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INNOVATIVE EDUCATION IN THE ROYAL HONG KONG POLICE FORCE

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ABSTRACT

Group Support Systems (GSS), designed primarily for meeting support, are now being increasingly used to support learning. Collaborative Learning Theory and an Action Research approach are invoked to explore how GSS can be employed to enrich the training of police officers. Two parallel cases are presented involving vested-interest tasks where a GSS plays a major role in group communication. Initial results and lessons learned are presented, as well as recommendations for future practice.

INTRODUCTION

Group Support Systems (GSS) technology has been widely researched in experimental settings while more recent field work has examined how GSS function in real world situations involving executives, soldiers and diplomats. Although originally designed as a tool to support discussion and decision making, the last couple of years have seen interest extended to the educational sector in the form of "technology supported learning" with a number of studies published [3]. The educational environments studied to date have been secondary and tertiary, i.e. within the established educational system. In contexts, where the adoption of GSS in classrooms was studied [1][4], GSS was found to be a stimulating tool to employ. Furthermore, it was suggested that students who had the benefit of GSS support achieved significantly better results than those who did not. This study takes the idea of GSS in a learning environment one stage further and examines how it has been incorporated into the training program of Junior Inspectors in the Royal Hong Kong Police Force (RHKPF). The use of GSS through an action research case study is described and recommendations for future practice are made.

BACKGROUND AND THEORY

Group Support Systems

Group Support Systems (GSS) are networked, computer based systems for the facilitation of interactive discussion in groups of people who may be interlocuting face-to-face or remotely, synchronously or asynchronously. A GSS comprises a suite of software tools used to provide focus and structure to group deliberation, while reducing the cognitive cost of communication, and easing the burden of information access as team members make a joint cognitive effort towards a goal. These tools typically enable brainstorming, organising and evaluating activities. Participants type their contributions into a PC and the system immediately makes each contribution available to all other participants. Thus, nobody forgets what they want to say

while waiting for a turn to speak. A group can also enter ideas anonymously, if that is thought appropriate, i.e. if participants feel unwilling to submit ideas that are considered abnormal, unusual or unpopular [5].

Collaborative Learning Theory

In the last few years, educators have started to pay attention to effective means of delivering information to their students. There is heightened concern that although the business environment is becoming increasingly technical, graduates from business related disciplines often do not have the experience of the technology. Therefore educators have considered not only how students can be given greater exposure to technology, but also how technology can be employed more in the education process itself [1][3]. Collaborative learning theory (where students collaborate with other students and so see a wider variety of ideas) has been suggested as a possible facilitator of this involvement with technology. Such collaboration is facilitated in turn through the GSS technology which can provide the structure and focus required for task-based learning.

Leidner and Fuller [8], examining individual constructive learning (where students construct knowledge by themselves), observe that much student time in the classroom is spent taking notes, and then recalling and regurgitating those notes, but there may not be much processing and assimilating of the information. Thus, one needs to raise student interest and motivation in courses as well as understanding of the material, thereby enhancing student performance. It was also found [8] that while collaborative learning did increase students' motivation, interest and understanding, it failed to enhance their performance when compared to those students who worked individually.

A key element of collaborative learning theory is the notion that feedback from others is essential to the effective processing of information, as is the availability of a diversity of ideas. Thus, collaborative groups that involve several members working together should generate a larger number of ideas than a single person. This diversity of ideas should improve the learning process of the individual members. Furthermore, since there can be immediate feedback from the other group members, both performance and the overall quality of ideas should be improved. If students are deeply involved in the collaboration process, their interest in learning should also be enhanced. However, the depth of involvement not only depends on the collaborative use of technology. Involvement should be greater if the students have a vested interest in the task they are attempting to solve, i.e. if they are real stakeholders.

This is normally difficult in experimental groups, since the task is set by a researcher who also nominates individuals to roles, but real world groups will normally tackle real problems.

It is important that students should be encouraged to use the GSS to enter their ideas, but a surfeit of low quality ideas will not help the group deliberation process. Equally, students should both read and comment upon the ideas of others. Failing to do this implies that the learning process is not collaborative at all, i.e. many individuals ignoring each other. Furthermore, it is essential to teach students how to use the GSS tools effectively. Ineffective use will complicate the discussion and deliberation process. Despite this, it is natural for meeting participants to talk to one another during a meeting and this should not be forbidden.

If many ideas are generated, this may impose an information overload on students who have to spend a substantial proportion of their time reading and sorting the ideas and comments from other people, then discarding ideas which are less good, and so on. A person working alone does not get the benefit of feedback from others, but also does not need to spend time looking for others' valuable comments. Thus time is a critical issue. It is certainly essential to ensure that a GSS group has sufficient time to learn how to use the technology effectively, discuss the issues and try and find a solution to a task/problem. Clear instructions and support from a human facilitator will greatly enhance their chances of manipulating the technology to the collaborative benefit of the group as a whole.

GSS evidently has the potential to offer students a number of benefits. These include: sharing of ideas; immediate feedback; criticism of ideas but not criticism of people. Moreover, the need for note taking and regurgitation can be reduced with students spending much more time involved in their own learning of material.

CASE STUDY - THE RHKPF TRAINING DIVISION

Course and Participant Background

The RHKPF conducts a number of courses for its Inspectors throughout the year. These courses are at various levels, though the one described here is targeted at Junior Inspectors (JIs) with 4-7 years experience. The course covers various skills relating to management, group dynamics and interpersonal skills, and runs for three weeks. A key objective is to increase the participants' self-confidence. The course includes a number of components, one of which was selected for GSS support. Approximately half of the JIs on the course are educated to tertiary level while all of them have a PC on their desk: they are therefore assumed to have adequate computer skills to handle Windows applications.

The owner of the training course is a senior police officer in the RHKPF with over twenty years of experience. He is referred to in the case as the Training Officer (TO), a position he has held for two years. Although the TO does not normally use technology as a part of his training portfolio, this is due to a lack of suitable resources. The training sessions took place in a laboratory in the Dept. of Information Systems at the City University of Hong Kong. The author, who was the facilitator of the sessions, has been working with GSS for the past four years.

Methodology

In this case we have adopted an action research (AR) approach [9]. AR involves the application of tools and methods from the social and behavioural sciences to practical problems with the dual intentions of both improving the practice and contributing to theory and knowledge in the area being studied [7]. Action researchers either participate directly, or intervene, in a situation or phenomenon in order to apply a theory and evaluate the value and usefulness of that theory [6][11]. They may also intend to effect change whilst pursuing their research [10]. When undertaking AR, the researcher starts with planning, continues to execution, observation and finally reflection, before returning to planning and a new cycle [6].

Some researchers position AR as a subset of case study research [2], but others [e.g. 11]) observe the differences between the two approaches and thus suggest that they should be treated as separate methods. We contend, nonetheless, that the three reasons that Benbasat et al. [2, p.370] believe make case study research viable are equally true for action research, viz.:

1. It is necessary to study the phenomenon in its natural setting;
2. The researcher can ask both "how" and "why" questions, so as to understand the nature and complexity of the processes taking place;
3. Research is being conducted in an area where few, if any, previous studies have been undertaken.

To this list we append one additional reason - improving the practice. A key reason for conducting AR is to improve the current work practice for a group. Although two parallel cases are presented in this paper, collaborative learning with GSS normally occurs on a continuous basis. As a consequence, both the educator and the educated should benefit from the lessons of previous sessions or cases. An AR approach (which is cyclic) makes this learning possible. Further cases of a similar nature have been planned for the future with the RHKPF thus making action research a desirable research approach.

Topics for Discussion in the Sessions

Two topics were chosen for discussion by the facilitator. Both topics were selected for their realism and relevance to

police work in Hong Kong, i.e. so as to ensure that the JIs had a vested interest. One group was to discuss the following question: "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?". The second group had the question: "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?".

The JIs were randomly divided into two groups of six participants. They were given a brief training session in the use of the GSS but were also informed that it was not compulsory for them to use the GSS as a sole means of communication. Some of them experienced problems using the software initially and several inadvertently logged themselves out of the system. However, these problems were soon ironed out.

Execution of the Case and Facilitator Observations

Both groups were initially given minimal *content* instruction beyond the task itself, and were left alone to discuss the issues. The Vietnamese Refugees (VR) group brainstormed for twenty minutes before the TO 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. After 40 minutes, the TO 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 GSS in a more focused way so as to generate components for an Action Plan. They were able to do this and created a 20-item Action Plan. They then organised the items in order of importance using an evaluation tool. At the end of this evaluation, the TO 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, as well as the evaluation of those ideas. However, lack of time precluded this activity. The final activity for the group was to complete a debriefing questionnaire, also electronically, which elicited their perceptions of the meeting process.

The March for Democracy (MD) group followed a similar procedure to the VR group. In their case, the TO used the GSS to provide extra information as follows: "The Gov-

ernment 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 New China News Agency to the effect that compliance with this policy is mandatory."

Unlike the VR group, the MD group experienced considerable problems. The TO suggested that this might be due to the more complex task nature (the Hong Kong community would generally approve of returning all refugees to Vietnam, hence it is an *operational* task, but the issue of Democratic rights in a country that will shortly be returned to a one-party state is politically and emotionally charged). The TO speculated that the vested interests of the JIs (as members of the community) might influence their discussion to a greater extent than in the VR group. Analysis of the ideas and comments generated by the MD Group 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.

When the TO realised their difficulties, he came up with a partial solution himself, in the form of extra information, viz.: "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.". In addition, certain rules for conduct would need to be drawn up and it was these rules that the MD group had to decide upon. The group produced eight rules and evaluated their relative importance for the Action Plan.

Comments from the Junior Inspectors

The JIs made many comments concerning their use of the software. Some were impressed with the ability of the software to permit all JIs 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 time to practise using the software would produce better results. A number of complaints were also received, particularly on the unfamiliar interface.

Comments from the Training Officer

The TO was very pleased with the amount of interaction he had been able to stimulate. Although he recognised that the MD task was too complex for the group, he thought that the thinking (and perhaps soul searching) that it 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.

Lessons Learned & Recommendations for Practice

Two key lessons come from this case, relating to training and task selection. Some participants had difficulty using

the software. Such difficulties can only hinder the group collaboration process and reduce the usefulness of the sessions. It is therefore incumbent on the facilitator(s) to ensure that all group members have sufficient knowledge of how to use the software in order to be able to receive the maximum benefit. Equally, we must ensure that the participants are aware that they can ask for help - to explain a feature or to provide process assistance.

In an earlier section of this paper we called for tasks in which group participants have a vested interest. This is doubtless important, but we should be aware of just how vested that interest is. At times, a task may be too complex to solve within the relatively short time space available, e.g. if there are multiple and conflicting vested interests. If the intention of the TO is simply to facilitate group, collaborative discussion, it may still be reasonable for a complex task to be set. If, however, some form of a solution is also required, then the difficulty of the task must be set at an appropriate level for 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 facilitator and TO 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.

CONCLUSIONS AND FUTURE RESEARCH

The use of GSS as a technological support for the collaborative learning process has been illustrated in this paper in the context of Junior Police Inspectors in the RHKPF. Participants engaged in a collaborative learning style that involves them in task situations directly related to the work they are expected to perform. Although some participants experienced difficulties with the software interface, overall they performed very well and managed to accomplish substantially more work than would have been the case in the same amount of time had the GSS not been available. GSS can be seen here as a training tool, teaching police officers how to discuss and resolve issues. However, it can also be used as a real-life crisis management tool for dealing with emergency situations in non-face-to-face situations. This is an area for future research. With police officers using the GSS for their training now, we can expect that they may wish to use it on a more day to day operational level in the future.

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