# CHAPTER 3
# METHODOLOGY

## 3.1 INTRODUCTION

The current chapter describes the research methodology of the study. The aims, sub-aims and the research design, as well as employment contexts, participants and material for data collection are described. The data collection procedure is discussed in terms of ethical issues, the pilot study and the main study. Lastly, a description is given of the data analysis procedure.

## 3.2 AIMS

### 3.2.1 Main Aim

The main aim of this study is to analyse the topics occurring in social conversation amongst employees in the workplace.

### 3.2.2 Sub-aims

In order to achieve this main aim, the following sub-aims were identified:

1. Identifying two work settings where people with LNFS could potentially be employed
2. Obtaining "on-site" recordings of social conversations amongst employees at these work contexts
3. Transcribing these conversations verbatim
4. Analysing each segment of conversation according to the referential frames of *time, person* and *content*, and thus determining which topics were referenced during social conversations - in general and on specific weekdays, within and across specific work settings, and establishing the relative frequency with which these topics were referenced

## 3.3 RESEARCH DESIGN

Interpretative social science aims at analysis of socially meaningful action through various methods, such as participant observation, field research or analysis of transcripts of conversations in order to describe and improve understanding of social phenomena as they occur in natural settings (Neuman, 1997, p. 62-63). The use of a small group study design enables a researcher to obtain in-depth information on a limited number of cases (Neuman, 1997, p. 331). As the goal of this study was a detailed description of topic referencing occurring in social conversation at the workplace, a small group field study design was adopted. Conversations occurring amongst employees in two employment contexts were recorded. Recordings were made on nine days over a two-week period in the first employment context (A), while recordings were made on two separate days over a period of three months (81 days apart) in the second employment context (B). (Refer to 3.7.3. for a more detailed description of the data collection procedures.) The data collected consisted of recorded conversational samples totalling 227 min 58 s. This data was analysed in detail to establish patterns and correlations with regard to the topics referenced.

Both qualitative and quantitative methods of data analysis were used. Descriptions of the topics referenced and the communication functions used were supplemented by descriptive statistics. Frequencies with which topic categories were referenced, were established.

## 3.4 SELECTION OF EMPLOYMENT CONTEXTS

Participants for the study were selected from a work context that was identified as a possible employment context for people with LNFS. The population of people with LNFS includes people with acquired physical and/or sensory impairments, developmental disabilities, and cognitive impairment (Lloyd et al., 1997). In accordance with the South African Employment Equity Act (1998), all employers are obliged to develop policies to ensure fair employment opportunities for hereto disadvantaged groups, including people with disabilities. As cradles for critical thinking and consequent change in society attitudes and policies, universities should arguably act as pioneers not only in the advancement of new theoretical concepts, but also in their practical implementation. It was therefore decided to target employment contexts on a university campus. The help of the university's human resource department was sought in identifying employment

contexts where AAC users were most likely to be employed. Human resource managers were thus provided with the following definition: "AAC users are those persons relying on the use of special strategies, techniques and devices to augment and/or to serve as an alternative to natural speech and/or writing. AAC can take the form of low technology such as paper-based communication boards, or high-technology communication systems, such as computerised communication devices. These AAC users are able to communicate, yet communication tends to be slower, less spontaneous and more prone to communication breakdown than communication by speech."

Here following is a description of each of the employment contexts selected:

**TABLE 3.1: Description of the two employment contexts selected**

| | Department | Number of employees | Physical lay-out |
|---|---|---|---|
| **Context A** | Bindery | Permanent: 6 | Work area:<br>One large room where employees work in relative proximity most of the time<br>Tea room:<br>One large dining room table with 8 chairs around it in the middle of the room, with cupboards, microwave and fridge standing against the walls. |
| **Context B** | Printing works | Permanent: 9 | Work area:<br>Three employees work in two adjoining offices. The others work in three adjoining rooms.<br>Tea room:<br>Two low coffee tables in the middle of the room. One sofa and four comfortable chairs around the tables. Microwave and fridge in the corner of the tearoom. |

## 3.5 PARTICIPANTS

### 3.5.1 Selection criteria and recruitment

The only prerequisite for selection was that participants be employed at either employment context. All employees from each context were approached, briefed on the purpose and procedure of the study and asked whether they would give consent to take part in the study. The purpose and procedure was then given to them in writing and they were asked to sign a written consent form (Appendix A). Two employees from Context B did not give consent to participate in the study. The recordings at that specific context were to be made during tea and lunch breaks in the

tearoom. These specific two employees reported that they did not go into the tearoom, and that recordings made there would thus not affect them.

### 3.5.2 Descriptive criteria

Participants were asked to fill in a short questionnaire (Appendix B) on relevant descriptive details that were seen as important for contextualising the data. The descriptive criteria of the participants are summarised in Table 3.2.

Age was specified, as communication patterns vary with age (Boden & Bielby, 1986; King, Spoeneman, Stuart & Beukelman, 1995; Ulatowska, Cannito, Hayashi & Fleming, 1985). Furthermore, Beukelman and Mirenda (1998) draw attention to differences between 'male' and 'female talk', amongst others in terms of topic referencing. Gender of the participants was thus specified. Highest educational level attained was described, as the degree and type of exposure to educational institutions might play an important role in topic referencing of the individual. Similarly, marital status of an individual as a description of his/her nuclear family relationships (Lane & Molyneaux, 1992) might have an influence on the individual's topic choice in conversation. Marital status of the participants was described as single, married, widowed or divorced.

Fishman (1986) described the influence of home language and competence in the language of conversation on topic choices, noting that the language spoken might promote/inhibit the discussion of certain topics (p. 439). Linguistic competence in a second language spoken during a conversation would furthermore influence the contributions of the second-language speaker. Second-language speakers were thus identified and required to indicate the number of years they had been speaking the language of conversation. All conversations that were recorded were in Afrikaans. In Context A, one participant's home language was not Afrikaans, while two participants in Context B were not native Afrikaans speakers. All three participants had been speaking Afrikaans for longer than 5 years; the latter two even for longer than 10 years, suggesting rather proficient use of the language.

The individual's post within the employment setting partly determines his/her social role towards other employees, be it as a superior, peer or subordinate. In Context A, two males held positions slightly senior to the other employees (refer to Table 3.2). In Context B, the manager was clearly senior to all the others, while the chief printer was slightly senior to the administrative officers and the setting machine operator.

According to participants' different home languages, cultural differences would be expected. However, by sharing a work setting they would be expected to have adjusted to a commonly shared 'work culture'. As most participants were Afrikaans-speaking, the 'culture' at the work place would be expected to have characteristics of the Western culture.

**TABLE 3.2: Descriptive criteria of participants**

| Context | Participant | Age | Gender | Highest level of Education | Marital status | Home language | Years of speaking Afrikaans | Post held |
|---|---|---|---|---|---|---|---|---|
| A. Bindery | 1 | 40 | M | Std 8 | Divorced | Afrikaans | n/a | Binder assistant |
| | 2 | 46 | F | Std 7 | Married | Afrikaans | n/a | Binder assistant |
| | 3 | 50 | M | Std 6 | Married | Afrikaans | n/a | Assistant binder |
| | 4 | 51 | F | Std 6 | Married | Afrikaans | n/a | Binder assistant |
| | 5 | 40 | M | Std 8 | Married | Afrikaans | n/a | Assistant binder |
| | 6 | 42 | M | Std 9 | Married | Northern Sotho | >5 | Binder assistant |
| B. Printing works | 7 | 63 | F | Std 6 | Married | Afrikaans | n/a | Chief printer |
| | 8 | 38 | F | Senior Certificate | Married | Italian | >10 | Administrative officer |
| | 9 | 43 | M | ND printing management | Married | English | >10 | Manager: Printing works |
| | 10 | 55 | F | Senior Certificate | Married | Afrikaans | n/a | Administrative officer |
| | 11 | 55 | F | Senior Certificate | Divorced | Afrikaans | n/a | Administrative officer |
| | 12 | 50 | M | Diploma: Setting machine operating | Married | Afrikaans | n/a | Setting machine operator |

## 3.6 EQUIPMENT AND MATERIALS

Background information of each participant was obtained by means of a questionnaire filled in by participants themselves. The spoken conversations were recorded by means of one portable

Sanyo Compact Cassette Recorder M111OC and one portable Panasonic® RQ-L10 Mini Cassette Recorder, both of which were fitted with Audio Pre-Amp low-noise external microphones. In view of the impact of communication partners on conversations and the notion that topics evolve as a collaborative effort between communicators (Crow, 1983), it was decided not to use lavaliere microphones in order to capture the whole conversation with the contributions of all participants. In so doing, the analysis might be richer and references of participants might be easier to understand.

## 3.7 DATA COLLECTION PROCEDURES

### 3.7.1 Ethical issues

Approval of the research project was sought from the head of Human Resources from the specific university prior to conducting the project. Approval was furthermore sought from the personnel managers of the various departments concerned. The study was also approved by the ethical committee of the university.

Prior to their inclusion in the study, potential participants were informed, in understandable language, about the aim of the research project. They were assured of their free choice to participate or to decline from participation, as well as to withdraw from the study. They were assured of confidentiality of all information. Persons willing to participate were required to sign a consent form containing the above information. All research data permitting personal identification of participants is kept confidential. On request, participants will be given free access to the completed research report.

### 3.7.2 Pilot study

A pilot study was conducted in order to test the proposed methodology of the study. A brief description of this study follows:

**TABLE 3.3: Pilot study**

| Aims | Procedure | Results | Recommendation |
|---|---|---|---|
| 1. Testing the integrity of the recording equipment and establishing whether recordings of group conversations could easily be transcribed | The Pilot study was conducted in the first employment Context, 3 months prior to the main study. Participants were the same as those participating in the main study. The researcher placed the Sanyo Compact Cassette recorder M1110C in the middle of the table at the beginning of the day. One of the employees switched the recorder on at the beginning of the lunch break, and switched it off at the end of the lunch break. The researcher, who was not present during the lunch break, collected the equipment at the end of the day and transcribed the recording accord into the predetermined transcription rules. | The recording integrity was found to be adequate as long as participants were relatively near to the cassette player (about 1m radius). As soon as participants moved out of this radius (as happened after the initial 10 minutes of the lunch break), the recording became difficult to transcribe. Multiple small group conversations occurring around the table after the first 10 minutes of the recording also made transcription difficult. | The recording equipment needed to be adjusted in order to make provision for:<br>1 Recording over a distance of more than a metre<br>2. Recording more than one conversation occurring in the same room.<br><br>The researcher therefore decided to<br>1. Use external microphones with a wide range within which sound could be picked up<br>2. Use two recorders that could be placed strategically rather than remaining in the middle of the table, to reduce the likelihood of two conversations both equal distance from the recorder to be picked up by the microphone. |
| 2. Establishing whether the recording equipment and its positioning negatively influenced spontaneity of social conversation | Employees were informally asked to comment on the effect that the recording equipment had on their conversation | Employees noted that the recording equipment being visible in the middle of the table did inhibit their conversation. They indicated that they would prefer the equipment to be out of sight, and for them not to know when it was switched on, in order for their conversation to be natural and spontaneous. | The researcher decided to make use of an informant. This person agreed to strategically place recording equipment and to switch it on and off - unknown to other employees when social conversation occurred. As the employees did not take lunch in the tearoom every day, the researcher and informant decided to make recordings within the workroom during work time as well. |
| 3. Establishing whether transcribed conversation could be analysed according to the three referential topic frames used in the studies of Stuart (et al., 1993) and Balandin and Iacono (1998a). | The transcribed sample (10 minutes) was analysed according to the procedure outlined in3.8.3. | Topic analysis by the three referential topic frames was found to be possible for the transcribed conversational sample. | None |

### 3.7.3 Main study

Prior to the recording, participants were informed that the purpose of the study was to analyse the topics and communication functions used during meal break conversations. Participants were told that recordings would be made during the course of the next few months. They were assured that confidentiality would be maintained. Participants at both employment contexts requested for them not to know the exact dates of the recordings, and for recording equipment to be placed out of their sight, as they felt that doing otherwise would inhibit the conversations. Consequently, one employee in each context agreed to act as an assistant. This assistant switched the recording equipment on and off - unknown to fellow employees - at times appropriate according to his/her judgement, in order to capture the social conversations of fellow employees. Recordings were made on nine days ( nine consecutive working days) over a two-week period in the first employment context (A), while recordings were made on two separate days over a period of three months (81 days apart) in the second employment context (B). In the latter context recordings were only made in the tearoom, where employees occasionally spent their tea or lunch break. Building alterations were made to this tearoom in the time after the first recording, resulting in a period of three months during which the tearoom was not utilised. After the alterations had been made, the tearoom was considerably smaller, and seemed even less popular with employees as a venue for meal breaks. The assistant was therefore only able to make one more recording on the occasion of an employee birthday. The day, setting and amount of time per recording are described in Table 3.4.

**TABLE 3.4: Day, setting and amount of recording time per daily recording**

| Context | Day | Recording time | Description of setting |
|---|---|---|---|
| A | 1. Monday | 11min 30sec | Recordings were made in the tearoom before starting work and during lunch/tea breaks. Employees were eating at times, and were once busy choosing clothes that one employee was selling, and which had been laid out on the table of the tearoom. Recordings were also made in the big open-plan work area while employees were engaged in manual work. |
| | 2. Tuesday | 20min 50 sec | |
| | 3. Wednesday | 20min 45sec | |
| | 4. Thursday | 19min 30sec | |
| | 5. Friday | 10min 50sec | |
| | 6. Monday | 29 min10sec | |
| | 7. Tuesday | 17min 00sec | |
| | 8. Wednesday | 20min 10sec | |
| | 9. Thursday | 4min 00sec | |
| B | 1. Wednesday | 36min 30sec | Recordings were made in the tearoom during lunch breaks. Employees were eating. The second recording was made during a birthday celebration for the manager. |
| | 2. Monday | 37min 43sec | |

## 3.8 ANALYSIS OF DATA

### 3.8.1 Length of recordings

As the microphone fitting disabled the voice activation feature of the cassette recorders, conversations were recorded with interspersed silences. McLaughlin (1984) reports that interactive silences are not perceived as disruptive provided that they are filled with some activity (p. 113). Such pauses in interaction are thus more likely to occur in the presence of another activity. Some recordings made at Context A were done in the work area, while participants were engaged in work activities. Silences thus sometimes occurred as participants presumably were busy with work activities. In all recordings, silences sometimes occurred as participants left or entered the room. In order to calculate the amount of conversation time, the entire recording was timed. Silences of longer than 30 seconds were subtracted from the total recording time.

### 3.8.2 Transcription

All the recorded conversation samples were transcribed by the researcher using the Microsoft Word 2000 word-processing program. The samples were typed verbatim according to a set of predetermined transcription rules, based on transcription conventions described in the literature (Hopper, Koch & Mandelbaum, 1986; Noffsinger, 1991). The rules were similar to those outlined by Stuart et al. (1993) and Balandin and Iacono (1998a) (see Appendix C). One audio recording from each context was randomly chosen and transcribed or partly transcribed by a communication pathologist with experience in transcription from audiotapes. The total time of the audiotape sections transcribed by her added up to 22 min, which equalled 10 % of the total sample. Word-by-word agreement of the transcriptions by the first and the second transcriber was calculated according to the following formula (McReynolds & Kearns, 1983):

$$\frac{\text{total number of agreements}}{\text{total number of agreements and disagreements}} \times 100 = \text{percentage of agreement}$$

A word-by-word agreement of 91.5 % was obtained.

### 3.8.3 Topic analysis

Brown and Yule (1983) note that equally valid descriptions of the topic of a piece of discourse are possible (p. 75). Topic analysis as a process of defining topics and topic boundaries is thus a subjective process. Realising this, the procedure followed in the current study involved a consensus approach for defining topics and categorising parts of conversation according to the three referential topic frames *time, person* and *content.* Almost more important than the name or boundaries of the topic was the consistency with which its definition was applied to the text. The reliability with which definitions were applied for classification thus needed to be carefully monitored.

The topic analysis was based on procedures outlined in the literature (Hopper et al. 1986; Stuart et al., 1993), and entailed the following processes:

#### *3.8.3.1 Development of a list of categories for the three topic frames*

This process entailed two steps: firstly, the development of an initial set of topic categories by the researcher and a trained assistant, and secondly, the development of the final set of categories by the researcher. The second step was a process which ran concurrent with the segmenting of transcripts into communication segments (3.8.3.2) and the categorisation process (3.8.3.3). As a first step, the researcher and a trained research assistant (communication pathologist) jointly reviewed the first two transcribed conversations and developed an initial set of topic categories according to three referential frames: time, person and content. Stuart et al.'s (1993) list as well as the topics outlined in Balandin and Iacono (1998a) were used as guidelines. At the time when the topic list was compiled, the researcher did not have access to the complete list of topics and their definitions as used for Balandin and Iacono's study (1998a). In the article on the study (Balandin & Iacono, 1998a), only the 19 topics which occurred most frequently are named, which were used as guidelines for the compilation of the list used in the present study. Definitions proposed for the present study differed from list by Stuart et al. (1993) and the topics defined by Balandin and Iacono (1998a) in the following respects:

1) Topic categories for the present study were defined in such a way as to denote merely the content of conversation, *not* communication functions. It was thus decided not to define a category such as 'fact finding', which was defined for Balandin and Iacono's study (1998a) and

encompassed any question apart from rhetorical ones. Similarly the categories 'judgements' (Balandin & Iacono, 1998a) and 'personal philosophy' (Stuart et al., 1993) were not defined for the present study. Questions, judgements and personal philosophies were usually 'about something' in particular. That 'something' was taken as the topic of the utterance for the purpose of this study.

2) In order to neither categorise based on assumptions nor lose the diversity of the data, some of the existing time and person frame categories from Balandin and Iacono (1998a) and Stuart et al. (1993) were combined or subdivided. Specifically, the categories 'year past' and 'decade past' identified in Balandin and Iacono's study (1998a, p. 136), were combined as 'intermediate past[1]' in the present study, a category which consequently spanned a wide time range. This adaptation was necessary as it was often not clear when the events referenced took place. Furthermore, the category 'close friends' identified by Balandin and Iacono (1998a) was subdivided into 'colleagues' and 'friends' for the present study. While there appeared to be good relationships between peers within the work context, the researcher hesitated to assume them to be 'close friends'. Similarly, no categories seemed to be proposed for references to the general 'one' or 'you', (e.g. 'You pay a fortune for it these days.') or for references to clients. These categories were included for the present study.

3) A single level of categories was found to be insufficient to describe the possible topics and the interlinked topics of the content frame. In Stuart et al. (1993), for example, a category was defined for 'food' and one for 'shopping/buying/selling'. In the present data, however, one utterance could be found to refer to 'buying food.' Stuart et al. (1993) give no specific guidelines as to which content frame should override the other, other than 'take the predominant theme' (Stuart et al., 1993, p. 107). In order to attempt solving such dilemmas, main and subcategories were defined for the content frame. The category 'shopping/buying/selling' defined by Stuart et al. (1993) thus appeared as a subcategory of various other main categories (e.g. 'food' - 'food buying', 'equipment' - 'equipment buying'). The advantage of this approach was a more detailed analysis of topics as well as the possibility it offered of re-grouping topics relatively easily in order to facilitate comparison with the other studies.

[1] For a definition of categories refer to Appendix E

Categories not occurring in Stuart et al.'s categories or in those outlined in Balandin and Iacono (1998a) were discussed and a category name and definition was agreed upon.

The second step, namely the compilation of the complete list, was achieved concurrent to the division of conversation samples into communication segments and the actual categorisation of all segments into the three referential frames: time, person and content. It was achieved independently by the researcher, using the initial list of topic categories as a guideline. Once again, new topic categories were added to the list when necessary. Whenever a new topic was added to the list, all previously coded transcripts were reviewed for possible occurrence of the new topic category to ensure consistency. A list of general coding rules was developed during this process (see Appendix D). Definitions for each topic category were also developed at the same time, and are presented in Appendix E.

#### *3.8.3.2 Division of conversation samples into communication segments*

The researcher divided all conversation samples into communication segments, identified by intonation contour, pause, change in topic or change in speaker (Appendix F). The segments occurring within a particular day's recording were numbered consecutively.

#### *3.8.3.3 Categorising communication segments according to the three topic frames*

Each communication segment was categorised according to the three referential frames of *time, person* and *content*. Categories were code-numbered, and three number codes (one for each topic frame) were assigned to each communication segment.

#### *3.8.3.4 Segments not coded*

Communication segments were not coded under the three referential frames but given a separate single code number if they could be classified as:

- etiquette
- request for clarification
- call for attention
- not understandable to the researcher because of lack of context
- not intelligible

(See Appendix D for detailed definitions.)

#### *3.8.3.5 Reliability according to the consensus approach*

After all transcripts had been independently coded by the researcher, they were reviewed by the researcher and the research assistant. The coding of each communication segment was discussed and consensus was reached regarding the final coding of the segment. If a coding was changed, the previously discussed samples were once again reviewed to ensure consistent coding. This consensus approach was followed until all topic segments had been assigned a final coding.

#### *3.8.3.6 Statistical procedures*

The codes for each communication segment from a specific recording were entered into a Microsoft Excel spreadsheet. A new spreadsheet was created for each day's recording. Using the COUNTIF and SUM functions, the frequency of occurrence of each topic category as well as the total number of communication segments was determined per daily recording. This data were summarised on a new spreadsheet, and the frequency of occurrence of each topic category across all samples as well as the total number of communication segments was determined by the SUM function.

## 3.9 SUMMARY

The research methodology of the study was described in this chapter. The aims, sub-aims and the research design, as well as employment contexts, participants and material for data collection were described. Ethical issues relating to the data collection procedure were explored. The pilot study was discussed, with focus on the recommendations for the main study. A description of the data collection and analysis procedures was given.