CHAPTER 3

RESEARCH METHODOLOGY

3.1   Introduction

This chapter provides a detailed explanation of how the study was conducted. It begins with a look at the theoretical framework and research design, which includes an illustration of the process undertaken during this study. It is followed by a description of the data as well as how the data was collected, transcribed, coded and analysed before ending with a summary.

3.2   Theoretical Framework

This study seeks to explore the conversational topics of urban Malaysian preschoolers by partially replicating the investigations by Marvin et al. (1994) entitled "What Are You Talking About?: Semantic Analysis of Preschool Children's Conversational Topics in Home and Preschool Settings" as well as Tönsing (2001), entitled "Social Conversation at the Workplace". Both investigations analysed the conversations of their participants for conversational topics referenced under three main referential frames.

Figure 3.1

Marvin, Beukelman, Brockhaus and Kast's (1994) Framework for Analysis

Select subjects	Collect data	Transcribe data	Code data	Analyse data	Present findings
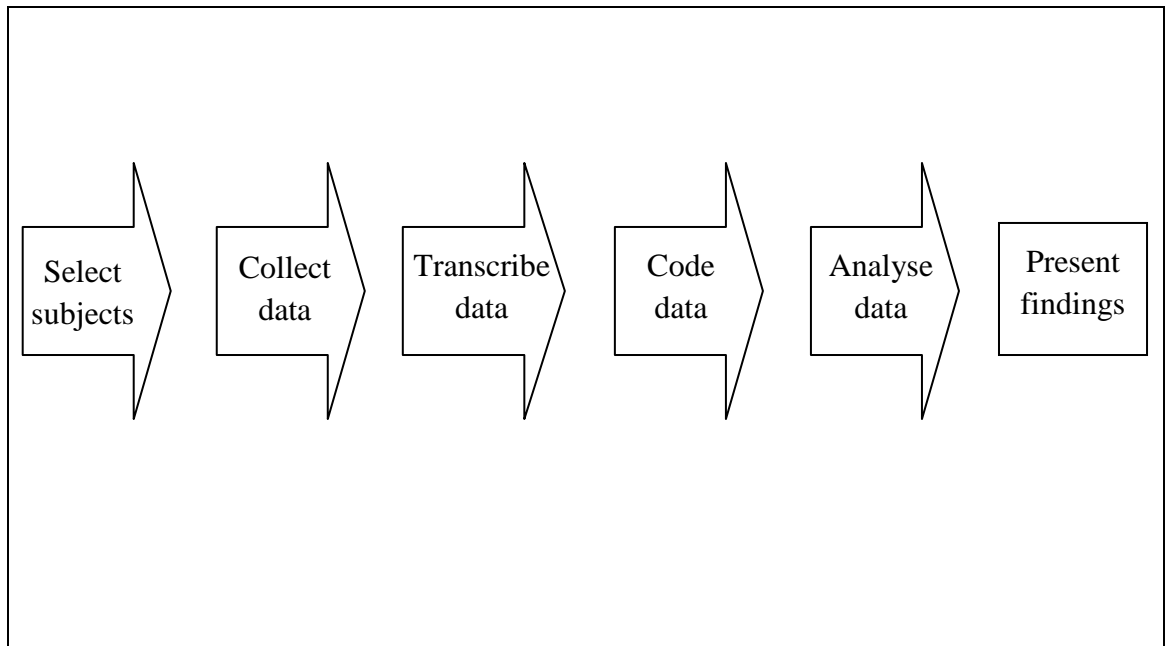
The investigation by Marvin et al. (1994) looked at the conversations of 10 American children during routine activities at home and at preschool with teachers, peers and family. It was recorded using lavaliere microphones and portable voice-activated, audiotape recorders and microcassette tapes, which collected two to two and a half hours of data from each child. The data was then transcribed, typed verbatim and spell checked. The researchers then reviewed each transcript and identified semantic referents according to a list of semantic referents, which had been developed beforehand. Each utterance was coded for the three predominant semantic referents of Time, Person as well as Object/event/idea and given code numbers that corresponded with its respective referents. The coded data was then analysed using the Vocabulary Frequency Analyser Software. The findings of their study showed that preschool children talk mainly about the present and themselves.

Figure 3.2

Tönsing's (2001) Framework for Analysis
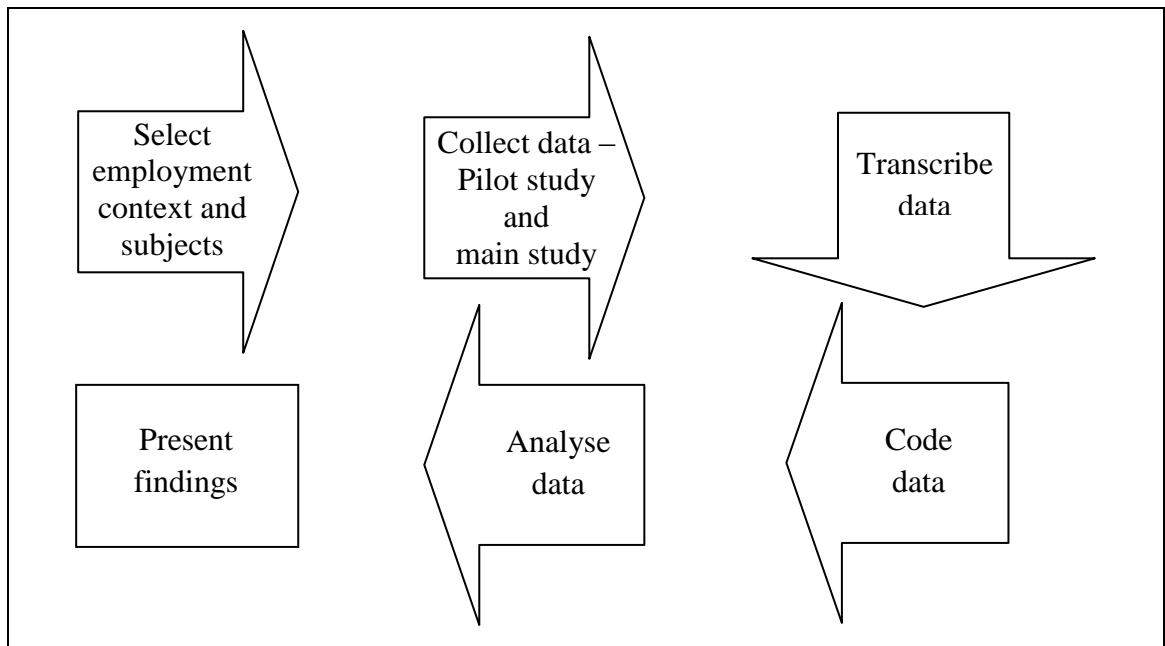
The investigation by Tönsing (2001) studied the social conversation of 12 adult participants from the bindery and printing works departments of a university. Their conversations were recorded during meal breaks using a portable cassette recorder and a mini cassette recorder, which were fitted with external microphones. The main study, which was conducted after the pilot study, provided three hours and 47 minutes of data. The data comprised utterances, which were analysed according to the referential frames of Time, Person and Content. Each frame had a list of topic categories which were developed by the researcher and assigned with code numbers. The frequency of occurrence for each topic category and the total number of utterances were determined using the COUNTIF and SUM functions of the Microsoft Excel programme. The findings showed that participants referenced the Present, Self, Food, Interpersonal relations as well as Work the most. Comparisons were also made between Tönsing's findings and those from previous researches on meal break topics at the workplace (Balandin and Iacono, 1998).

Both investigations provided the much needed input for the current study, which only endeavours to partially replicate both investigations as it is confined to the analysis of the topics occurring in Malaysian preschoolers' conversations in preschool settings and covers a smaller number of preschoolers as well as a shorter period of observation in comparison to both studies. Therefore, the research methodology was devised according to the aim, objectives as well as context of the current study, and utilised both qualitative and quantitative approaches – data analysis supplemented by descriptive statistics. These approaches will be elaborated in the following sections. The research process is illustrated in Figure 3.3.

3.3   Research Design

This study follows the research design in Figure 3.3.

Figure 3.3

Research Process Flowchart
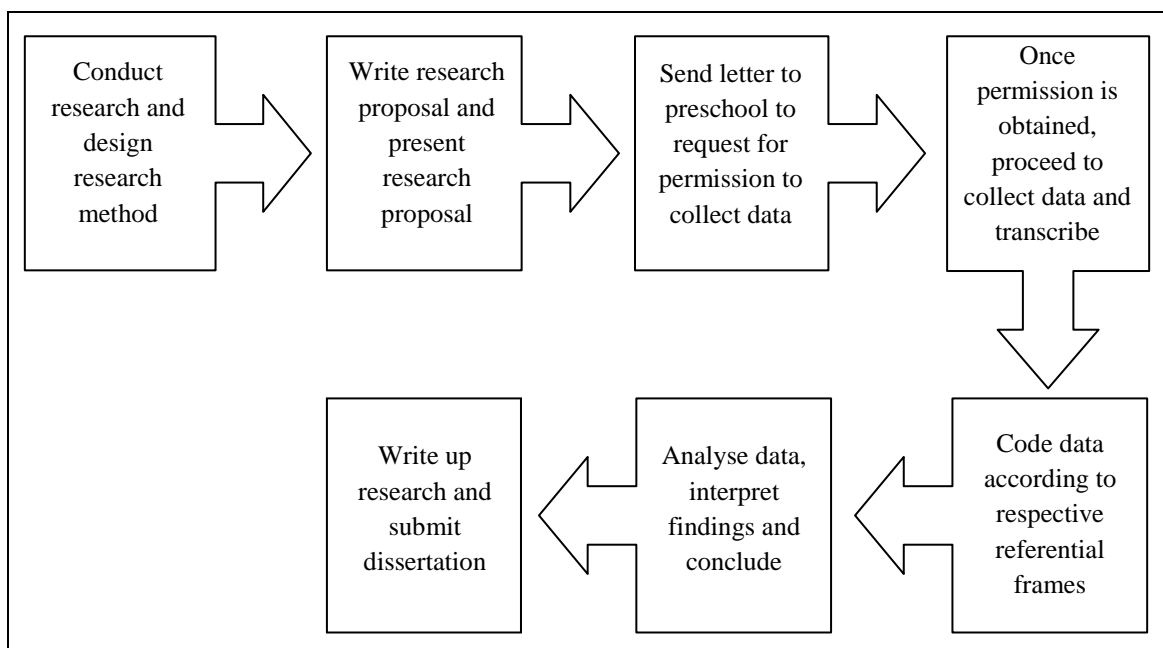
Qualitative and quantitative approaches were used in this descriptive study, which was conducted in an English medium child care and development centre in Petaling Jaya, Selangor – after consent was obtained from the owner. The centre is a kindergarten, which offers child care services and gives preschoolers the option of attending Bahasa Malaysia or Mandarin classes. It was chosen as it had preschoolers of different races – Chinese, Malay, Indian and Punjabi descent, which represented the multiracial composition of the country. As the classes were grouped according to age and not aptitude, the participants were of mixed abilities. The preschool setting was selected as preschoolers spend at least five hours here on a daily basis, participating in various activities such as playtime that provide naturalistic settings that are more likely to elicit optimal conversational performance (Schober-Peterson and Johnson, 1989). Therefore, it is a rich source of conversations not only between preschoolers (Piaget, 1967; Blum-Kulka, Huck-Taglicht and Avni, 2004; Katz, 2004), but also between preschoolers and their teachers as well as helpers.

3.4   Data Description

Participants were speakers of Malaysian English and were from the 5- and 6-year-old class, with the exception of a 4-year-old girl who joined Group 2 during playtime. They consisted of 18 preschoolers of Chinese, Malay, Indian and Punjabi parentage. Most of their parents had white-collar occupations as shown in Table 3.1. As the owner was assured of the anonymity and confidentiality concerning the children, teacher and helpers' participation, substitute names reflecting the participants' gender were used.

Although there was no control regarding the participants' personal background, they were recorded as they might have contributed to the range of topic being referenced.

All of them, with the exception of Amy, Yu Han and Kamelia, spoke English at home. Group 1 consisted of participants who had parents with occupations such as doctor, orthodontist, lawyer, accountant, teacher, executive, real estate agent, restaurateur, tourist guide and homemaker, whereas Group 2 participants had parents with occupations such as finance director, senior project manager, assistant manager, secretary, engineer, teacher, businessman, businesswoman, homemaker, restaurateur, tourist guide, real estate agent, executive, supervisor, direct sales person, sales administrator and clerk.

Table 3.1

Background Information of Participants in Groups 1 and 2

Group	Participant	Age	Gender	Race	Father's occupation	Mother's occupation	Speaks English at home
One	Imran	6	Male	Malay	Doctor	Orthodontist	Yes
	Kumar	6	Male	Indian	Lawyer	Lawyer	Yes
	Bala	6	Male	Indian	Accountant	Administrative executive	Yes
	Shanti	6	Female	Indian	Music teacher	School teacher	Yes
	Yusri	5	Male	Malay	n/a	Marketing executive	Yes
One and Two	Cindy	5/6	Female	Chinese	Tuition teacher	Homemaker	Yes
	Amy	5/6	Female	Chinese	Restaurateur	Tourist guide	No
	Nigel	5/6	Male	Chinese	Real estate agent	Accounts executive	Yes
Two	Kuldeep	6	Male	Punjabi	Engineer	Supervisor	Yes
	Zhi Eng	6	Male	Chinese	Senior project manager	Engineer	Yes
	Anil	5	Male	Indian	Engineer	Teacher	Yes
	Ben	5	Male	Chinese	Sales executive	Restaurateur	Yes
	Charles	5	Male	Punjabi	Businessman	Direct sales person	Yes
	Justin	5	Male	Chinese	Assistant manager	Secretary	Yes

	Amelia	5	Female	Chinese	Manager	Finance director	Yes
	Yu Han	4	Female	Chinese	Businessman	Businesswoman	No
	Kee Sim	5	Female	Chinese	Manager	Sales administrator	Yes
	Kamelia	5	Female	Malay	IT executive	Clerk	No

A typical day at the child care and development centre begins at 9am and ends at 5pm. After 2pm, the preschoolers take their bath, which is followed by an afternoon nap until 4.30pm. As some would leave after 2pm, video recordings were only made from 9am – 2pm when all the preschoolers were present. They were recorded during routine preschool activities with their peers and teachers. These activities range from classroom lesson, music lesson, arts and crafts lesson, mealtime as well as playtime, which last between 30 minutes and 45 minutes. Preschoolers are placed in classrooms according to their age groups and a teacher is put in charge of each class.

3.5   Data Collection Procedure

The preschoolers comprised two groups and were video recorded separately from 9am until 2pm, for four consecutive days. Group 1 was made up of eight preschoolers who were recorded from 1 – 4 September 2009 whereas Group 2, which consisted of 12 preschoolers, was recorded from 23 – 26 March 2010. Although both groups add up to 20 preschoolers, the actual number of was 18. This was due to the fact that Group 1 comprised the 5- and 6-year-old class preschoolers, which included Cindy, Amy and Nigel who were five years old in 2009. In the following year, they remained in the same class but were joined by a new batch of 5- and 6-year-old preschoolers, which formed Group 2.

Their conversations were recorded by means of a compact digital camera with video recording function. It was held by the researcher who made recordings throughout

preschool hours whenever opportunities arose. Although the researcher tried to minimise interaction with the children, it was impossible initially as they were distracted by the presence of the researcher and tended to include her in their conversations. Additionally, the camera was impossible to hide. However, after a few hours, they gradually lost interest, preferring to focus on their own activities, and were less self-conscious.

As conversation not only involves words but also body language and prosodic features such as volume, speed, stress and intonation, as well as laughter and silence (Pridham, 2001), a video recorder was used. This is due to the fact that it is capable of capturing rich data that can be viewed repeatedly by the researcher, providing a more accurate data for transcription. This is supported by Sacks (1992) who claimed that naturally occurring talk should be recorded because notes or memory are unreliable, and capturing the precise technicalities of conversation is important in understanding conversations.

No specific instructions regarding the choice of topics were given to the preschoolers. Communication samples were only recorded when at least one preschooler took part in conversations with their peers or the class teacher, researcher and the helpers.

3.6   Data Analysis

While there are no established guidelines for how often children need to be recorded, there is some consensus that 50 utterances is the minimum acceptable speech sample size (Hutchins, Brannick, Bryant and Silliman, 2005 as cited in Hoff, 2009: 29). Similarly, Sinclair (2004 as cited in Kaur, 2009) indicated that "If within the

dimensions of a small corpus, using corpus techniques, you can get results that you wish to get, then your methodology is above reproach – but the results will be extremely limited, and also the range of features that you can observe." As the focus of this study is confined to conversational topics and each utterance was coded according to the referential frames of Time, Person and Content, a four hours, 10 minutes and five seconds sample is deemed sufficient for this study. A larger sample would be required if the focus of interest is some characteristic of language use not present in every utterance (Hoff, 2009: 29).

3.6.1 Coding of Utterances

A total of 2626 lines were coded from 26 clips, which represented four hours, 10 minutes and five seconds of conversations. The duration of each clip ranged from a minute to 37 minutes and 27 seconds with the average duration being nine minutes 37 seconds. This was due to the fact that the unpredictable nature of child conversation, which occurs at random and can be unpredictable and abrupt. The clips were selected when at least one preschooler took part in conversations with their peers or the class teacher, researcher and the helpers. Those that could not be understood even within the context of the situation were ignored. However, clauses that were ungrammatical but had meaning that was reasonably recognisable were accepted. This was due to the fact that these communication samples were produced by non-native English speakers and some of them had just begun to learn English at the age of four.

Each line was coded according to the referential frames of Time, Person and Content, which are made up of a total of 48 categories. Some lines were not coded as they lacked context, were unintelligible or made up of requests for clarifications, attention

getting devices, commands, fillers and vocalisations. Table 3.2 illustrates the recording

time of the individual clips and number of lines coded.

Table 3.2

Duration of Individual Conversation Clips, Lines Coded for Each Conversation Clip,
Total Duration of the Conversation Clips and Number of Lines Coded for Groups 1 and
2

Group	Conversation Clip Number	Duration of Conversation Clip	Lines Coded per Conversation Clip	Total Duration of Conversation Clips per Group	Total Number of Lines Coded per Group
1	1	19'	170	2°20'54"	1098
	2	23'56"	244		
	3	37'27"	243		
	4	9'20"	134		
	5	6'25"	51		
	6	7'19"	87		
	7	25'52"	150		
	8	1'35"	19		
2	9	13'13"	109	1°59'11"	1528
	10	7'16"	107		
	11	3'13"	40		
	12	4'25"	65		
	13	2'58"	53		
	14	1'32"	28		
	15	15'54"	197		
	16	3'	62		
	17	1'20"	12		
	18	11'31"	100		
	19	3'58"	39		
	20	1'45"	21		
	21	18'10"	306		
	22	1'	7		
	23	4'32"	51		
	24	17'46"	250		
	25	1'23"	23		
	26	5'11"	58		

3.6.2 Transcription

The utterances were transcribed by the researcher using the Microsoft Office Word 2007 word processing programme and typed verbatim according to a predetermined set of transcription rules adapted from Tönsing (2001) (Appendix 1) and is stated below.

1. Repetitions of words will be included.

2. Fillers and vocalisations will be represented and transcribed in a consistent form (hm, argh, ya, yeah) and prolongation of these are indicated by ellipses.

3. Numbers will be typed as words.

4. Contractions will be typed as such, e.g. "can't", "don't". The proper form will only be spelt out if it is spoken as such. Colloquial substitutions such as "gonna" for "going to" will also be typed as they are spoken.

5. Words and utterances in a language other than English will be typed in orthography of that language and italicised e.g. "ni gei wo", "botak", "air", "po po".

6. Unintelligible words are transcribed as (unclear). If the meaning of the utterance is clear is clear in spite of some unintelligible words, the utterance is included in the analysis. If the meaning of the utterance is unclear, the whole utterance is classified as unintelligible and coded as (×).

7. Transcription reliability will be checked on a randomly chosen 10% of recorded samples.

8. Utterances by non-preschoolers are not transcribed if it does not affect the flow of conversation or is ignored by the preschoolers.

9. Utterances highlighted in grey were not coded as they were made by non-Malaysians/non-preschoolers such as teachers, helpers as well as the researcher.

10. Utterances made during reading sessions are not coded and are transcribed as (reading).

The utterances were transcribed according to Standard English orthography, which although is unable to capture variations in speech, is able to capture the content of utterances, which is the focus of this study.

Utterances were divided into turns, based on change in speaker or topic. Each line of every turn was analysed according to the referential frames of Time, Person and Content. A score sheet corresponding to the topic categories was developed and the frequency of each category was tabulated and analysed. The coding process adhered to the methods used by Marvin et al. (1994) and Tönsing (2001) where

1. The answers "yes"/"no"/"I don't know" as well as statements of agreement/disagreement does not constitute separate topic but are grouped together with the preceding utterance(s).

2. Elliptical answers/comments other than "yes"/"no"/"I don't know" constitutes a topic and are coded as if they are complete sentences, as long as referential frames are clear from the context.

3. An interruption by a speaker with a vocalisation (e.g. mm, umm), a repetition of the previous speaker's words or an incomplete statement was ignored in the coding procedure, i.e. this did not in itself signify a new topic.

4. 'Generic' utterances preceding or following another utterance were not coded as separate topics. Examples of such 'generic' utterances are "Can you believe that?", "I'm not sure whether..." and "Do you know that..."

The final transcripts were spell checked to eliminate any typographic errors and to provide consistency of spelling for onomatopoeic and idiosyncratic nonsense words (refer to the Appendices section for samples of transcription).

3.6.3 Referent Coding

The final set of categories under the respective referents was drawn after the completion of the transcription process. Using Marvin et al.'s (1994) list of categories as a guideline (Table 3.3), some categories were recombined, while others were removed and added.

Table 3.3

Topic Categories (Marvin et al., 1994)

Time Frame	Person Frame	Object/event/idea Frame	
Present	Self	Toys	Play
Past	Peer	Food	Social/greeting
Future	We	Animal	Grooming
Fantasy	Parent	Supplies/utensils	Projects
	Sibling	Clothes	Home/house
	Family	Vehicles	Facts about a person's condition/traits
	Teacher	Facts about a person's action/position/location	
	No Person		

Categories such as "Facts about a person's action/position/location", "Facts about a person's condition/traits" and "Play" were recombined or changed to "Actions/positions/personal information", "Traits/condition/skills" and "Being playful" while categories such as "Projects", "Supplies" and "Home/house" were removed and replaced by other categories that were more suitable. The researcher created the "Actions/positions/personal information" category in order to place all utterances that were related to a person's actions, positions and personal information under it. Furthermore, they could not be combined with other categories that were not related. The categories selected for this study – including new ones added by the researcher, as well as their definitions are presented in tables 3.4 and 3.5.

Table 3.4

Topic Categories under the Referential Frames of Time, Person and Content

Code	Time Frame	Code	Person Frame	Code	Content Frame	Code	Content Frame
1	Present	5	Self	16	Toys	31	Natural Phenomena
2	Past	6	Peer	17	Food/drinks	32	Dreams
3	Future	7	We	18	Animals/insects	33	Time
4	Fantasy	8	Parent	19	Utensils/ Equipment/tools	34	Space
		9	Sibling	20	Clothes	35	Body
		10	Family/ relatives	21	Vehicles	36	Relationships
		11	Teacher	22	Places/locations	37	Money
		12	Researcher	23	Actions/positions/ personal information	38	Death
						39	Books/ magazines
						40	Religion
						41	Gender
		13	Helper	24	Traits/condition/ skills	42	Lessons/ homework
		14	Others	25	Social/greeting	43	Weapons/ soldiers
		15	No person	26	Grooming	44	Trees/flowers/ plants
				27	People	45	Furniture/ household appliances
				28	Being playful	46	Colours
				29	Words/numbers	47	Descriptions
				30	Movies/Cartoons	48	Miscellaneous

Table 3.5

Definitions of the Topic Categories under the Referential Frame of Time, Person and Content

Code	Time Frame	Definition	Example
1	Present	Talks about a current action happening at the moment of talk	1. I have ulcer. 2. Justin you're not finish *ah*. 3. This is daddy *lah*. You don't know *ah*? Roar... You know... Kee Sim

			you don't know who is that. It's me. You don't know.
2	Past	Talks about an action that happened in the past or before the current moment	1. Just now Imran say one. 2. Cindy forgot to eat her papaya. 3. Did you watch that?
3	Future	Talks about something that will happen in the future	1. *Ya*, one day I will come to your house and tell your wife what happened. 2. I will give it to you tomorrow. 3. Bala's going to be the last.
4	Fantasy	Talks about pretend time that is not real or relevant, or related to fictional characters	1. If I can get my parents to give me. 2. It might go in the sun. 3. No, I'm the teacher.
Code	**Person Frame**	**Definition**	**Example**
5	Self	Refers to the speaker herself/himself, tends to use pronoun "I"	1. I want to buy this one. I want to buy... this one. 2. You know why I don't want to eat the one here? Because after I cannot finish. 3. I colour her hair orange.
6	Peer	Refers to another child, tends to use pronoun like "You" or names	1. Raise your hand and eat like that. 2. *Wah* why your Lego, your house so big? 3. Later you write for, later you, you write for me again *ah*?
7	We	Refers to two or more persons that include the speaker, tends to use pronouns such as "We", "Us", "Our" and "Ours"	1. We took that book home. 2. We can't play outside right? 3. Then we don't know we must say a very *gua*... funny language.

8	Parent	Refers to the speaker's father and/or mother	1. My papa number I don't know, already. 2. Until his mother comes at night. 3. (nods) Every time my father finish first, my mother still in the office.
9	Sibling	Refers to the speaker's siblings	1. Mine also zero one six. I don't know my mother's phone number. I only know my father and my sister's. 2. My sister was born in 1995. My sister was in 1995. 3. Vishnu is my sister's friend, name.
10	Family/ relatives	Refers to the speaker's family collectively or relatives	1. I don't know. An every time *ah*, and then my aunty didn't allow me to watch the ghost movies. 2. And then my sister, and then my aunty said "Why don't you watch Prince and the Princess?" They kiss lips together. 3. Mine also zero one six. I don't know my mother's phone number. I only know my father and my sister's.
11	Teacher	Refers to the teachers at the preschool	1. I thought Teacher Jessie said only draw one. 2. How are you going to bring a termite? 3. I thought you said you were going to give us a piece of paper to draw the alien?
12	Researcher	Refers to the researcher	1. You are here until what day? 2. Yes. You go there is it? 3. So can read the word? Can read the word or not now?
13	Helper	Refers to the helpers at the preschool	1. Thank you... teacher or whatever it is.

			2. Aunty Alison gave me cod liver oil.
			3. I think you are drawing this one.
14	Others	Refers to people in general	1. Some people think that monster is not a alien right?
			2. If they don't believe us then we will not, we will not friend them right?
			3. Nobody knows you.
15	No person	Refers to non-human subjects such as animal, objects or fictional cartoon and movie characters	1. *Nah* this one bone. I can see the bone.
			2. Teacher can colour this colour? Can colour this? Can *ah*. *Eh*, no more colour. *Wei*.
			3. That is not a fireman. That is a monster.
Code	**Content Frame**	**Definition**	**Example**
16	Toys	Talks about objects made for children's play and amusement	1. Amy, Amy did you bring the puppy?
			2. I got many soldiers.
			3. The dolphin have, take out water. You must take out the water from the, battery there, *hah*, you must take out the water.
17	Food/drinks	Talks about food, drinks, fruits or sweets	1. I like watermelon.
			2. And then he don't want all the vegetable.
			3. I know you take cod liver oil.
18	Animals/ insects	Talks about wild or domesticated animals or insects	1. What's termite?
			2. Sesha is the name of the snake.
			3. Hey, I can see tortoise and snake.
19	Utensils/ Equipment/ Stationery	Talks about materials used for completing or supporting an activity or	1. I need to go upstairs to get the eraser.

		project	2. Got a red cup you know?
			3. How come got sharpener?
20	Clothes	Talks about clothing items	1. See all the clothes there.
			2. How about your belt?
			3. And then Ling Pei San forgot she's rice to eat, she never finish yet and then go to Tesco and buy this shirt, and new shirt and new dress.
21	Vehicles	Talks about modes of transportation	1. Who got any boat?
			2. I want steering wheel.
			3. I have two aeroplane.
22	Places/ locations	Talks about real or imaginary places or locations	1. Teacher Jessie, it's the same height as the Great Wall of China.
			2. Is Norway a country?
			3. And then you cannot go back home.
23	Actions/ positions/ personal information	Talks about actions, positions or personal information of a peer or an individual	1. My mama's phone number is, erm... zero one six three three three three and then five five five.
			2. Ah Nigel behind you!
			3. I keep rubbing.
24	Traits/ condition/ skills	Talks about person's being, abilities or general state of health	1. If only I know how to draw.
			2. I'm really scared.
			3. Ya, why you, why you so naughty?
25	Social/ greeting	Talks that involve greetings and acknowledgements that form part of the social etiquette	1. Sorry, sorry your majesty.
			2. Put my hand please.
			3. Good morning someone I don't know.
26	Grooming	Talks about personal hygiene of the speaker or her/his peers	1. And I want to *shee shee* (pee).
			2. Imran is showering.
			3. Teacher, may I go to the toilet?

27	People	Talks about people in general	1. Can everybody stop talking to me? 2. Aliens! I told you. 3. Oh, she went to see Bala.
28	Being playful	Playful talk that includes peers and/or objects that is real or imaginary	1. You can be the angel! 2. Why the *gigi* is purple one? 3. Ben is a dong dong hair, you see.
29	Words/ numbers	Talks about definitions, pronunciations, numbers and spellings	1. How to spell "accelerate"? 2. What's speeding up? 3. So many threes, four.
30	Movies/ cartoons	Talks about movies, cartoons, stories and legends, which may include the storyline, characters as well as the setting	1. *Wah…* Dragon. 2. What are Martians? 3. Oh, there's some more fairy.
31	Natural phenomena	Talks about natural occurrences such the weather, earthquakes, tornado and volcanic activity	1. You mean there is no night time? 2. This like a thunder. 3. Is this, is this the rain?
32	Dreams	Talks about dreams and nightmares	1. I once had a nightmare. 2. A scary dream. 3. I had a nightmare about you.
33	Time	Talks about time and general remarks on time	1. I'm telling my mother eight times. 2. Which is the earliest? 3. I think he'll eat here the whole afternoon.
34	Space	Talks about space that includes the earth, sun, moon, meteoroids, astronauts, rockets as well as the planets in the galaxy	1. Where's Saturn? 2. I told you they were astronauts. 3. This, this is the sun.
35	Body	Talks about body parts, bodily functions and physical appearances	1. Oh, got blood. 2. Why dirty my face?

			3. Everyday you burp.
36	Relationships	Talks about family relationships and friendships	1. I'm your cousin on your mother's side. Not your father's side. 2. You my, you my boyfriend. 3. You got new friend or not?
37	Money	Talks about money such as personal wealth and prices/cost of items, products and services	1. I got one thousand in my bank. 2. Your mummy so many money *meh*? 3. Teacher is it one hundred thousand?
38	Death	Talks about real or imaginary death	1. You die already *ah*? 2. And then you will die. 3. Okay, we'll pass away that time right?
39	Books/ magazines	Talks about content or pictures in a book or magazine	1. Wait *ah*, let me find the page. 2. Wait, wait, wait. Oh my book. 3. You cannot turn the page.
40	Religion	Talks about god or anything related to religion	1. Eh, Vishnu is my God. 2. I saw these stories inside the bible. 3. Earth is a god or what?
41	Gender	Talks about gender differences and classifications	1. Venus is a girl. 2. Boy cannot see girl. 3. *Ee*, you scream like a girl.
42	Lessons/ homework	Talks about school lessons and homework	1. My house have the writing. 2. We no need to sleep *mah* because, we got Mandarin. 3. Sorry... (laughs) Can you please do your homework?
43	Weapons/ soldiers	Talks about toys that are related to war	1. I can see your gun. 2. He's making for you a sword.

			3. Can you make me a knife?
44	Trees/flowers/plants	Talks about plants, flowers or trees	1. Anil you want flower? 2. Cannot pick flowers. 3. Not cutting down trees.
45	Furniture/household appliances	Talks about furniture or household appliances	1. Amy you forgot to push your chair. 2. I have a radio. 3. This one is the electric one to make your TV on and off, on and off like that.
46	Colours	Talks about anything related to colours	1. I thought they were green in colour. 2. I'm gonna paint it grey. 3. My planet is... yellow.
47	Descriptions	Talks about people, objects, smells, surroundings, sensations and feelings	1. Because I don't think it really looks nice. 2. What is that smell? So smelly. 3. Teacher Jessie, she just now step on this finger again, and very painful.
48	Miscellaneous	Talks about anything that cannot be specifically categorised	1. Shanti I hear Michael Jackson song. 2. I mean I don't have anything. 3. Wait, wait I want to tell you something.

Wong and Thambyrajah (1991) stated that conversations may begin with a topic and end with a completely different topic, and preferred to use the notion "the topic of a fragment of conversation' instead of "topic of a conversation". For the purpose of this study, an utterance is defined as words spoken by the preschoolers. Each turn contains an utterance comprising at least one line. If a line can be coded as more than one topic category, the predominant topic was chosen and the line was given code numbers which represent the respective topic categories.

Utterances that were difficult to categorise or did not fall into any of the categories listed were placed in the "Miscellaneous" category, whereas those that were not coded and marked as "x" or "-" were not included in the analysis. After the whole transcription was coded, the code numbers were then tabulated to determine the frequency of each topic category as shown in the tables below. Samples of these utterances are illustrated in Table 3.5 to demonstrate how the coding of utterances was conducted.

Table 3.6

Sample of a Conversation Analysed According to the Referential Frames of Time, Person and Content

Turn	Speaker	Utterance	Time	Person	Content
T12	Shanti	You know... I had a nightmare about you.	2	5	32
T13	Kumar	What?	-	-	-
T14	Shanti	About you.	2	6	32
T15	Kumar	What? What nightmare about me?	2	5	32
T16	Shanti	Wait, when teacher is in the class...	1	11	22
		I had a nightmare about you.	2	5	32

Coding for T12

Time Frame: Past

Person Frame: Self

Content Frame: Dreams

Coding for T14

Time Frame: Past

Person Frame: Peer

Content Frame: Dreams

Coding for T15

Time Frame: Past

Person Frame: Self

Content Frame: Dreams

Coding for T16 – Line 1

Time Frame: Present

Person Frame: Teacher

Content Frame: Places/locations

Coding for T16 – Line 2

Time Frame: Past

Person Frame: Self

Content Frame: Dreams

The example above illustrates that the coding process is one that is comprehensive and detailed as every sentence or line is analysed according to three referential frames.

Table 3.7

Sample of the Ranking of Topic Categories According to Frequency – Clip 1

Clip	Total Utterances Coded	Referential Frames											
		Time				Person				Content			
			Frequency	*%*	*Ranking*		*Frequency*	*%*	*Ranking*		*Frequency*	*%*	*Ranking*
1	170	**1**	**141/170**	**82.9**	**1**	**5**	**63/170**	**37.1**	**2**	16	1/170	0.6	12
		2	**16/170**	**9.4**	**2**	**6**	**50/170**	**29.4**	**1**	**17**	**24/170**	**14.1**	**3**
		3	**13/170**	**7.7**	**3**	7	2/170	1.2	7	18	1/170	0.6	12
						8	15/170	8.8	4	19	16/170	9.4	4
						10	1/170	0.6	8	20	1/170	0.6	12
						12	6/170	3.5	5	**22**	**27/170**	**15.8**	**2**
						14	3/170	1.8	6	**23**	**42/170**	**24.7**	**1**
						15	**30/170**	**17.6**	**3**	24	15/170	8.8	5
										25	3/170	1.8	10
										26	3/170	1.8	10
										28	3/170	1.8	10
										29	2/170	1.2	11
										31	7/170	4.1	7
										33	8/170	4.7	6
										35	6/170	3.5	8
										41	1/170	0.6	12
										42	2/170	1.2	11
										43	2/170	1.2	11
										45	1/170	0.6	12
										47	5/170	2.9	9

Table 3.8

Participants' Referencing of Time Frame Topic Categories in Individual Clips

TIME FRAME	CLIP																												Ranking	Overall ranking
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26			
1 (Present)	141	228	196	101	51	84	146	19	109	107	39	65	53	28	197	62	12	100	39	21	306	7	49	246	23	58	2487	1	1
%	82.9	93.5	80.7	75.4	100	96.6	97.3	100	100	100	97.5	100	100	100	100	100	100	100	100	100	100	100	96.1	98.4	100	100	94.7		31.6
2 (Past)	16	13	25	13	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	75	2	11
%	9.4	5.3	10.3	9.7	-	-	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	-	2.9		1.0
3 (Future)	13	1	8	4	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	29	4	16
%	7.7	0.4	3.3	3.0	-	-	-	-	-	-	2.5	-	-	-	-	-	-	-	-	-	-	-	3.9	-	-	-	1.1		0.4
4 (Fantasy)	-	2	14	16	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	3	16
%	-	0.8	5.7	11.9	-	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3		0.4
Total Utterances Coded	170	244	243	134	51	87	150	19	109	107	40	65	53	28	197	62	12	100	39	21	306	7	51	250	23	58	2626		

Table 3.9

Participants' Referencing of Person Frame Topic Categories in Individual Clips

PERSON FRAME	CLIP																												Ranking	Overall ranking
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26			
5 (Self)	63	87	40	28	22	16	39	7	42	32	17	32	15	2	84	33	7	36	7	9	125	-	7	109	2	17	878	2	3
%	37.1	35.7	16.5	20.9	43.1	18.4	26.0	36.8	38.5	29.9	42.5	49.2	28.3	7.1	42.7	53.2	58.3	36.0	18.0	42.8	40.9	-	13.7	43.6	8.7	29.3	33.4		11.1
6 (Peer)	50	46	41	42	8	15	45	6	22	45	11	16	6	3	55	24	2	33	21	6	60	-	21	68	-	15	661	3	4
%	29.4	18.9	16.9	31.3	15.7	17.2	30.0	31.6	20.2	42.0	27.5	24.6	11.3	10.7	27.9	38.7	16.7	33.0	53.8	28.6	19.6	-	41.2	27.2	-	25.9	25.2		8.4
7 (We)	2	8	4	5	1	3	3	3	1	2	-	-	2	-	1	-	-	-	-	-	4	-	-	2	-	-	41	5	15
%	1.2	3.3	1.6	3.8	2.0	3.5	2.0	15.8	0.9	1.9	-	-	3.8	-	0.5	-	-	-	-	-	1.3	-	-	0.8	-	-	1.6		0.5
8 (Parent)	15	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	1	-	-	-	-	-	21	6	17
%	8.8	-	0.8	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	16.7	-	-	0.3	-	-	-	-	-	0.8		0.3
9 (Sibling)	-	-	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	8	19
%	-	-	0.8	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2		0.1
10 (Family/ relatives)	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	9	20
%	0.6	-	-	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1		0.04
11 (Teacher)	-	2	6	2	1	-	-	-	-	-	-	-	-	1	4	-	-	2	2	-	-	-	-	1	-	-	21	6	17
%	-	0.8	2.5	1.5	2.0	-	-	-	-	-	-	-	-	3.6	2.0	-	-	2.0	5.1	-	-	-	-	0.4	-	-	0.8		0.3
12 (Researcher)	6	4	-	-	-	-	1	-	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	14	7	18
%	3.5	1.6	-	-	-	-	0.7	-	-	-	2.5	-	-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	0.5		0.2
13 (Helper)	-	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	6	8	19
%	-	1.6	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	-	0.2		0.1
14 (Others)	3	2	9	5	-	1	2	-	1	3	2	1	-	-	2	-	-	2	1	-	15	1	-	9	-	1	60	4	13
%	1.8	0.8	3.7	3.8	-	1.1	1.3	-	0.9	2.8	5.0	1.6	-	-	1.0	-	-	2.0	2.6	-	4.9	14.3	-	3.6	-	1.7	2.3		0.8
15 (No Person)	30	91	138	46	19	52	60	3	43	25	9	16	30	22	49	5	1	27	8	6	101	6	23	61	21	24	916	1	2
%	17.6	37.3	56.8	34.3	37.2	59.8	40.0	15.8	39.5	23.4	22.5	24.6	56.6	78.6	24.9	8.1	8.3	27.0	20.5	28.6	33.0	85.7	45.1	24.4	91.3	41.4	34.9		11.6
Total Utterances Coded	170	244	243	134	51	87	150	19	109	107	40	65	53	28	197	62	12	100	39	21	306	7	51	250	23	58	2626		

Table 3.10

Participants' Referencing of Content Frame Topic Categories in Individual Clips

CONTENT FRAME	CLIP 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26		Ranking	Overall ranking
16 (Toys)	1	-	-	-	-	-	1	-	16	-	-	3	-	-	50	-	1	-	-	-	8	-	1	43	-	-	124	5	9
%	0.6	-	-	-	-	-	0.7	-	14.7	-	-	4.6	-	-	25.4	-	8.3	-	-	-	2.6	-	2.0	17.2	-	-	4.7		1.6
17 (Food/drinks)	24	5	7	-	-	1	5	-	-	-	-	-	1	-	-	-	-	-	1	5	4	-	-	-	-	13	66	12	13
%	14.1	2.1	2.9	-	-	1.2	3.2	-	-	-	-	-	1.9	-	-	-	-	-	2.6	23.8	1.3	-	-	-	-	22.4	2.5		0.8
18 (Animals/insects)	1	-	11	1	-	4	6	-	-	-	8	-	2	5	1	-	-	14	1	-	2	-	3	9	-	-	68	11	12
%	0.6	-	4.5	0.7	-	4.6	4.0	-	-	-	20.0	-	3.8	17.8	0.5	-	-	14.0	2.6	-	0.7	-	5.9	3.6	-	-	2.6		0.9
19 (Utensils/equipment/tools)	16	13	6	-	-	-	3	-	2	-	7	-	-	-	2	-	-	6	5	-	1	-	1	8	1	1	72	10	12
%	9.4	5.3	2.5	-	-	-	2.0	-	1.8	-	17.5	-	-	-	1.0	-	-	6.0	12.7	-	0.3	-	2.0	3.2	4.3	1.7	2.7		0.9
20 (Clothes)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	2	-	-	4	21	19
%	0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	-	-	-	-	0.8	-	-	0.2		0.1
21 (Vehicles)	-	-	-	-	-	-	-	-	28	-	-	-	1	-	-	-	-	-	-	-	-	-	-	26	-	-	55	13	14
%	-	-	-	-	-	-	-	-	25.7	-	-	-	1.9	-	-	-	-	-	-	-	-	-	-	10.4	-	-	2.1		0.7
22 (Places/locations)	27	-	17	7	6	1	3	2	4	2	-	1	2	-	-	-	-	-	2	1	5	-	7	18	-	1	106	6	10
%	15.8	-	7.0	5.3	11.7	1.2	2.0	10.5	3.7	1.9	-	1.5	3.8	-	-	-	-	-	5.1	4.8	1.6	-	13.7	7.2	-	1.7	4.0		1.3
23 (Action/position/personal information)	42	53	50	32	14	7	25	-	13	14	7	8	14	6	32	-	-	9	16	6	69	1	15	60	11	12	516	1	5
%	24.7	21.7	20.6	23.9	27.5	8.0	16.7	-	11.9	13.1	17.5	12.3	26.4	21.4	16.2	-	-	9.0	41.0	28.5	22.6	14.3	29.4	24.0	47.9	20.7	19.6		6.5
24 (Traits/condition/skills)	15	4	8	2	-	2	11	1	1	2	-	-	1	-	5	-	-	2	6	-	-	-	1	3	-	1	65	12	13
%	8.8	1.6	3.3	1.5	-	2.3	7.3	5.3	0.9	1.9	-	-	1.9	-	2.5	-	-	2.0	15.4	-	-	-	2.0	1.2	-	1.7	2.5		0.8
25 (Social/greeting)	3	-	-	-	-	-	5	-	2	-	-	-	-	-	7	-	-	1	-	-	1	-	-	6	-	2	27	17	17
%	1.8	-	-	-	-	-	3.2	-	1.8	-	-	-	-	-	3.6	-	-	1.0	-	-	0.3	-	-	2.4	-	3.5	1.0		0.3
26 (Grooming)	3	-	2	-	-	-	-	-	-	1	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	9	20	19
%	1.8	-	0.8	-	-	-	-	-	-	0.9	5.0	-	1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3		0.1
27 (People)	-	5	5	7	1	3	2	2	4	4	2	5	1	1	11	-	-	3	1	1	4	2	2	15	-	-	81	7	11
%	-	2.1	2.1	5.2	2.0	3.4	1.3	10.5	3.7	3.7	5.0	7.7	1.9	3.6	5.6	-	-	3.0	2.6	4.8	1.3	28.6	3.9	6.0	-	-	3.1		1.0
28 (Being playful)	3	7	2	1	-	23	16	13	1	34	3	19	-	-	22	62	11	4	6	5	53	-	3	19	-	9	316	2	6
%	1.8	2.9	0.8	0.7	-	26.4	10.7	68.4	0.9	31.8	7.5	29.3	-	-	11.2	100.0	91.7	4.0	15.4	23.8	17.3	-	5.9	7.6	-	15.5	12.0		4.0
29 (Words/numbers)	2	13	12	3	1	3	14	-	14	1	-	-	-	1	-	-	-	3	-	-	1	-	9	-	-	-	77	8	11
%	1.2	5.3	4.9	2.2	2.0	3.4	9.3	-	12.9	0.9	-	-	-	3.6	-	-	-	3.0	-	-	0.3	-	17.6	-	-	-	2.9		1.0
30 (Movies/cartoons)	-	90	6	11	-	28	13	-	-	27	8	1	5	-	5	-	-	-	-	-	100	-	4	1	-	-	299	3	7
%	-	36.9	2.5	8.2	-	32.2	8.7	-	-	25.3	20.0	1.5	9.4	-	2.5	-	-	-	-	-	32.7	-	7.7	0.4	-	-	11.4		3.8

Table 3.11

Participants' Referencing of Content Frame Topic Categories in Individual Clips

CONTENT FRAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26		Ranking	Overall ranking
31 (Natural phenomena)	7	-	14	2	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	26	17	17
%	4.1	-	5.8	1.5	-	-	-	-	-	-	-	-	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0		0.3
32 (Dreams)	-	4	-	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	19	18
%	-	1.6	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5		0.2
33 (Time)	8	2	9	3	-	-	6	-	-	-	-	-	-	1	1	-	-	-	-	-	1	-	1	1	-	-	33	15	16
%	4.7	0.8	3.7	2.2	-	-	4.0	-	-	-	-	-	-	3.6	0.5	-	-	-	-	-	0.3	-	2.0	0.4	-	-	1.3		0.4
34 (Space)	-	-	54	14	15	-	10	-	-	-	-	-	16	13	-	-	-	-	-	-	-	-	-	1	-	-	123	5	9
%	-	-	22.2	10.5	29.4	-	6.7	-	-	-	-	-	30.1	46.4	-	-	-	-	-	-	-	-	-	0.4	-	-	4.7		1.6
35 (Body)	6	7	1	1	-	-	13	-	-	-	-	1	-	-	10	-	-	-	-	-	3	4	-	-	-	10	56	13	14
%	3.5	2.9	0.4	0.7	-	-	8.7	-	-	-	-	1.5	-	-	5.1	-	-	-	-	-	1.0	57.1	-	-	-	17.3	2.1		0.7
36 (Relationships)	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	22	20
%	-	-	-	1.5	-	-	-	-	-	0.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1		0.04
37 (Money)	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	7	20	19
%	-	-	2.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	0.3		0.1
38 (Death)	-	-	3	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	21	19
%	-	-	1.2	1.5	-	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2		0.1
39 (Books/magazines)	-	-	5	27	2	4	1	-	-	9	-	-	2	-	-	-	-	-	1	-	17	-	-	-	1	-	69	11	12
%	-	-	2.1	20.2	3.9	4.6	0.7	-	-	8.4	-	-	3.8	-	-	-	-	-	2.6	-	5.6	-	-	-	4.3	-	2.6		0.9
40 (Religion)	-	-	4	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	20	19
%	-	-	1.7	3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3		0.1
41 (Gender)	1	-	1	2	6	3	1	-	-	4	1	-	-	-	-	-	-	-	-	-	12	-	-	2	-	-	33	15	16
%	0.6	-	0.4	1.5	11.7	3.4	0.7	-	-	3.7	2.5	-	-	-	-	-	-	-	-	-	3.9	-	-	0.8	-	-	1.3		0.4
42 (Lessons/homework)	2	-	-	-	-	2	4	-	-	3	1	-	-	-	-	-	-	7	-	-	2	-	1	-	8	-	30	16	16
%	1.2	-	-	-	-	2.3	2.7	-	-	2.8	2.5	-	-	-	-	-	-	7.0	-	-	0.7	-	2.0	-	34.9	-	1.1		0.4
43 (Weapons/soldiers)	2	-	-	-	-	-	-	-	-	-	-	25	-	-	24	-	-	-	-	-	-	-	-	2	-	-	53	14	14
%	1.2	-	-	-	-	-	-	-	-	-	-	38.5	-	-	12.2	-	-	-	-	-	-	-	-	0.8	-	-	2.0		0.7
44 (Trees/flowers/plants)	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	5	21	19
%	-	-	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	0.2		0.1
45 (Furniture/household appliances)	1	-	1	-	-	-	-	-	-	-	-	-	2	-	1	-	-	-	-	-	-	-	-	7	-	-	12	19	18
%	0.6	-	0.4	-	-	-	-	-	-	-	-	-	3.8	-	0.5	-	-	-	-	-	-	-	-	2.8	-	-	0.5		0.2
46 (Colours)	-	-	1	-	1	-	4	-	-	-	-	-	-	-	13	-	-	35	-	-	15	-	-	4	1	-	74	9	12
%	-	-	0.4	-	2.0	-	2.7	-	-	-	-	-	-	-	6.6	-	-	35.0	-	-	4.9	-	-	1.6	4.3	-	2.8		0.9
47 (Descriptions)	5	41	12	3	4	4	4	-	23	5	1	2	2	1	12	-	-	16	-	3	6	-	2	17	1	9	173	4	8
%	2.9	16.8	4.9	2.2	7.8	4.6	2.7	-	21.1	4.7	2.5	3.1	3.8	3.6	6.1	-	-	16.0	-	14.3	2.0	-	3.9	6.8	4.3	15.5	6.6		2.2
48 (Miscellaneous)	-	-	3	-	1	1	3	1	1	-	-	-	-	-	-	-	-	-	-	-	1	-	1	4	-	-	16	18	18
%	-	-	1.2	-	2.0	1.2	2.0	5.3	0.9	-	-	-	-	-	-	-	-	-	-	-	0.3	-	2.0	1.6	-	-	0.6		0.2
Total Utterances Coded	170	244	243	134	51	87	150	19	109	107	40	65	53	28	197	62	12	100	39	21	306	7	51	250	23	58	2626		

3.7   Summary

This chapter described the methodology used for this study, giving a detailed account of the research design, data composition, data collection procedures, data analysis as well as the definitions of the topic categories of the three referential frames and the terms commonly used in this study. The following chapter presents the analysis of the excerpts as well as the 10 most common topic categories.