A Socio-Technical Approach to Social Learning in Organisations: A Study of Two Serrings in the Australian Defence Organisation

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Abstract

Researchers are increasingly employing qualitative methods, specifically ethnography, to gain an understanding of social, organizational and information systems interactions. This paper reports on the methodologies used and the findings of the research conducted by the Enterprise Social Learning Architecture (ESLA) team of the Defence Science and Technology Organization. The ESLA task is a three-year research study investigating social learning within the Australian Defence Organization (ADO).

Introduction

Researchers are increasingly employing qualitative methods, specifically ethnography, to gain an understanding of social, organisational and information systems interactions (Myers, 1999). This paper reports on the methodologies used and the findings of the research conducted by the Enterprise Social Learning Architecture (ESLA) team of the Defence Science and Technology Organisation. The ESLA task is a three-year research study investigating social learning within the Australian Defence Organisation (ADO).

Social learning refers to learning done in or by a group, an organisation, or any cultural cluster and includes:

- the mechanisms by which Defence staff create knowledge and learn, and hence contribute to the organization's learning, and also
- the factors which impinge upon the development of an effective learning environment.

The presentation will discuss four topic areas:
- progress to date
- the research methods used
- issues involved in conducting long term studies within a Defence environment
- future work

The task has undertaken two pilot studies: within a tactical headquarters, Strike Reconnaissance Group (SRG), and within the C3I (Command, Control, Communications and Intelligence) Development Branch of the Australian Defence Headquarters (ADHQ). At present the team is undertaking a study of the Capability Divisions within ADHQ.

Study Methodology

The methodology employed in the SRG study was based on ethnography. Ethnographers immerse themselves in the situation to gradually see and understand the key concepts that influence the setting being studied and observational field work involved observing the work taking place in different settings, using directed questioning to clarify issues. According to Harvey and Myers (1995), ethnography is ideal for providing information systems researchers with rich insights into the human, social and organizational aspects of information system development and implementation.

The preferred method for conducting observations was to pair ethnographers in each setting. However, the inconsistent availability of team members meant that this was not always possible and for some of the fieldwork a single ethnographer conducted observations. Over the period the study took place, the composition of the observation teams varied. The six months ethnographic study of SRG began with a team of four researchers: three computer scientists and one social scientist who had an extensive experience in ethnographic research. Prior to the commencement of the research study the team members were thoroughly briefed on the principles and ethics of ethnographic research by Gitte Jordan (then from Xerox Parc). Currently there are five researchers: one...
computer scientist, one social scientist, one organisational communication specialist, one science and information management-seeking specialist and one researcher from an information systems/organizational studies background. The different perspectives, expertise and experiences of team members enrich the data and shape the kind of ethnography which takes place.

At the end of each day of observations, the team would meet and discuss any issues arising from the day’s fieldwork, and then would negotiate the following day’s ethnographical activity. Team meetings were also held after each field trip to identify and consolidate the findings as the work unfolded and to identify emerging key social learning issues. The team adopted a democratic meeting style and each member was encouraged to contribute his/her expertise to the overall planning of the research study. However, there was a carefully defined process at meetings to ensure that all team members understood and corroborated with what the others had observed. Rather than insisting on one interpretation of an observation, the study has benefited from the multiple stories and understandings which emerged from the team. Furthermore, careful consideration was given to ensure validity of this research study. Therefore, the research study is subject to triangulation by data source (different times and places); by method (observations, interviews, and, in one of the settings, a quantitative survey).

**SRG Pilot Study Findings**

A major conclusion derived from the SRG study was the importance of members having a shared vision, especially in terms of understanding organizational systems and objectives. It was also found that effective work groups see themselves as interdependent on others outside their team, and when it comes to problem solving, they regard themselves as part of a larger, integrated entity requiring system thinking to achieve objectives. This finding seems to support views represented in literature that people working together on a joint enterprise for a sustained period form a community. They learn, and as they interact, over time they develop a shared practice and contribute to the intellectual assets of the organization (Wenger, 1998). Effective work groups are defined as teams where practices are transmitted from the experienced members to new members (mutual engagement and mentoring), where positions are rotated in order to gain expertise and where experience counts more than a rank. These teams are empowered and self directed. The sense of mutual engagement and mentoring in a common enterprise helps to generate a commitment to the practice and to each other and provides an effective way of conducting business and advances learning (Dilworth, 1995; Wenger, 1998).

Another important finding from the SRG study is the focus on lessons learnt rather than mistakes made. This creates an atmosphere of trust, forgiveness, positive team spirit and minimisation of fear. These factors provide a fertile ground for learning by allowing people to speak honestly, share information and offer suggestions without fear of ridicule or retribution (Handy, 1995; Hoffman & Whithers, 1995). Senge (1992) advocates that effective learning at the team level becomes a microcosm for learning throughout the organization.

**Other research studies**

To further the research in a different environment the team undertook a pilot study within C3I (Command, Control, Communications and Intelligence) Development Branch of what was then Capability Division within ADHQ – a strategic headquarters. Substantial effort was expended in examining some of the business processes and the business environment within C3ID including research into processes involved in:

- knowledge creation,
- knowledge capture and propagation,
- knowledge organization including access and retrieval,
- knowledge application

Other aims were to refine the project methods and to determine how the task should relate to the continuing reviews of ADHQ. The terms of reference posed questions such as whether processes and structures which were in place supported knowledge work and whether a culture of cooperation and partnership was pervasive. The pilot study of C3ID led directly to a larger study of Capability Division which is currently being carried out.

The research methods have evolved as the task has progressed. The pilot study at SRG used ethnographic methods supplemented by some unstructured interviews. It was found that this approach is less suitable for the type of diffuse working environment prevalent at ADHQ. Whilst ethnography constitutes a major part of research methodology, other qualitative and quantitative methods are used. The qualitative methods include field observations, structured and unstructured interviews and a study of various documents collected by the research team. The quantitative method involved a survey which was designed to gather more information on issues that arose in the qualitative findings. The survey consisted of three parts. PART A comprised 47 Likert scale statements; in PART B there were six ‘open ended’ questions and PART C was designed to gather some demographic data about study participants. Descriptive statistics were used to analyse the survey results as well as cross tabulation to show relationships between variables. The different methods consolidated the study's findings and enabled analysis of the collective perceptions of the personnel involved.
As in the SRG research, the analysis of ADHQ fieldwork is based on ethnography. For example, the team rigorously discusses individual fieldnotes and conclusions are always related back to observations. The context of events is seen as being as important as the observations themselves.

The findings from the C3ID Pilot Study are multilayered and enabled the research team to pinpoint a set of values that facilitate effective social learning. The staff of C3ID Branch were shown to have many strengths, however, some problems became apparent. Issues such as the lack of induction for new staff and poor record management systems did not come as a surprise to the client, although the clients then acted to address these problems. Other findings in regard to cultural cohesion were unanticipated.

A culture of cooperation and partnership in organizations is believed to facilitate learning and construction of new knowledge. For instance, Wenger (1998) claims that a culture characterised by the pursuit of common goals arises from a process of shared learning and subsequent development of enterprise’s knowledge (that is, its practice). Such shared, generative learning itself can only exist if there is a culture of cooperation and partnership. The survey data collected from C3ID staff indicates that a culture of cooperation and partnership does exist but is not universal across the Branch. It has also been observed that often it is the quality of an organization’s relationships, more than the quality of its information, that determines how problems can be solved or opportunities exploited.

Conclusions and further research

The SRG Pilot Study demonstrated that it is feasible to observe, understand and document social learning processes in a tactical environment, particularly where the processes are well structured. In a strategic environment, in addition to ethnography, other qualitative and quantitative methodologies needed to be utilised.

The data from the pilot studies enabled the research team to pinpoint a set of values that facilitate effective social learning. These values relate to the environment that facilitates social learning as well as strategies and processes used to create such an environment.

There are a number of issues involved in conducting long term studies within a defence environment. These include an approach taken to include shorter studies within the larger study and the dynamic between consultancy and research. Certain issues regarding how the research being undertaken can affect the area under study and the benefits and limitations of the methodology will be discussed during the presentation.

The research project is to continue in the other Capability Divisions of the ADHQ. The ESLA team is endeavouring to move into tactical and operational headquarters of the Army and the Navy.

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