, the researcher created an agenda which he used to guide the progress of the task. This was not communicated to the officers since it was not thought to be advisable to give them the impression that they were following a pre-set course of action. In practice, the agenda was not intended to be a rigid structure and so deviation from it was always possible.

The researcher envisaged that following the demonstration task, the officers would spend around twenty minutes on initial discussion of relevant topics. The 'show categories' option would then be switched on and further development of ideas encouraged with categorisation as appropriate. After a further twenty minutes, the

officers would be advised to attempt to create a plan of action (if they had not already started to do so) and a category with this as the name would be created by the researcher. A further fifteen minutes later, the researcher would encourage the officers to prioritise the items they had created using the Vote tool. Following this evaluation and an explanation of the results, fifteen minutes could usefully be spent in group authoring with each officer summarising the previous discussion for two items - the top sixteen items from the Vote would be allocated in twos. It was expected that this whole process should take more or less two hours. Finally the officers would complete the debriefing questionnaire and there would still be some time left for informal post-session discussion.

7.6.2 Execution of the Case and Researcher Observations

As a result of the telephone conversation with the training officer, the following four points were emphasised before the session started: a) the computers do not have to be used for all communication but the intention is that they be used part of the time; b) if the officers wish to nominate a leader to manage their own activities, they may do so, but this is optional; c) the officers are free to ask the researcher for help on use of the software at any time; d) this help can include the structuring or discussion of new activities.

The session was started soon after 14:35 with the demonstration task. The Categoriser tool was used once again and introduced gradually - first just ideas, then comments, then comment numbers, then categories. This demonstration took twenty minutes.

7.6.2.1 Group 7 - *CD Piracy*

As planned the group was given twenty minutes of free idea generation. As in the previous sessions, the researcher (in the place of the training officer) provided extra information to the officers as the case proceeded. Two examples of this information are:

> Chinese Govt policy has changed - the death penalty will be applied to illegal CD pirates/manufacturers in the PRC.

> They are brought in by container truck - 100,000 per container.

After twenty minutes, the 'show categories' function was switched on - at this time there were 33 ideas and 51 comments. It had been observed that 26 ideas were created before the first comment came, and that first comment had to be verbally prompted by the researcher. At this point, many of the 33 ideas had no comments at all. Over the next ten minutes, many more comments were generated, but no categories were added. At the thirty minute mark, the researcher created a single new category - Action Plan - and added a single idea to it: "please list some components of the action plan to solve the problem". Five minutes later, the researcher explained the dangers of information overload and encouraged the officers to copy ideas to the action plan components category. This they did and when they completed this, the researcher copied all fourteen ideas to the Vote for a 1-10 importance assessment. When they completed the assessment, the results were explained and the top eight items were transferred to the Group Outliner so that they could undertake the Group Authoring. Finally they finished this earlier than expected at the eighty minute mark and started the electronic debriefing questionnaire.

7.6.3 Feedback from the Officers and the Training Officer

The officers expressed interest in the software as a form of new technology to get to grips with since they did not usually have the opportunity to use this form of software. They felt that the electronic generation of ideas was useful, but that it needed to be followed up by a face-to-face meeting where members could clarify the points they had made before. One officer commented that he was totally computer illiterate and therefore had no confidence that he would be able to use the software to get his message across to the other people. The officers also felt that it would be useful to identify some situations where this kind of software could be used. This was discussed, but in general the officers felt that the work they usually performed was not at the same level of management decision making as this kind of system seemed to be designed to facilitate.

Table 7.4 Questions, Scales and Mean Scores for RHKPF Group 7

Question	Ref	Scales	Group 7
The language of the meeting prevented your participation	C1	1 Strongly Disagree; 5 Strongly Agree	2.3
You found it hard to understand others	C2	1 Strongly Disagree; 5 Strongly Agree	1.9
You experienced problems expressing yourself	C3	1 Strongly Disagree; 5 Strongly Agree	2.4
You were reluctant to put forward ideas	C4	1 Strongly Disagree; 5 Strongly Agree	2.0
The discussion was meaningful	D1	1 Very Meaningless; 5 Very Meaningful	4.4
The discussion was appropriate	D2	1 Very Inappropriate 5 Very Appropriate	3.9
The discussion was open or closed	D3	1 Very Closed; 5 Very Open	4.0
The discussion was imaginative or unimaginative	D4	1 Very Unimaginative; 5 Very Imaginative	3.9
To what extent was the meeting result oriented?	E1	1 Strongly Result Oriented; 5 Weakly RO	2.8
Time was used efficiently in the meeting	E2	1 Strongly Disagree; 5 Strongly Agree	3.6
The issues were discussed thoroughly in the meeting	E3	1 Strongly Disagree; 5 Strongly Agree	3.4
What percentage of time was devoted to serious discussion?	E4	0% - 100%	41
Other group members tried to intimidate you	S1	1 Strongly Disagree; 5 Strongly Agree	1.9
Other group members tried to influence you	S2	1 Strongly Disagree; 5 Strongly Agree	2.1
You felt inhibited by the behaviour of other group members	S3	1 Strongly Disagree; 5 Strongly Agree	2.1
You experienced pressure to conform	S4	1 Strongly Disagree; 5 Strongly Agree	2.1
Other group members were willing to answer questions	T1	1 Strongly Disagree; 5 Strongly Agree	3.9
Group members worked as a team	T2	1 Strongly Disagree; 5 Strongly Agree	3.5
You had access to the information you needed so as to participate	T3	1 Strongly Disagree; 5 Strongly Agree	3.5
You felt that you played a useful role	CR1	1 Strongly Disagree; 5 Strongly Agree	4.1
How would you rate your overall satisfaction?	CR2	1 Weakly Satisfied; 5 Strongly Satisfied	4.5
To what extent was consensus achieved?	CR3	1 Zero Consensus; 5 Total Consensus	3.8
Did you feel comfortable with the technology?	Tech 1	1 Very Uncomfortable; 5 Very Comfortable	4.1
Did the technology hinder or facilitate your participation?	Tech 2	1 Strongly Facilitated; 5 Strongly Hindered	2.5

The training officer was not present at this meeting, so there was no direct feedback. However, he later commented that the officers had observed to him that they would like to see more relevance to their own working conditions. He was sympathetic to this view, but was also of the opinion that the experience they gained was valuable nonetheless.

7.6.4 Lessons Learned and Reflections

The key lesson learned from this group was that having an agenda set out in advance was advantageous so long as it did not have to be adhered to strictly. In practice the researcher did not specifically follow the agenda times, but attempted to gauge the most suitable time to make changes in the activities in progress. This process worked quite well, particularly with a single group as the researcher was able to concentrate on one set of activities at one time without being distracted by others.

The data collected from Group 7 is unequivocal as analysis of Table 7.4 indicates. On all items, a positive score was recorded including those where in previous groups neutral or negative opinions had been expressed. While it is tempting to attribute this apparent success to facilitation technique alone, the fact that there was only a single group probably contributed towards the success, as the researcher was free to devote more time to the group and its task. Despite this success, the percentage of time perceived as spent on serious discussion was rather low at 41% (previous groups had scores ranging from 45%-60%), suggesting that serious discussion alone does not necessarily imply success. Based on this analysis, it was decided to continue the structured facilitation style in the final session.

7.7 The Fifth RHKPF Team

7.7.1 Planning for the Training Sessions

The fifth and final meeting took place on May 8th, 1997. The training officer advised in advance that he would again be unable to attend, but that on this occasion there would be eleven officers present. In view of the larger number than in the previous session, it seemed inappropriate to use a single group. Therefore, the former pattern

of two parallel groups was used - Group 8 had five members and Group 9 had six. All officers in this session were male.

7.7.2 Execution of the Case and Researcher Observations

The execution followed the same pattern as in earlier sessions, except that the agenda that had been used successfully in Group 7 was again applied in this final session. Once again the times were not adhered to directly, though the intention was to keep the group moving. The demonstration of the software was handled carefully as in the previous case and the officers were questioned as to whether they understood the difference between ideas and comments.

7.7.2.1 Group 8 - *Vietnamese Refugees*

Group 8 started off with twelve minutes of idea generation after which time the 'show categories' option was switched on. Editorial action was taken by the researcher from time to time to remove identical ideas that were copied to a category and which had no comments attached. After half an hour, the officers were instructed to focus on the plan of action that they would need to create, with the suggestion that they either copy existing ideas to a category with that name or generate new ideas there. They were then left alone for a further thirty minutes. This group seemed to have serious problems with task focus. One officer commented that the group members were perfectly able to use the software to generate ideas, but that they had problems getting anything done. The researcher suggested that he could intervene and improve that focus, but the officer disagreed. He preferred to let the group sort out its own problems using the technology as best it could. After a further half an hour, the researcher acted to move the group along by transferring all ideas and comments to the Group Outliner tool where they could attempt to structure their ideas. Twenty minutes later, the ideas they had generated were moved to the Vote where they performed a 1-10 analysis of the items' relative importance. Each officer then was allocated by the researcher one of the top five scoring items (i.e. the five thought to be most important to the action plan) and instructed to write an explanatory paragraph using the Group Outliner. Ten minutes later they finished this and completed the debriefing questionnaire.

7.7.2.2 Group 9 - *CD Piracy*

This group started off very quickly. One officer in particular seemed to have a firm grasp of the ideas and repeatedly asked the researcher questions, both about the task and the software. After ten minutes he reckoned that he had the problem solved and wondered if he could leave! Since he was so eager to move forwards, the 'show categories' option was turned on rather earlier than expected, after twelve minutes. A further ten minutes later the group was encouraged to organise its material into the categories - they had not used the categories thus far even though the facility had been turned on. The active officer was not sure if he should try to take control, but eventually he did so through the software. He also complained that the interface was too simple, preferring to be able to see multiple levels of comments simultaneously, i.e. in the style of the Group Outliner. After fifty minutes, the Categoriser session was stopped and the materials transferred to the Group Outliner. Comments were transferred as list items, which meant that there was a long list of ideas with no comments. The group was given the authority to move ideas to sub-ideas as well as create new ideas, but specifically requested not to use the 'minus' button which would delete items. The reason for permitting this higher than usual level of editing power was the need for them to reorganise their data and to move it around into the shape they desired. Twenty five minutes later, the eighteen top level ideas were transferred to the Vote for a 1-10 evaluation of importance. Fifteen minutes later the top six items (mean scores of 6.67 and above) were allocated to the officers (one each) for summarisation in the Group Outliner. The officers finished summarising ten minutes later and completed the debriefing questionnaire.

7.7.3 Feedback from the Officers

The perceptions of the system from the two groups were quite different. Group 8 experienced member cohesion problems - the officers were unwilling to communicate with each other and initially just used the system as an electronic medium, without trying to work as a team with the other group members. One member thought that the technology was useful, but required appropriate technique and experience to make it worthwhile (cf. the finding of Chidambaram et al. (1991) that groups need time to adapt to the technology). He blamed the group's lack of this technique for their unsatisfactory results. Group 9 members felt that the technology

was not difficult to use after initial exploration of it. Furthermore, they felt that given the nature of the topic, the technology had permitted them to cover a wide range of issues in a short space of time. In fact, one member suggested that a two-day course using the GSS be arranged in order to get more benefits from it.

7.7.4 Lessons Learned and Reflections

The use of the agenda, as in Group 7, proved to be beneficial as it was possible to complete a structured set of activities within 2½ hours. The relatively poor performance of Group 8 was somewhat worrying - they realised that they had an internal problem, yet they chose not to try to solve it. As a consequence, the role of the researcher became ambiguous. His role is normally to make suggestions to help the group solve its task, but if the group refuses to accept that advice he is powerless unless he takes radical action to control their activities directly. In this case, the researcher chose not to do so initially. Had the training officer been present, he might have been able to make a more forceful impression on the group. The fact that the training officer was not present during the last two sessions of the RHKP case did not turn out to be critical, since all groups proceeded to a conclusion. However, his presence would at times have been useful, particularly in terms of making a decision about the problems faced by Group 8.

Analysis of the data collected from Groups 8 and 9 (see Table 7.5) shows that the positive pattern of perceptions regarding meeting processes and outcomes observed in earlier groups is continued, if on a lesser scale when compared to Group 7. As we have described above, Group 8 experienced some problems of group cohesion and this is revealed in the lower scores for result orientation and thorough discussion of ideas. Surprisingly, they did not negatively evaluate their ability to work as a team, rating this item as neutral.

Group 9 did not perceive any negative impressions of meeting processes and outcomes except the result orientation of the meeting, perceived to be slightly weakly result oriented. Thus, Group 9 felt that the technology facilitated their discussion, was comfortable with the technology, and was also generally satisfied.

Table 7.5 Questions, Scales and Mean Scores for RHKPF Groups 8 and 9

Question	Ref	Scales	Group 8	Group 9
The language of the meeting prevented your participation	C1	1 Strongly Disagree; 5 Strongly Agree	1.4	2.2
You found it hard to understand others	C2	1 Strongly Disagree; 5 Strongly Agree	2.0	1.8
You experienced problems expressing yourself	C3	1 Strongly Disagree; 5 Strongly Agree	2.4	2.0
You were reluctant to put forward ideas	C4	1 Strongly Disagree; 5 Strongly Agree	1.4	1.8
The discussion was meaningful	D1	1 Very Meaningless; 5 Very Meaningful	3.8	3.7
The discussion was appropriate	D2	1 Very Inappropriate 5 Very Appropriate	3.6	3.7
The discussion was open or closed	D3	1 Very Closed; 5 Very Open	3.8	4.2
The discussion was imaginative or unimaginative	D4	1 Very Unimaginative; 5 Very Imaginative	3.4	3.7
To what extent was the meeting result oriented?	E1	1 Strongly Result Oriented; 5 Weakly RO	3.0	3.2
Time was used efficiently in the meeting	E2	1 Strongly Disagree; 5 Strongly Agree	3.2	3.5
The issues were discussed thoroughly in the meeting	E3	1 Strongly Disagree; 5 Strongly Agree	2.6	3.5
What percentage of time was devoted to serious discussion?	E4	0% - 100%	55	14
Other group members tried to intimidate you	S1	1 Strongly Disagree; 5 Strongly Agree	1.8	2.0
Other group members tried to influence you	S2	1 Strongly Disagree; 5 Strongly Agree	2.0	2.2
You felt inhibited by the behaviour of other group members	S3	1 Strongly Disagree; 5 Strongly Agree	1.4	1.8
You experienced pressure to conform	S4	1 Strongly Disagree; 5 Strongly Agree	3.0	2.5
Other group members were willing to answer questions	T1	1 Strongly Disagree; 5 Strongly Agree	3.2	4.0
Group members worked as a team	T2	1 Strongly Disagree; 5 Strongly Agree	3.0	4.0
You had access to the information you needed so as to participate	T3	1 Strongly Disagree; 5 Strongly Agree	3.4	4.0
You felt that you played a useful role	CR1	1 Strongly Disagree; 5 Strongly Agree	3.8	3.7
How would you rate your overall satisfaction?	CR2	1 Weakly Satisfied; 5 Strongly Satisfied	4.0	3.8
To what extent was consensus achieved?	CR3	1 Zero Consensus; 5 Total Consensus	3.2	3.3
Did you feel comfortable with the technology?	Tech 1	1 Very Uncomfortable; 5 Very Comfortable	4.2	4.2
Did the technology hinder or facilitate your participation?	Tech 2	1 Strongly Facilitated; 5 Strongly Hindered	2.4	2.2

A single item has a perplexing score in Group 9 - that for the percentage of time spent on serious discussion - 14%. This very low figure is neither logical (considering the achievements of the group) nor easily explicable. We can only assume that some of the group members did not understand the scale and treated it as a 1-10 scale rather than a 0-100 scale. A close examination of the individual data points for this item shows that four group members gave "10", one gave "30" and the sixth did not vote on this item at all. It is not unreasonable to assume (though we have no evidence to support it) that the four scores of "10" should actually be "100". However, further speculation is inappropriate. For all the other constructs - Discussion Quality, Communication, Status Effects and to a large extent Teamwork - both groups have respectably positive scores, again justifying our choice of facilitation style.

7.8 Overall Reflections on the RHKPF Cases

Many valuable lessons have been learned over the five sessions with the RHKP training groups and their officer members. No two groups have behaved identically and so the researcher has always had to keep an open mind when facilitating, being responsive to the on-going needs of the groups, ready to adapt. The provision of an agenda in the last two sessions proved invaluable. The reason why an agenda approach was not used in earlier sessions related to the presence of a training officer who preferred the session planning to be totally *ad hoc*. His interest was in letting the groups go where they wanted to go in order to reach a solution. In practice, this meant that time was not always efficiently used and the activities were not completed within the three hour time slot available. So as to improve on this situation, the agenda approach (which is common to many meetings) was introduced and resulted in considerable success.

It is perhaps inevitable that there should be differing abilities and attitudes represented over the course of nine groups of police officers. Some were clearly fascinated by the technology and approached it in a very positive way. Others were more cautious, wanting to see if the benefits were real and sometimes complaining that the technology depersonalised the value of the meeting for them. They would have preferred a traditional face-to-face meeting. The fact that the GSS was not available to the officers in their work environment meant that the value of the

sessions was diminished - some commented that it would be more useful to undertake a task using a PC tool to which they did have ready access. Others suggested that some psychological preparation would help them to gain more from the experience, i.e. informing them in advance that they would be undertaking a problem solving exercise with computer support. This point was conveyed to the training officer who declined to undertake to inform future groups of this fact. The use of PCs within the RHKPF is not yet mandated and so not all the officers use PCs for a significant amount of their work. As junior officers, they spend time on the beat, in their various units, and are not primarily managers, unlike more senior officers.

The use of GSS for training purposes, as described in this case, however, can be said to be successful. The feedback from the two training officers has been unequivocally positive while that from the officers has varied between positive and puzzled. If the use of PC software was more common in the working lives of the officers, it is likely that their appreciation of a GSS would also increase. For all the officers, it was the first time that they had used such software and as such it constituted a valuable learning experience.

The data collected through the debriefing questionnaires and presented in Tables 7.1-7.5 is revealing in that it is generally very positive. Table 7.6 below presents the scores of all nine groups, as well as overall high, low and mean scores. In the vast majority of groups, no major problems were expressed in terms of communication, discussion quality, status impacts and teamwork issues. These findings are broadly supported by observations made by the researcher over the course of the five sessions. Meeting efficiency has been more problematic, with considerable variation between groups. Officers generally felt that they had a useful role to play in their groups and satisfaction was achieved.

Table 7.6 Questions, Scales and Scores for All RHKPF Groups

Question	Scales[5]	G 1	G 2	G 3	G 4	G 5	G 6	G 7	G 8	G 9	High	Low	Mean
The language of the meeting prevented your participation	1 SD; 5 SA	2.2	2.0	1.8	2.4	2.7	1.8	2.3	1.4	2.2	2.7	1.4	2.1
You found it hard to understand others	1 SD; 5 SA	2.0	2.2	2.3	3.0	2.2	2.3	1.9	2.0	1.8	3.0	1.8	2.2
You experienced problems expressing yourself	1 SD; 5 SA	2.2	2.6	2.7	3.4	2.5	1.8	2.4	2.4	2.0	3.4	1.8	2.4
You were reluctant to put forward ideas	1 SD; 5 SA	2.5	1.4	1.8	2.2	2.0	1.8	2.0	1.4	1.8	2.5	1.4	1.9
The discussion was meaningful	1 VL; 5 VM	3.8	3.6	4.0	4.0	4.0	4.0	4.4	3.8	3.7	4.4	3.6	3.9
The discussion was appropriate	1 VI; 5 VA	4.0	3.4	4.0	4.2	3.7	3.8	3.9	3.6	3.7	4.2	3.4	3.8
The discussion was open or closed	1 VC; 5 VO	4.2	4.4	4.0	4.0	4.0	4.7	4.0	3.8	4.2	4.7	3.8	4.1
The discussion was imaginative or unimaginative	1 VU; 5 VI	3.7	3.8	3.7	4.0	3.8	3.5	3.9	3.4	3.7	4.0	3.4	3.7
To what extent was the meeting result oriented?	1 SRO; 5 WRO	3.0	3.0	2.2	2.6	2.8	2.3	2.8	3.0	3.2	3.1	2.2	2.8
Time was used efficiently in the meeting	1 SD; 5 SA	3.3	3.2	3.7	3.0	2.3	3.5	3.6	3.2	3.5	3.7	2.3	3.3
The issues were discussed thoroughly in the meeting	1 SD; 5 SA	3.3	2.6	3.0	2.6	3.0	3.2	3.4	2.6	3.5	3.5	2.6	3.1
What percentage of time was devoted to serious discussion?	0% - 100%	60	45	50	52	49	51	41	55	14	60	14	46
Other group members tried to intimidate you	1 SD; 5 SA	1.8	1.4	1.8	3.2	2.0	2.2	1.9	1.8	2.0	3.2	1.4	2.0
Other group members tried to influence you	1 SD; 5 SA	2.5	2.0	1.7	3.4	2.2	2.0	2.1	2.0	2.2	3.4	1.7	2.2
You felt inhibited by the behaviour of other group members	1 SD; 5 SA	2.7	2.0	2.5	3.2	2.3	2.3	2.1	1.4	1.8	3.2	1.4	2.3
You experienced pressure to conform	1 SD; 5 SA	2.7	2.2	2.5	2.6	1.8	2.0	2.1	3.0	2.5	3.0	1.8	2.4
Other group members were willing to answer questions	1 SD; 5 SA	3.8	3.6	3.5	3.2	3.8	4.2	3.9	3.2	4.0	4.2	3.2	3.7
Group members worked as a team	1 SD; 5 SA	3.5	3.0	3.5	3.6	3.0	3.2	3.5	3.0	4.0	4.0	3.0	3.4
You had access to the information you needed so as to participate	1 SD; 5 SA	3.8	3.0	3.3	3.2	3.0	3.5	3.5	3.4	4.0	4.0	3.2	3.4
You felt that you played a useful role	1 SD; 5 SA	4.2	4.2	3.7	4.0	3.5	3.8	4.1	3.8	3.7	4.2	3.5	3.9
How would you rate your overall satisfaction?	1 WS; 5 SS	3.7	3.0	4.0	4.0	3.3	3.5	4.5	4.0	3.8	4.5	3.0	3.8
To what extent was consensus achieved?	1 ZC; 5 TC	3.7	3.2	3.7	3.4	3.0	3.3	3.8	3.2	3.3	3.8	3.2	3.4
Did you feel comfortable with the technology?	1 VU; 5 VC	3.7	3.8	3.8	3.6	2.8	4.0	4.1	4.2	4.2	4.2	2.8	3.8
Did the technology hinder or facilitate your participation?	1 SF; 5 SH	3.0	2.2	2.3	3.0	3.3	2.8	2.5	2.4	2.2	3.3	2.2	2.6

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[5] For an explanation of the scale abbreviations, please see Table 7.5 above.

Consensus was never very strongly achieved, on the other hand, and therefore remains a problem to address in future research. In 4.9.1 we observed that consensus is a complex construct; therefore, a more precise instrument is required to measure it effectively. In general, most officers were comfortable with the technology, but not all groups felt that the technology facilitated their interaction. This has a bearing on the attitude of the officers, in that although they clearly were able to use the technology, and very effectively so since they were able to solve the tasks assigned to them, they were not convinced of the need for the technology. The lack of the same technology in their work place compounded the problem.

It is hypothetical to speculate whether the officers would have performed any better without the technology since no control groups have been employed in this study. However, previous experimental research (e.g. Gallupe et al. 1990, 1991, 1992) indicates that GSS-supported groups perform significantly better on tasks that require substantial generation and integration of ideas than unsupported groups. Furthermore, since group membership has changed from week to week (even the training officer changing mid-way through the case), so neither has it been possible to evaluate the effects arising from increasing familiarisation with the technology, nor has it been possible to involve the officers in discussions on an ongoing basis. In this sense, this RHKPF case has not been ideal, though it does illustrate how Action Research can be applied to situations such as this where group membership is not consistent. Furthermore, it has clearly demonstrated the viability of using GSS for learning support tasks and has enabled us to elicit a number of valuable lessons - these will be discussed in Chapter Nine. The training officer has expressed himself as more than pleased with the series of five sessions that have been conducted and has committed himself to further sessions that will extend beyond the duration of this research. However, the lack of substantial feedback from the training officer is worrying and also needs addressing in future cases. We also hope that in future we will be able to prepare the officers more adequately in advance of the sessions for the task and technology that they will employ during their session. In this way we may be able to increase their sense of the technology facilitating their work.