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From office to production line: Collecting data for the Wellington Language in the Workplace Project[1]

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Language in the Workplace Occasional Papers

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This series of occasional papers is aimed at providing a wide range of information about the way language is used in the New Zealand workplace. The first paper outlines the aims and scope of the core project, the Wellington Language in the Workplace Project, and describes the approach adopted by the project team in collecting and analysing workplace data. The second describes the methodology adopted to collect workplace interaction, and its developments and adaptations to the very different demands of disparate workplaces. Subsequent papers provide more detailed analyses of particular aspects of workplace interaction.

These include

- **an analysis of varied ways people get things done at work, or the forms which directives take in different New Zealand workplaces**
- **an exploration of the functions of humour in workplace interaction**
- **an analysis of the structure of formal meetings in relation to the way decisions are reached**
- **a discussion of the concept of the "gendered" workplace and its relevance in New Zealand workplaces**

- **an examination of the varied literature on the role of e-mail at work**
- **an analysis of changes in some features of sexist language in workplace documents**

The series is available in full text at this website: http://www.vuw.ac.nz/lals/lwp

The Research team includes Professor Janet Holmes (Director), Maria Stubbe (Research Fellow), Dr Bernadette Vine (Corpus Manager), Meredith Marra (Research Officer), and a number of Research Associates. We would like to express our appreciation to all those who allowed their workplace interactions to be recorded and the Research Assistants who transcribed the data. The research was supported by a grant from the New Zealand Foundation for Research Science and Technology .

Abstract

This paper describes the unique participatory methodology devised by the Language in the Workplace project (LWP) team to meet the challenge of collecting natural interaction data in order to provide a realistic picture of the ways in which people talk in a variety of different workplace contexts. The first section outlines the key features of the LWP data collection methodology, and the principles underlying its design. The second section documents how this innovative participatory approach has been developed and adapted to cope with the "talking conditions" and ethical constraints encountered in different types of workplace setting during the first five years of the LWP project. The paper concludes with a brief discussion evaluating the usefulness and limitations of this data collection model

Introduction

The workplace is an important social context, and as such provides an obvious research focus for sociolinguists and discourse analysts interested in exploring the nexus between language and society and how this is reflected and constituted in everyday spoken interaction. It is a potentially fruitful ground for looking explicitly at areas of interest to sociolinguists such as language, power and politeness, cross-cultural communication and gender issues, as well as more general questions relating to the use of language in this setting. The "discursive turn" in the social sciences over the last two decades has also been influential in positioning interpersonal communication as a key concern for both researchers and practitioners interested in how organisations function and evolve (Jones and Stubbe fc). As a result, there has been a burgeoning of research in the domain of workplace language and communication. This research spans various disciplines including linguistics, organisational studies, management, ethnomethodology, communication studies, social psychology, sociology, adult education and literacy studies.

However, until quite recently there has been a surprising dearth of research on workplace communication which is based on genuine 'real life' data drawn from actual interactions and participant observation in a range of workplace contexts. Most reported studies of organisational communication, for instance, rely heavily on material derived from indirect sources such as self-report data, interviews with significant personnel, and anecdotal observations. While linguistic and ethnomethodological research on institutional discourse is based on authentic language data, most such studies have tended to concentrate on rather specialised "frontstage" contexts such as classrooms, courtrooms, and doctor-patient interactions (e.g. Drew and Heritage 1992, Sarangi and Roberts 1999). With some exceptions (e.g. Clyne 1994, Neill 1996, Roberts et al 1992, Sunaoshi 1999), material recorded in other kinds of workplaces has typically involved planned interactions such as formal meetings in which the participants keep relatively still, and the background noise levels are relatively low. More spontaneous "backstage" data, for example from offices where people move around to talk to different colleagues, or from factories where many jobs entail continuous movement and considerable machinery noise, is relatively rare. In large measure this is because what we think of as 'the workplace' is in fact a highly complex and diverse social setting, and one where the practical demands of the business at hand inevitably take precedence over other more peripheral concerns. The collection of linguistic and ethnographic data as people conduct the day-to-day business of their organisations therefore poses a formidable set of methodological challenges.

This paper describes the unique participatory methodology devised by the Language in the Workplace project (LWP) team to meet the practical and ethical challenges of collecting a large corpus of 'real time' data which provides a realistic picture of the ways in which people talk in a variety of everyday workplace contexts. The first section outlines the key features of the LWP data collection methodology, and the principles underlying its design. The second section documents how this innovative participatory approach has been developed and adapted over the past five years to cope with the 'talking conditions' in different types of workplace setting. The paper concludes with a brief discussion evaluating the usefulness and limitations of this data collection model.

Designing the methodology

Objectives

The Language in the Workplace Project was begun in 1996 with two broad goals in mind: (1) to analyse the features of effective interpersonal communication in a variety of workplaces from a sociolinguistic perspective; and (2) to explore the practical implications of these findings for New Zealand organisations (see Holmes 2000 for a general overview of the project). The LWP team were committed to a programme of applied research undertaken in collaboration with workplace practitioners that would achieve specific and useful "real world outcomes" (c.f. Sarangi and Roberts fc). We also wanted the research process to be as open and empowering as possible, and to avoid any possible exploitation or misrepresentation of our informants. Right from the start of the project therefore, we established an ongoing dialogue with the individuals and organisations involved, and based our research design as far as possible on the action research principle of "research on, for and with" our participants (Cameron et al 1992: 22). This has been carried out within an 'appreciative inquiry' framework, an organisational learning approach which involves looking for what is done well, with the aim of finding ways to share strengths with others and develop them further, as distinct from looking for 'problems' and setting out to 'solve' them (Hammond, 1996).

In designing and adapting the project methodology, the team has kept these basic principles in mind while at the same time weighing up how best to deal with a range of practical issues and constraints which have impacted on the research process.

Practical issues and constraints

In the first instance we needed a practical method of collecting a reasonably representative database comprising high quality, natural interaction data and associated information from everyday workplace contexts. This data set had to be of sufficient size and quality to provide a suitable basis for detailed discourse and pragmatic analysis, and to allow us to take explicit account of socio-cultural factors such as gender, culture, and relative status and power relationships. The process of data collection could not be too intrusive, both in order to avoid'tape shyness', and to minimise disruption to the normal flow of work and interaction. The data collection methodology thus had to meet certain logistical and technical requirements:

- it could not be overly time-consuming for either the individuals or organisations involved;
- it could not be allowed to interfere with the core business of the workplace;
- the method of recording had to be unobtrusive, so that the interactions recorded were as natural as possible;
- it had to be achievable within a limited time frame, yet allow sufficient scope for informants to collect samples of a full range of their typical interactions;
- the technical quality of the recordings had to meet a minimum standard so that analysis was possible;
- each recording had to be accompanied by a certain amount of demographic and contextual information.

Secondly, we wished to establish an ongoing relationship with our participants. This contrasts with more traditional approaches to linguistic research where contact with informants is usually limited to the data collection phase, and perhaps some feedback via a one-off presentation or report of the findings, We wanted our analyses to be as accurate as possible, and we aimed eventually to feed the results into practical applications for the benefit of the participating and other workplaces; consequently it was essential to create opportunities for researchers and participants to give and receive feedback to one another and to provide input at various stages of the research process. It was difficult to predict at the beginning exactly what form this collaboration might take in a given organisation, and so the methodology needed to be sufficiently flexible and adaptable to evolve with the project.

The process of data collection and analysis also had to be managed in such a way that at least some research information and applications addressing issues of concern to the participating organisations (as well as other potential users of the research results), could be fed back within a reasonably short time frame. In other words, we had to build in some short-term outcomes as well as the longer-term results more typical of the academic research process. Even though the participating organisations were convinced that the research had the potential to be useful in the longer term, most still expected a more immediate, concrete benefit in return for their investment of staff time and goodwill.

Thirdly, the research design had to meet a number of stringent ethical requirements, the most immediate of which were ensuring that genuine informed consent was obtained from everyone who was recorded, and guaranteeing confidentiality to the individual informants and organisations involved in the project. These are of course quite usual considerations in any sociolinguistic research, but they acquired an extra edge in the workplace context, where people are very aware of the need to protect sensitive information, and to preserve their relationships with clients, colleagues and managers. Even though they knew that the content of their interactions would not be the focus of the research, our participants were initially very wary of losing control over any data that could potentially identify and compromise either individuals, or the organisations concerned. In addition, we had to be extremely careful that people did not feel pressurised into giving their consent to be recorded simply because their colleagues or managers had already agreed to be involved in the project.

The research team had to devise a flexible and innovative data collection methodology in order to accommodate the various design constraints outlined above, while still meeting the project's longer-term research objectives. As this paper illustrates, the specific ways in which this methodology was implemented evolved over time to meet the changing goals of the research and the varying challenges posed by different workplace environments. However, the basic components and underlying rationale of the model have remained unchanged throughout the five years the LWP team have been collecting data to date. These basic features are briefly summarised next.

Basic components of the participatory model

The central principle of the method we have developed is to use a participatory approach which entails the active involvement of volunteers (key informants) from a particular team or section of an organisation. Essentially this has meant establishing and maintaining an ongoing dialogue with the individuals and organisations involved, based on the principles of action research and appreciative inquiry, and giving both our key informants and other participants ownership over the collection and subsequent uses of the data. This approach has made it possible for the research team and participants to collaborate in setting the research agenda and exchanging relevant information, and has provided a sound basis for the people and organisations concerned to reflect on and develop their own communication practices. The basic data collection model moves through four distinct stages:

(i) making contact/establishing the research relationship;

(ii) collecting ethnographic information and recording talk;

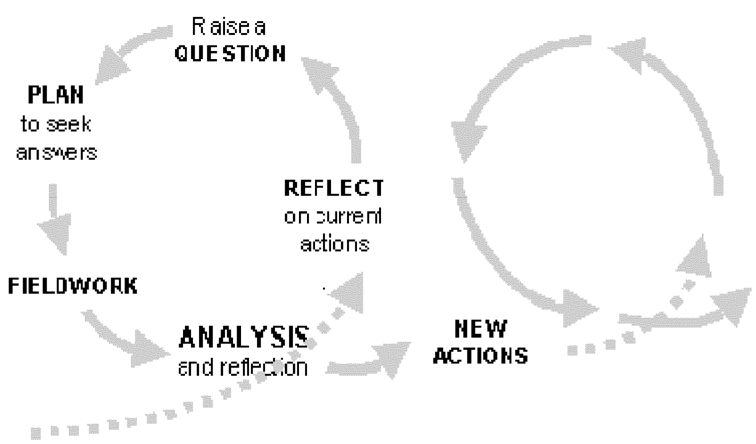
(iii) initial processing and analysis of the data; and

(iv) providing reflexive feedback.

As illustrated by Figure 1 below, this process fits neatly into the pattern of an action research cycle, where successive iterations are possible, thus allowing for the exploration of new research questions, and the development of practical applications, tracking back to one of the previous stages as appropriate.

Figure 1

The action research cycle



[Adapted from Wadsworth 1998]

Our core strategy is to take a 'hands-off' approach to collecting the data, which gives participants as much direct control as possible over the data collection process, and minimises the impact of having outsiders present in a workplace. At the same time, we have found it is essential to actively manage the research relationship so that the individuals and teams directly involved experience the minimum of disruption to their work, and also gain some immediate benefits from their involvement, thus making it more likely that they will remain interested in and committed to the project. Exactly how this is operationalised varies according to the specific conditions in each participating workplace (see below). However, a similar set of strategies has been applied in each case.

In the set-up phase we have found it works best to initiate a research relationship with an organisation via one or more internal contacts who have taken an interest in the research. This contact person might either be a person from our existing networks, or someone who has approached us on their own initiative, who has identified some potential benefits to their organisation of being involved in the research. These individuals are able to generate interest amongst their colleagues and facilitate further, more formal discussions with management to allow the research to proceed to the next stage.

Once people in a workplace become collaborators in the study, key participants are invited to take the role of participant observers, and discuss with members of the research team the communication patterns typical of their workplace, and the issues they are interested in exploring. This initial consultation also provides the basis for collaborative planning of what, where and how to record, and helps to clarify shared objectives and ethical issues.

During the data collection phase, interactions are recorded as unobtrusively as possible (but always with the explicit knowledge and agreement of all involved). This means reducing the researchers' direct involvement in the physical collection of data to the minimum possible in a given workplace. Typically, volunteers representing a range of roles and levels within the organisation agree to carry a recorder and/or microphone and selectively record samples of their everyday interactions at work over a period ranging from two to three weeks to several months.

Throughout the data collection process participants are free to edit and delete material as they wish. Even after they have completed recording and handed over the tapes or discs, they can ask us to edit out material which they feel in retrospect they do not wish us to analyse or use in any published material. Demographic and ethnographic data are collected by a variety of means, including initial discussions with managers, workplace observations, briefing and debriefing sessions with volunteers, contextual notes provided by the participants at the time of recording, and follow-up interviews with selected participants involving the reflexive analysis of data extracts.

For this approach to succeed, it has proved necessary to have a fieldworker allocated to each site while recording is in progress. This person closely monitors the data collection as it is taking place, and provides unobtrusive 'behind the scenes' support, both technical and logistical, in order to make collecting the data as 'painless' as possible for the volunteers, and to help them maintain motivation and momentum. This strategy also makes it possible to adapt quickly to changing circumstances, and has allowed the research team to tailor and streamline the practical systems involved in recording talk and collecting contextual information precisely to each new context, thus minimising disruption to the core business of the workplace, and the amount of time and effort required from the volunteers.

Another vital component of the participatory approach is giving ongoing opportunities for 'debriefing' and dialogue on issues raised by the participants during and immediately after the recording, and providing early relevant feedback in the form of seminars, reports and practical workshops based on the initial data analyses carried out by the researchers. By engaging in a two-way dialogue throughout the research process, and leaving control of the recorded material in the hands of our informants we have developed an excellent research relationship with them. As a result, they have trusted us with a wide range of fascinating material in return for guarantees of anonymity and confidentiality. What we have collected is first and foremost natural data: after an initial period of self-consciousness, people usually relax and revert to their normal behaviour, at least most of the time, and they generally report that the recordings are typical of their routine interactions. The next section describes how the basic methodology outlined above has been implemented in practical terms in a variety of different contexts over the past five years.

Collecting the data

The LWP corpus includes several distinct subsets of workplace data collected progressively in different

New Zealand settings over the past six years.[2] It is the largest and most representative corpus of naturally occurring workplace interaction that we know of internationally, and the richness and diversity of the data has allowed team members to research many different aspects of workplace communication (see Holmes and Stubbe fc). The main focus has been (and remains) on collecting recordings of spoken interactions, both audio and video, along with associated contextual information provided by participants in the study. More recently, however, we have also started to collect samples of workplace writing, in particular email correspondence,[3] as well as other forms of textual and visual information that form part of the overall communicative environment of an organisation.

At the time of writing, the LWP corpus comprises more than 1500 interactions involving approximately 500 people in 14 different workplaces, from a range of ages, ethnic groups and occupations (See Holmes 2000: 2 , Table 1 for a summary breakdown of amounts and types of data collected in each type of workplace). This corpus includes social talk recorded in workplaces as well as task-oriented talk, and the length of recorded interactions ranges from short telephone calls and brief interactions of less than a minute to long meetings which last more than four hours. The data includes workplace talk recorded in a number of large government and commercial white-collar organisations, as well as in small businesses, blue-collar factory environments and more recently, in hospital wards. In what follows, I briefly describe the composition of these data subsets, and outline how the data collection methodology was applied and modified to fit the circumstances and specific research objectives in different workplaces, and to take advantage of advances in the technology available for recording, processing and analysing the data.

Government Offices[4]

During 1996 and 1997, the LWP research team progressively piloted and fine-tuned the participatory methodology outlined above with volunteers from policy and advisory units in four New Zealand government agencies. These workplaces represent an environment where talk is integral to the core business of the workplace. These were the first workplaces to be involved in the LWP research, and they were deliberately selected to include one organisation with a high proportion of women and one with a high proportion of Maori workers, in addition to two workplaces with an ethnic and gender balance more closely reflecting the New Zealand norm. The aim was to generate a data set which would allow for comparative analyses within the corpus of 330 interactions which were recorded during this phase of the project. The bulk of this data consists of small, relatively informal work-related office meetings and discussions involving people from a range of different levels within each organisation. Such interactions fulfil a wide variety of purposes in these workplaces: to plan, to convey instructions, to seek advice, to check reports, to solve a problem or do a task, to provide feedback, to evaluate proposals, and so on. This provides an especially rich source of data for investigating how language functions in the ongoing construction of workplace relationships and how people get things done through talk. The participatory model worked through three main stages in these cases.

Making contact

We first identified an organisation with whom we wished to work, using personal contacts to introduce and vouch for us. Once a candidate organisation was identified, we sought an initial meeting with senior management to discuss our research proposal, ask for their input on common areas of interest, and gain their agreement in principle to being involved. This was followed by an open presentation to all interested parties in the organisation. Here we provided background information on related research, the aims, methods and expected outcomes of the project, and gave people the opportunity to ask questions and make comments.

Recording the talk and collecting contextual information

The next step involved asking for volunteers to record data for us. In each organisation, a group of workers representing a range of roles and levels within the organisation agreed to identify and record a representative range of their everyday interactions at work, totalling up to four hours over a period of two to three weeks. They were asked to record samples of all the different kinds of interaction they engaged in at work, including social chat and telephone calls, as well as more obvious kinds of work-oriented talk. We provided Sony Walkman tape-recorders and plug-in lapel microphones, and a training session on their use. A research assistant was also in regular contact to provide fresh tapes and batteries, and technical advice if needed, and to monitor how the data collection was progressing. We made sure all those involved were aware of the relevant ethical issues, and especially the need to gain permission in advance from anyone who was likely to be recorded. Some kept a recorder and microphone on their desks, others carried the equipment round with them. As mentioned above, throughout the data collection process participants were also free to edit and delete material as they wished.

Every person recorded (not just those collecting the data) was asked to fill in a sheet providing demographic information, as well as explicitly agreeing that the data could be used for linguistic analysis by the project team.(See Appendix 1). Ethnographic data was also collected by means of workplace observations, contextual notes provided by the participants at the time of recording, briefing and debriefing sessions with volunteers, as well as general background information provided by the management of each organisation.

Providing and obtaining feedback

Once the initial data collection and some preliminary analysis had been completed, formal feedback sessions were held at each workplace. These took the form of open fora, including a report on progress and findings to date, discussion of any issues arising, and an exploration of possible future directions and applications for the research. In fact, liaison with most workplaces has continued well beyond the stage of data collection, principally through continued contact with people in each organisation who have developed a particular interest in our project, some of whom agreed to become Research Associates of the LWP team. These people have been (and still are) especially valuable in providing guidance on potential applications of our research, and in identifying directions which would be most useful to their organisations in terms of practical outcomes. Members of the LWP team also ran a range of workshops and seminars at participating workplaces, based on analyses of "in-house" data collected as part of the project. These sessions targeted the evaluation and development of selected aspects of workplace communication, focussing particularly on areas which had been identified as relevant by participants, such as meeting processes, the communication styles of managers, and the relationship between gender or ethnicity and workplace language.

During the intensive data analysis phase of the project, we also undertook follow-up interviews with selected informants involving the reflexive analysis of data extracts and summaries. This follow-up functioned as a way of supplementing the contextual information, checking that our interpretations were on track, trialling some of the ways the project data and our analysis of it might be applied, and providing further opportunities for feedback in both directions. For example, once a particular aspect of the data analysis was complete, we might seek feedback on the output from our participating workplaces. To date, this feedback has taken the form of reviewing academic papers, piloting training materials and workshops, and collaborating in the development of a workplace communication evaluation model.

Corporate project meetings[5]

During 1997, LWP researchers worked with three large private sector organisations to record 30 of their regular meetings over a period of several months in order to study the discourse processes which characterised the interactions of specific project teams (see Marra fc). The initial contact in each case was made via the same 'friend of a friend' strategy as before. Although the basic principles of the methodological design remained the same, the data collection methods required a degree of adaptation to enable us to collect good quality recordings of these larger, more formal meetings. In particular, as soon as more than three or four people are present, it becomes well-nigh impossible to accurately identify and distinguish the voices of participants from audio-recordings alone. These meetings were therefore recorded on video- as well as audio-tape, and the participants also supplied written materials related to the meetings such as agendas and minutes and other relevant background information. This strategy was first piloted in the government policy units, and had the additional advantage of providing information on non-verbal aspects of the interaction, such as the intended addressee, gestures, facial expression, gaze direction, body language, and so on. Again the data collection involved a number of steps.

Recording the talk and collecting contextual information

Initial observations in the relevant organisations indicated that there could be anywhere from six to fourteen people around a meeting table, as well as considerable variability in the size and shape of both the tables and the rooms where the meetings were held. A team might hold meetings in different rooms on different occasions and we often had very short notice of where a meeting was to be held. It was therefore essential to use portable recording equipment which could be quickly set up in a range of venues, and which could capture the non-verbal and verbal behaviour of a large number of participants. To ensure good quality data, we used both video and audio recording. To capture all participants on the video recording, two cameras were set up on tripods in different corners of the meeting room. Because they were fixed, participants adjusted to the cameras remarkably quickly, and by the second meeting they were treated as simply part of the furniture. For the audio recordings, a Sony Professional recorder, which is small, discreet and effective, was placed in a central location, together with an inconspicuous omni-directional microphone.

Because we needed to set up two video cameras in meeting rooms, it was not possible to leave the responsibility for collecting the recorded data entirely to the participants in this case. Nevertheless, we wanted to maintain our practice of minimal intrusion and disruption to the participants' normal discourse practices in order to minimise the participant observer effect. Often, meeting rooms were booked for back-to-back meetings so that the amount of time available to set up the equipment and withdraw from view was very short. Our fieldworkers therefore learned to move very quickly to set up the equipment and withdraw before any of the meeting participants arrived. (See Marra fc for a more detailed description of this process.) While the video tapes ran for up to four hours without needing attention, audio tapes needed to be changed more frequently. Portable digital minidisk recorders solved this problem in the longer term, but in the early stages of the project it was necessary to ask one of the participants (usually the minute-taker) to take responsibility for changing the audio tapes as necessary. To make this process as easy as possible the tapes were sequentially labelled in advance.

One of the advantages of collecting data from larger meetings was the fact that a range of written material was often available to supplement the recorded data. Most meetings had a written agenda and typically a set of minutes was provided after the meetings. Often there were background reports or profiles which related to the issues under discussion. These were made available to us to assist with the interpretation of the data. In addition, as with all our recordings, we were able to consult participants to obtain clarification where necessary, and we conducted interviews with some contributors to gain additional perspectives on the data.

Small businesses and factories

From 1997 to 1999, the LWP team, in association with research associates in Auckland and Hawkes Bay, collected recordings from workers on the shop floor in a range of small businesses and factories again using an adapted version of the basic methodology. These included a plant nursery, a building recycler, a crèche, a hide tanning factory and a soap products factory. This data provides a useful comparison with the language found in white collar environments; in these workplaces, talk is more of a means to an end, and tends to be more sporadic than in professional contexts where talk often *is* the work to a great extent.

This part of the project has tended to take the form of action research, with a very direct link to practical applications for the workplaces or workers involved. For instance, some of the businesses where recording took place offered work experience placements to students with intellectual disabilities enrolled on a polytechnic course. The students were generally able to manage the demands of the work itself, but often found it difficult to cope at an interpersonal level. One of the purposes of the research was to analyse the typical patterns of interaction in these workplaces so that teaching staff could better prepare the students for their placements. Results from analyses of the factory data (where the workforces are culturally and ethnically very diverse) have also being fed into practical applications such as ESOL teaching resources, workplace based communication evaluation and development, EEO and diversity training and support for migrants entering the New Zealand workforce.

These workplaces were very different in character from the office and meeting environments in which we had previously applied our methodology. A significant shift in our data collection methodology was therefore required to overcome various practical and logistical barriers to the recording of spoken interaction such as noise, safety issues and the unpredictable and sporadic communication patterns often found in sites where the work is more practically based, and talk is more often a means to an end.

Supported workers in small business settings[6]

The biggest issue facing the researchers trying to record data in small business settings was gaining the willing co-operation of employers. A number of workplaces likely to employ students with intellectual disability were approached through Supported Employment Hawkes Bay, an employment agency working exclusively with people with a disability. People in workplaces were asked to record normal everyday talk at work for approximately ten days covering a range of different types of social interactions that typically occur as part of their working week. These would include greetings, farewells, break time socialising, small meetings, informal work related discussions and conversations, and any other social interactions in the workplace. The selection of possible businesses to include in the project was constrained by a number of actual and perceived barriers to recording:

- they had a large part of their communication with the public and gaining consent for these short interactions would be difficult.
- too many employees were present at breaks and other useful recording times.
- some businesses such as factories were too noisy.
- there was minimal conversation as people mainly worked alone on practical tasks.
- concerns about confidentiality and the uses to which the data would be put

Three workplaces agreed to take part and further meetings were set up to explain the detail of the recording process, which eventually resulted in the collection of over 90 interactions involving 30 participants using Walkman tape recorders and lapel microphones. The discussions with the workplaces that did not agree to participate were also enlightening and the researchers were able to gather much useful data on the communication problems associated with people with intellectual disability in a variety of employment settings (Fillary 1998, Holmes et al 2000).

The soap factory[7]

In 1999, the research team was approached by a manager from the Unilever plant in Petone who was interested in collaborating with the project team on some research relating to the effectiveness of communication in self-managing teams at the factory. The management recruited the factory's top-performing production team to take part in the study. Their team co-ordinator (TCO) was particularly interested in further improving communication within her own team, while the factory's human resources and training managers wanted information that they could use to assist other production teams perform to a similar standard. The research team hoped to use both the data collected, and the collaborative action research process itself, as a basis for developing a more widely applicable communication evaluation and development model for use in New Zealand workplaces.

Our initial discussions with the TCO, and a tour of the very busy and noisy factory floor, very quickly impressed on us that our existing methodology would have to be substantially adapted in order for us to collect any useful data in this setting. There were a number of challenging technical and logistical problems to resolve before we could successfully collect natural interaction data in this environment. For instance, we had to develop new strategies for identifying and collecting a useful and representative sample of natural interaction data from a dispersed workforce engaging in limited face-to-face interaction. We also had to devise appropriate ways of physically collecting recordings and essential contextual information about each interaction in an extremely noisy environment where the workers moved around constantly. In addition, we faced some tricky ethical issues around the relationship between the research team, factory management and the participants themselves. These issues included gaining the trust and co-operation of team members, ensuring all recording/notetaking was done with informed consent, and satisfying ourselves that this consent was freely given, and not simply out of compliance with management wishes.

Our key objective was to retain the participatory approach that characterised our existing methodology, and to ensure that individuals still had maximum control over whatever data was collected from them. However, the data collection process clearly had to be much more 'hands-on' than had been our practice before- it would not be possible just to hand over the task of selecting and recording interactions to workplace volunteers as we had done elsewhere, as this sort of activity is simply not compatible with the nature of work in a factory.

Recording the talk and collecting contextual information

Data collection in the form of participant observation and recording of this team's communication was undertaken over two separate periods. In the first stage, the fieldworker was present at the factory for a rolling three to four hours a day over successive shifts, in order to obtain pilot samples from each part of a typical day and each day of a 4-day shift, and to gather baseline data to feed into the collaborative action research project. The second stage of this project, three months later, involved more intensive data collection for six full twelve-hour days. (This included recording and observing a complete four-day shift, plus a day at the end of the previous shift and one at the beginning of the following shift). The fieldworker remained on-site throughout each recording period to change disks and batteries, write-up interaction notes, obtain ethnographic information, and begin data processing. She eventually developed considerable skill in balancing the practical requirements of data collection (e.g. servicing equipment, recording contextual information) with being as unobtrusive as possible in order not to interfere with the team's usual patterns of work and communication. In fact she blended in so well in her role of participant observer that she was eventually offered a job in the factory. This multi-component method of data collection, which was developed initially for use in the factory environment, has subsequently provided a useful model for other busy, noisy, and complex workplaces, such as hospital wards (Major 2001). It has also produced a very rich, dense and multiplex data set comprising over 1500 interactions and almost 70 hours of recorded speech, with excellent potential for triangulation and intertextual analysis.

The production team work in two separate areas. One is a manufacturing area, where operations are monitored from a computerised control room. People constantly move in and out of this room, and a radio intercom to the factory floor is in regular use. The second area is the packing line where talk tends to be intermittent to impart specific information or instructions, and workers move around as they monitored machinery. The staff from these two areas do not typically interact physically during the course of the day. Different methods of recording were required in each context. Adding to the complexity, the team co-ordinator moved between both of these areas and management offices in a separate location, and other workers such as engineers and stores staff also moved in and out of the area and engaged in interactions with the team on which we were focussing.

In the control room, we found the best quality of recording was obtained using a portable digital minidisc recorder and a Soundgrabber microphone. For particular individuals or for static and less noisy situations, such as the morning briefing sessions, the fieldworker set up a minidisc recorder, together with a high quality omni-directional lapel microphone. In this context, agreement to record was obtained on every occasion before the recorders were switched on. For workers who moved about the factory floor, one or two key individuals carried radio microphones for two to three hours at a time, transmitting to a minidisc recorder in a suitable location, and monitored by the fieldworker. The latter produced good results, especially in situations with a lot of background noise, and had the added advantage that the person 'wired up' was not constantly reminded that they were being recorded by the need to change discs. In fact, minidiscs provided an extended recording time of 148 minutes, together with a full random access editing capability, which proved invaluable for data processing in a situation where there were often long intervals between interactions. The changing over of microphones provided a natural point for the fieldworker to gather background information, with people generally reporting that they had quickly forgotten about the fact they were being recorded. As in all previous recording, participants had the right to ask for material to be deleted or to veto the use of any talk they did not want used for analysis.

Providing feedback

Because the kinds of data collection undertaken in this factory and in the small businesses were generally framed very explicitly right from the start as action research, feedback to the participants, and to other interested parties such as human resources and supported employment personnel, was an integral part of the process. Thus at the soap factory, the fieldworker and principal researcher from the LWP team had regular meetings with the team co-ordinator, and with training and human resources staff to explore how the results of the research could most usefully contribute to team development programmes at the factory. The team members themselves also had a number of opportunities to interact informally with members of the research team and were invited to two feedback sessions where they were able to hear samples of the recordings and discuss how the material might be used.[8]

Discussion

This chapter has so far described the rationale and key features of the participatory methodology which has made it possible for the LWP team to collect such a rich and diverse database of naturally occurring workplace talk and ethnographic data. Clearly, our evaluation of this approach to data collection in the workplace is an overwhelmingly positive one. It has proved to be a very productive and flexible methodology over the years, which can be adapted to many different settings, and it has proved its worth as a tool for both theoretical and applied research into workplace language.

First of all, taken together or separately, the various data sets provide an ideal open-ended research corpus for analysing and illustrating the complex nature of workplace interaction. Initially we took a calculated risk that giving up control as researchers over exactly what data would be collected and from whom, would provide sufficient benefits to outweigh any disadvantages incurred by introducing a random element into the research design. This did in fact turn out to be the case, as the 'dripfeed' method of collection, whereby the data collection by each volunteer was spread over several weeks, allowed us to monitor the data as it came in and ask people to make adjustments accordingly. We thus still achieved a reasonably representative mix of informants and data types, with enough breadth and depth in the database as a whole to allow the construction of carefully selected and structured subsets of data for particular analyses where necessary, but with some unexpected bonuses as well.

For example, in the government workplaces, because people were recording a large number of their interactions within a short space of time, we regularly obtained a series of topically linked interactions which were particularly valuable from the point of view of undertaking "thick" description and qualitative analysis (Sarangi and Roberts 1999). One striking example of this occurred when an informant with an employment-related grievance felt comfortable enough to record both a full and frank discussion about it with a friend over lunch, and also a subsequent lengthy meeting with a senior manager about the same issue. We regularly obtained a series of interactions which were similarly linked in some way.

This observation led to a deliberate modification of the methodology used in the soap factory, so as to build in greater depth and intertextuality as well as breadth of data. This outcome was achieved by collecting data very intensively from several people at once, with the aim of recording as many interactions as possible in a given space of time. Taken in conjunction with detailed participant observation and the collection of other kinds of related data such as interviews and documents, this maximised the chance of related topical themes and contextual information emerging to enrich the analysis. A similar effect was obtained by recording related series of project team meetings in the corporate organisations, although here the degree of intertextuality was of course limited by the fact that we were recording only in a single setting.

Naturally there are also some things which were sacrificed when we handed over control of the recorders to our volunteers. One of these is an occasional lack of completeness in some aspects of the data. For instance, our volunteers often tended to view'off-task' talk as unimportant, and would thus regularly fail to record instances of social chat, at least until we had managed to persuade them that it was perhaps more significant than they initially thought. This has made it difficult, for example, to do a reliable analysis of the distribution of small talk at the boundaries around meetings, as our informants would often wait until the formal business began before switching on the recorder. Other reasons for gaps include instances where a crucial interaction from our point of view was accidentally recorded over, or where people exercised their right to edit out part or all of a discussion. In some cases, people found it very difficult to collect very much data at all, which meant that the data collection process could take much longer than allowed for. However, on the whole, it has been possible to work around such issues, and the richness and authenticity of the data in other ways more than make up for these occasional frustrations.

Another challenge, somewhat ironically, has been that at times we have been faced with an embarrassment of data riches - inevitably, it is very quick and easy for a group of people in an organisation to record up to 30 – 40 hours worth of interactions in just a few weeks once they set their minds to it, but it takes much longer to describe, transcribe and analyse this much data. It is not always easy for the layperson to understand why they might have to wait a year or more before they can get any detailed feedback from the recordings they so painstakingly collected. This meant that we had to develop some very robust and efficient strategies and systems for quickly cataloguing and describing the data as it came in from our volunteers, so that we were in a position to selectively analyse some material in order to provide initial feedback to our workplace collaborators.[9] (A detailed description is beyond the scope of this paper, but Appendix 2 provides a summary of the data processing system we currently use, and Appendix 3 provides a sample description, which provides a basis for deciding whether all or part of an interaction will be transcribed and analysed at a given point in time).

It would be difficult to overemphasise the importance of sound systems and protocols for processing and archiving large amounts of spoken interaction data. Without good data management systems it would have been impossible, for instance, for the LWP team achieve the progressive approach to analysing the data which has allowed us to sustain such a fruitful ongoing dialogue with our workplace participants. These systems have also made it possible to take a selective corpus-based approach to the data when appropriate, while still retaining the ability to collect or construct more specific or controlled data sets at other times.

The research processes and systems we have evolved also helped us to develop a relationship of mutual trust and involvement with our informants, so that we were able to go back later to ask more questions, get feedback on our interpretations, and obtain permission to use extracts for presentations, workshops and publications. The methodology developed for this project has thus made it possible to adopt a qualitative, grounded approach to the analysis of data, and to begin detailed analyses at a relatively early stage in the life of the project. (See our website at www.vuw.ac.nz/lals/lwp for examples of the research topics that members of the LWP team have worked on to date). This information is now also starting to be used in the development of a range of practical training workshops and materials.

A second important way in which the LWP methodology has proved its value is shown by the positive feedback we have received from participants about the benefits to them, both personally and professionally, of their involvement in the data collection and feedback processes. For instance, people often reported they had gained useful insights simply by monitoring their actual interaction patterns as compared to their perceptions, or by listening to their own recordings:

> *... but what was interesting was that because of this project I realised how.. it's just constant? you're working on something and your boss is there talking about something completely different and um yeah... like when Leila- she's not in there AT ALL you actually get all this work done [laughter]... it wasn't till I started doing this and had to turn the tape on and off that I realised the interruptions?*

The practitioners who attended our presentations and seminars were fascinated by the practical examples of workplace communication issues generated by the project, and they often reported that they found it particularly illuminating to have the opportunity to look in detail at some of their own interactions during the feedback and follow-up sessions:

> *... it was really interesting when you came and did that feedback session with us..it was um kind of like you know lightbulbs go on when you do the explanations you suddenly realise- ++ what's going on here some of it was not unfamiliar + to me but to others I think it really was quite a revelation... yeah and the step beyond that which is how you could- what you could do to change the situation if you like if you can identify that something's going on what strategies could you use to to get a good outcome... ...*

Because the resultant learning is rooted in their own experience and workplace contexts, participants report that it is inherently meaningful to them and thus more likely to be acted upon – resonating strongly and staying with them in a way that information from training courses seldom does. For example, even several years on, we occasionally encounter participants involved in the early stages of the study who still clearly remember details of their experiences during the research, even down to the dynamics of particular interactions they had recorded and reflected upon.

The research team has found it equally valuable to collect suggestions from participants to guide the next stage of analysis. Their feedback has also led us to experiment with facilitated reflection as a tool for evaluating communication (see Jones and Stubbe fc for a more detailed discussion). This process involves combining the researchers' 'outsider' perspective and tools, with the more 'subjective' and detailed 'insider knowledge' of the informants, and is valuable to both parties. From our perspective as linguists, it enables us to fine-tune our analyses and to develop grounded theories about the characteristics of workplace communication.

Conclusion

The unique participatory research model described here initially evolved in response to the particular challenges inherent in collecting a large amount of natural interaction data in a workplace setting. Using this approach has raised a number of interesting methodological and ethical issues of a kind which do not usually face researchers engaged in more traditional types of sociolinguistic research. However, the flexibility of the model has turned out to give it a number of significant advantages over more traditional sociolinguistic methods, and as such, it has the potential to apply well beyond this one project. We have obtained a valuable database, comprising both recorded natural interactions and a large amount of ethnographic information which has considerably enriched the analysis undertaken so far. The practitioners involved, for their part, have suggested that engaging with this process has made them more critical and open-minded observers of their own communication practices. The methodology used for collecting the LWP data has also produced ongoing benefits for the participating workplaces in terms of a range of practical training and development outcomes. As such, it has proved to be an eminently practical means of marrying theoretical and applied research goals.

Notes

[1] This paper draws on a range of published and unpublished reports describing different aspects of the LWP methodology, in particular Stubbe 1998, 2000, 2001, Fillary 1998 , Marra fc, Stubbe and Ingle 1999, Vine, Johnson, O'Brien and Robertson fc, Holmes and Stubbe fc.

[2] The development and implementation of the LWP methodology has been very much a team effort, with different researchers taking primary responsibility for the research design, data collection/fieldwork and data processing at various stages of the project, or at particular research sites (see specific acknowledgments in subsequent notes).

[3] During 2000, some members of the LWP team undertook a pilot study investigating the use of and attitudes towards email communication in the workplace (Wallace 2000). The data collected included the results of a survey of workers in two large organisations, a number of focus group interviews, and a body of email correspondence. More data of a similar kind is currently being collected in a wider range of organisations, and will be used to study the style, role and status of workplace email in relation to workplace culture (Waldvogel 2001).

[4] Janet Holmes and Maria Stubbe jointly developed and piloted the original data collection methodology in the government workplaces during 1996-97, with Maria Stubbe, Megan Ingle and Diane McConnell carrying out the on-site fieldwork. A more detailed account is provided in Stubbe (1998).

[5] This adaptation of the LWP methodology was undertaken by Janet Holmes with Meredith Marra, Bernadette Vine, Kate Kilkenny and Shannon Marra carrying out the on-site fieldwork. The material in this section draws on Marra (fc) and Holmes and Stubbe (fc).

[6] This adaptation of the LWP methodology was undertaken by LWP research associate Rose Fillary, and Marianne McLeod of Supported Employment Hawke's Bay, in the course of their work with intellectually disabled students engaged in vocational training. (See Fillary 1998, Holmes et al 2000)

[7] The LWP methodology required significant modifications in order to succeed in a factory floor setting. The methodology for the pilot study and subsequent full-scale data collection was designed by Maria Stubbe and implemented with the invaluable assistance of Megan Ingle, the on-site fieldworker. (See~~Stubbe and Ingle 1999~~ for a more detailed description).

[8] Subsequently, members of this team have been involved in the filming of a video produced by the LWP project as part of a training resource kit, aimed at the development of effective communication in multicultural factory teams (Stubbe and Brown fc).

[9] The data processing and information systems which underpin the LWP corpus were designed by Maria Stubbe in collaboration with Bernadette Vine, who manages the databases and transcription of recordings. These systems have continued to evolve with the project, but were originally adapted from those used in the construction of the Wellington Corpus of Spoken New Zealand English (Holmes et al 1998).

[10] All information about participants and interactions is stored securely on a relational database. Individual participants and organisations are assigned pseudonyms at this stage before any further data processing takes place to protect their anonymity.

[11] See Vine et al fc LWP Occasional Papers 5 for a description of the LWP transcription conventions and how they were developed from the systems initially created for the construction of the WCSNZE and ICE (New Zealand) corpora.

Appendices

Appendix 1

Samples of participant documentation

(1) Sample information sheet and consent form

Language in the Workplace Project

<u>Information for participants</u>

About the project

Researchers from the Language in the Workplace Project have been studying workplace communication since 1996. So far, we have collected hundreds of recordings from office workers in government departments and companies in Wellington like [*name*] and [*name*], from factory workers in Auckland, and from various small businesses in Hawkes Bay. Some aspects of workplace talk we have looked at include how people use talk to get things done at work, how people prevent or fix up misunderstandings, and how they use humour and small talk to get on better with their workmates.

What will the researchers do?

At [*name of organisation*], we want to find out what strategies are used by groups of workers that communicate well, and then use this information to help teams find ways to improve the way they work together. To do this we need to find out how people actually talk to each other as they go about their work. One of our researchers will observe and talk to the members of your team and make notes, and some of your colleagues will record some of their day-to-day interactions onto (*audio/video tape/disc*). We will then take these recordings away, transcribe them, and analyse the communication patterns. (We will replace real names with pseudonyms to protect your identity). When we have finished, we will give you a summary of the results, and check whether you would like any other sort of feedback, such as a workshop.

What will the data be used for?

The recordings and other information we collect from you will be used only for these purposes:

(i) linguistic research, including doctoral research; (ii) publications, presentations and resource materials based on this research; and (iii) evaluation and development of team communication at [*organisation*].

Who will have access to the data?

All tapes and other information collected as part of this project will be stored securely at Victoria University. Only authorised members of the research team will have access to this material. From time to time, we may play short excerpts from the tapes in professional contexts such as seminars, but only if we are sure that no one will recognise you. We will not play any recordings to other staff or managers at [*organisation*], or put them to any commercial use without your express permission.

I give permission for audio/video recordings of my talk at work and other related information collected by the Language in the Workplace Project at [*organisation*] from [*dates*] to be used for the research purposes described above. I understand that only authorised members of the research team will have access to the tapes and any personal information collected as part of this project, and that my identity will not be disclosed without my permission in any circumstances.

Signed: ____________________ Full Name: ______________________________ Date: / /

(2) Sample background information sheet

Language in the Workplace Project

Background Information

1. What is your current job? ______________________________

2. How long have you been with [*organisation*]? ______________________________

3. Gender: Female Male

4. Circle your age group: 16 - 19 20 - 24 25 - 29 30 - 34

35 - 39 40 - 44 45 - 49 50 - 54

55 - 59 60 - 64 65 - 69

5. How old were you when you left school? ________________________________

6. What is your highest educational qualification ________________________________

7. Which ethnic group do you identify with? ________________________________

8. Were you born in New Zealand? Yes No

If yes, please specify town or region _________________________________

If no, (a) where were you born? __________________________________

(b) at what age did you come to New Zealand? ______________________________

9. Have you been overseas in the last 3 years? Yes No

If yes, for how long were you overseas in the last 3 years ? ___ years ___ months ___ weeks

How long in total have you spent overseas during your life ? ___ years ___ months ___ weeks

Provide approximate dates. _____________________________

10. Do you speak any languages other than English? Yes No

If yes,

(a) Which language did you speak first in your home as a child? ___________________________

(b) At what age did you first learn English? ___________________________

(c) Which language(s) do you speak at home now? ___________________________

(d) Which language(s) do you speak at work? ______________________________

Appendix 2

Data Processing Flowchart

Cataloguing the Data:

A. Background information put into the ACTORS database.[10]

B. Audio/video data backed up onto CDs.

C. Timecode tapes or track mark minidiscs, and log interactions onto the EXTRACTS database using standardised numbering system.

D. Process contextual data and other materials, and file in both electronic summary and hard copy form.

E. Original recordings archived in cool store.

↓

Description of Data:

A. Set up the interaction file, including a coversheet.

B. Minidisc data recorded onto tape if required.

C. Notes made detailing what is happening. If the interaction is less than four minutes, it is transcribed immediately.

D. Key words and other supplementary material typed onto the cover sheets.

↓

Evaluation:

A. Evaluate and prioritise the interaction for transcription and analyses.

B. Incorporate into relevant data set(s) as appropriate.

↓

Transcription:

A. Use existing interaction file for this, which includes the description

B. Transcribe using LWP conventions[11]

C. The transcription needs to be proofread at this point
D. Finalise the transcription.

↓

Analysis:

A. Construction and cataloguing of specific data set(s).

B. Analysis of transcribed recordings and associated contextual information.

C. Analysed examples entered into item bank.

Appendix 3

Interaction files

A separate file, identified with a unique alphanumeric filename, is set up for each audio interaction recorded after it has been logged onto the database. A word-processing application (WordPerfect) is used to record descriptive notes and for transcription. These files are saved in both rich text and WordPerfect formats, so that they can be easily backed up and opened in other applications (e.g. other word-processors, qualitative analysis applications such as NVivo, HTML etc).

Descriptions provide a means of quickly identifying what a particular interaction is about, who is involved, the structure of the interaction etc. without fully transcribing the whole interaction, which is very time consuming and often unnecessary. The description can then be used to determine whether any interactions or passages are relevant to a particular analysis and/or need to be transcribed.

Sample cover sheet and description

LANGUAGE IN THE WORKPLACE

Sample: NZW07-09

Processing details:

Description: yes, whole

Describer: Joe Bloggs

Date last amended: 18/1/00

Transcript: no

Transcriber:

Date last amended:

Transcript word counts:

Other details:

Noted by:

Date last amended:

Keywords: gossip; humour

LANGUAGE IN THE WORKPLACE

~~Sample:~~ NZW07-09

~~Tape Location:~~ tape five, side two

~~Start Time:~~ 4:47

~~Date of recording:~~ 8/8/99

~~Length (time):~~ 2 minutes 7 seconds

~~Type:~~ Dialogue

~~Contextual Information:~~

Taped in smoko room during morning tea break

~~Participants:~~ [*all names are pseudonyms*]

Daisy Parker (Manager), Fred Kearney(Manager)

Daisy is a Pakeha female aged 35-39 (#777) [*Actor number*]

Fred is a Pakeha male aged 45-49 (#776)

~~Transcription notes:~~

[*Any other relevant notes are recorded here, e.g. sound quality poor, informant not present for whole interaction, etc*]

Can hear radio and other people talking in background

It is a little hard to hear in places

Description notes:

4:47

Daisy comes into smoko room and greets Fred. They talk briefly about their mornings.

5:35

Fred arranges a time to meet later on to discuss a draft of a paper that someone in his team has written.

Speaker Identification: [*times of beginning and end of interaction; times with speakers' initials and a few words from each*]

[tape 7-05, side two]

4:47 [NZW07-09 starts]

4:56

DP: it's been pretty slow this morning

5:40

FK: ... how does one thirty suit you

6:54

[NZW07-09 ends]

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LANGUAGE IN THE WORKPLACE